



## INTERIOR FINISHES

Flame Spread Rating of interior walls and ceiling finishes, max 150 .
Flame Spread Rating of interior walls and ceiling finishes in Bathrooms, max 200.
Light Diffusers, max FSR 250 and Smoke Classification
rating max 600
O.B.C. 9.10.17


PROVIDE NECESSARY
TEMPORARY SHORING


| AGAINST ANY UNAUTHORIZED REPRODUCTION | SITE: |  | INTERIOR ELEVATIONS | $\stackrel{\text { DWG }}{\text { EO: }}$ |
| :---: | :---: | :---: | :---: | :---: |
| CONTRACTOR TO VERIFY SITE MEASUREMENTS | Whatesy ack |  | SCALE: | DRAWN BY: K.L \& M.M. |
|  | ${ }^{\text {a }}$ |  |  | $\begin{aligned} & \text { CHECKED BY: } \\ & \text { T.M. } \end{aligned}$ |
| DRAWINGS PREPARED FOR CONSTRUCTION PERMIT |  | 07/1011 |  |  |
|  | mbinmotion tor pemmit | 1/2/1/1 |  | DATE: 01/12/11 |

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Flame Spread Rating of interior walls and ceiling finishes in
Bathrooms, max 200.
Light Diffusers, max FSR 250 and Smoke Classification rating max
600
O.B.C. 9.10.17

( $\frac{1}{E-5}$ INTERIOR ADDITION ELEVATION


PROVIDE NECESSARY
TEMPORARY SHORING

## 2 INTERIOR ADDITION ELEVATION <br> E-5

| The undersigned has reviewed and takes responsibility for this design, and has the qualifications and meets the requirements set out in the Ontario Building Code to be a designer. |  |  |  |
| :---: | :---: | :---: | :---: |
| QUALIFICATION |  | INFORMATION |  |
|  |  |  | 39135 |
| NAME |  | SIINATURE | BCIN |
|  | RFGISTRATION | INFORM |  |
|  |  |  | 40027 |


| AGAINST ANY UNAUTHORIZED REPRODUCTION CONTRACTOR TO VERIFY SITE MEASUREMENTS AND REPORT ANY DISCREPANCIES TO DESIGNER DRAWINGS PREPARED FOR CONSTRUCTION PERMIT |  |  | INTERIOR ELEVATIONS |  |  |  | DWG NO: |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Whale5j cck |  |  |  |  |  | DRAWN BY: K.L \& M.M. |
|  | 225 sterisu Road Unit 200B Toronto, ON, M6R 2B2 |  |  |  |  |  | CHECKED BY: |
|  |  | 07/10/1 |  |  |  |  |  |
|  | - |  |  |  |  |  | DATE: 01/12/11 |

```
STRUCTURAL INTEGRITY:
All members shall be so framed
fastened and braced and
anchored to provide the necessary
strength, rigidity and stability.
O.B.C., 9.23.2.1.
STRUCTURAL ADEQUACY NOTES:
Verify/reinforce existing support system, including foundations, for loads imposed by the proposed construction
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## EXCAVATION NOTES: Excavation for the proposed work should not undermine the foundations of adjoining buildings, or cause damage to utilities, roads and sidewalks O.B.C. s. 2.3.1.1. and a. 9.12.1.4.



| FRAMING NOTES |  |
| :---: | :---: |
| BM-1 | LT-1 <br> 2-2"X 8' WOOD LINTEL |
| O.C W/5/8" BOLTS MIN 8" BEARING <br> SEE INSTALLATION NOTE | ROOF TRUSS <br> SPF NO. 1 OR NO. 2, 2" X 4" @ 16" 0.C |

CONSTRUCTION NOTES: SHORE UP ALL SUPPORTED SHORE UP ALL SUPPORTED JOISTS ON BOTH SIDES AND WI JOIST HANGERS ADVISE THE DESIGNER IF CONDITIONS FOUND VARY FROM THAT ASSUMED AND SHOWN.


| FRAMING NOTES |  |
| :--- | :--- |
| BM-1 | LT-1 |
| 2-C250X23 (C10x15.3) BOLTED @ 24" | 2- 2"X 8' WOOD LINTEL |
| O.C W/ 5/8" BOLTS | ROOF TRUSS |
| MIN 8" EEARING |  |
| SEE INSTALLATION NOTE | SPF NO. 1 OR NO. 2, 2" X 4" @ 16" 0.C |
|  |  |

STRUCTURAL INTEGRITY: All members shall be so framed, fastened and braced and anchored to provide the necessary strength, rigidity and stability. O.B.C., 9.23.2.1.

> | STRUCTURAL ADEQUACY |
| :--- |
| NOTES: |
| Verify/reinforce existing support |
| system, including foundations, for |
| loads imposed by the proposed |
| construction |




## AGAINST ANY UNAUTHORIZED REPRODUCTION

CONTRACTOR TO VERIFY SITE MEASUREMENTS AND REPORT ANY DISCREPANCIES TO DESIGNER

DRAWINGS PREPARED FOR CONSTRUCTION PERMIT



## GENERAL NOTES

1. EXTERIOR STAIRS

7 7/8" RISE MAXIMUM
8 1/4" RUN MINIMUM
9 1/4" TREAD MINIMUM
2. MASONRY TIES

WHEN BRICK FACING IS USED ABOVE GROUND LEVEL, PROVIDE $3 / 16^{\prime \prime}$ DIA. CORROSION RESISTANT METAL TIES @ 36 " HORIZONTAL \& 8" VERTICAL
3. GUARDS

ARE REQUIRED AROUND CONCRETE SLAB IF MORE THAN 2'-0" ABOVE GRADE \& ON BOTH SIDES OF STAIRS CONTAINING MORE THAN 6 RISERS. MINIMUM 31" HIGH FOR STAIRS MINIMUM 35" HIGH FOR PORCHES UP TO 5'-11" ABOVE GRADE. MINIMUM 42 " HIGH FOR GREATER HTS.
4. WINDERS

WINDERS WHICH CONVERGE TO A POINT
IN STAIRS MUST TURN THROUGH AN
ANGLE OF NO MORE THAN 90。
WITH NOT LESS THAN 300 OR MORE THAN $45 \circ$.
450. PROVIDE NECESSARY TEMPORARY SHORING

5. HANDRAIL

ARE REQUIRED WHERE STEPS HAVE MORE THAN
3 RISERS. HANDRAIL HEIGHT $31^{\prime \prime}-38^{\prime \prime}$.
6. FOUNDATION WALLS

THICKNESS OF FOUNDATION WALLS
IS DEPENDANT UPON HEIGHT OF FINISH
GRADE ABOVE BASEMENT FLOOR
UNIT MASONRY THICKNESS 8"
UNIT MASONRY THICKNESS 10", - MAX. HEIGHT 5'-11"
UNIT MASONRY THICKNESS 12"
7. CONCRETE - MAX. HEIGHT $3^{\prime}-11^{\prime \prime}$

MINIMUM CONCRETE STRENGTH SHMALX BE EIGHT 7'-3"
$4650 \mathrm{PSI} \mathrm{W} / 5 \%-8 \%$ AIR ENTRAINMENT
CONCRETE SLAB THICKNESS 4" UP TO 6'-8" SPAN
CONCRETE SLAB THICKNESS 5" UP TO 8'-4" SPAN
CONCRETE SLAB THICKNESS 6" UP TO 10'-0" SPAN
7. PROVIDE MINIMUM 3/4" CLEAR CONCRETE

COVER TO REINFORCING BARS

| 39135 |  |
| :---: | :---: |
| NAME SIINATURE | bCN |
| registration information |  |
|  | 40027 |
| COMPANY SIINATURE | ${ }^{\text {bCIN }}$ |
| ATION \& STAIR DETAILS | $S-4$ |
|  | DRAWN BY: K.L \& M.M. |
|  | $\begin{aligned} & \text { CHECKED BY: } \\ & \text { T.M. } \end{aligned}$ |
|  | DATE: 01/12/11 |

## NOTES

PROVDE MIN. 2-2"xMATCH THICKNESS OF THE WALL STUOS, BUILT UP COLUMN AT EACH SIDE OF
PRONDE 3-2"x6" COLUMN AT EACH EXTERIOR WALL CORNER.
TRANSFER ALL POINT LOADS FROM THE UPPER FLOOR, USING SAME SIZE OF THE POST UNLES
FOUNDATION WALLS TO BE $12^{\prime \prime}$ CONC. BLOCK MASONRY,
TYPICAL ROOF SHEATNG $y_{2}^{\prime \prime \prime}$ PLWOOOD, SPRUCE
ALL New Footings attaching to the existing footings wll match the level of the existing
ANCHOR New FOOTNGS to the existing footings w/ min. 2-10M-32" LONG, $8^{" \prime}$ embedment. ANCHOR NEW FOUNDATION WALLS TO THE EXISTING FOUND WALLS W/ $10 \mathrm{M}-32^{*}$ LONG $024^{\circ} \mathrm{V} \mathrm{c} / \mathrm{c}$,
MIN. $\mathbf{4}^{"}$ EMBEDMENT.

TIMBERNOTES

1. WOOD CONSTRUCTION SHALL CONFORM TO CSA STANDARD O86 AND TO THE REQUIREMENTS OF THE
2. LUMBER:

UNLESS OTHERWSE NOTED, TO BE SPF SPECIES, GRADE NO. 2 CONFIRMING TO CSA STANDARD 014
WTH MAXIMUM MEISTURE CONTENT OF $15 \%$ AT THE TM

3. NAILSS, SPIIES AND STAPLES

4. METAL CONNECTORS AND ROUGH HARDWARE:
BOLTS, NUTS, WASHERS, LAGS, PINS, SCREWS,
5. WOOD PRESERVATVE: CONFORM TO CSA STANDARD O80.0 CSA.
6. FRAMING ANCHORS:

FRAMING ANCHORS, JOIST HANGERS, BEAM HANGERS, POST CAPS, POST ANCHORS, BACK-UP CLIPS
AND ANGES. NLESS OHERWE HOWN ON THE DRAWNGS, ARE ALL TO BE AS MANUFACTURED AND ANGLES, UNLESS OTHERWSE SHOWN ON THE DRAWINGS, ARE ALL TO BE AS MANUFACTURED
BY SIMPON CONNETOR OR AN APPROVED EQULL, SIZED TO THE JOB AT HAND. ALL ARE TO INSTALLED IN STRICT ACCORDANCE WTH THE MANUFACTURE'S INSTRUCTONS UTLLIIING "SPECIAL"
NAIL WERE REQURED.
STUD WALLS:
7. STUD WALLS: $\quad$ STUDS TO BE OF SIZE AND SPACING AS NOTED ON THE DRAWNGS. PROVDE, UNLESS OTHERWSE NOTED, A MINMUM OF TWO (2) STUDS AT CORNERS, INTERSECTIONS AND EACH SIDE OF THE
OPENINGS. ALL STUDS TO BE CONTINUOUS FOR FULL STOREY HEIGHT WTH NO SPLICE. MID HEIGHT BLOCKING FOR ALL STUDS UNLESS NOTED ON DRAWNGS. PROVDE MINIMUM TWO (2) TOP PLATES BLOCKING FOR ALL STUDS UNLESS NOTED ON DRAWNGS. PROVDE MINIMUM TWO (2) TOP PLATES
FoR LAOD BEARG WALS. LATAS TO BE LAPED OR TIID AT CORNES AN NTERSETINS.
NON-LOAD EEARING STUD WALLS TO CONFORM TO THE REQUREMENTS OF THE ONTARIO BULDIING NON-
CODE.
8. FLOOR AND ROOF TRUSSES/JOISTS: $\quad$ PROVDE TRUSSES/JOISTS OF SIZE, SPACING AND SPAN AS NOTED ON THE DRAWING, UNLESS PROMDE TRUSES NOSTSE TRUSEES/JPAISTS FRAME SPNTO THE SIDE OF A WOOD BEAM, PROVDE
9. PROVIDE DOUBLE JOIST UNDER PARTITION WALLS PARALLEL TO JOISTS (SEE ARCHITECTURAL

BRIDGING OR BLOCKING:
PROVIDE CROSS BRIDGING OR SOLID BLOCKING OR APPROVED PROPRIETARY METAL STRAPS IN
ACCORDANCE WTH THE ONTARIO BULLING CODE. SPACING TO BE AT THE END AND AT 2100 m ( $7^{\prime}-0^{\prime \prime}$ ") MAXIMUM CENTRES UNLESS JOIST SPAN IS WTHIN 450mm (18") OF THE MAXIMUM SPAN
PERITED BY THE ONARIO BULDING CODE, IN WHICH CASE, BRIDGING OR BLOCKING SHALL BE AT
MAXIMUM 1370 mm (4'-6") CENTRE.
11. NOTCHING AND DRILLING ONLY AlLOWED wTHin the limitations set out in the ontario bulloing
12. REMOVE AND REPLACE ANY DEFECTIVE MATERIALS WHEREVER FOUND PRIOR TO FINAL ACCEPTANCE
13. CONTRACTOR SHALL BRACE ALL CONSTRUCTION TEMPORARILY UNTLL ROOF AND FLOOR SHEATHING
14. ALL TMBER CONNECTION SHALL BE IN ACCORDANCE WTH THE REFERENCE STANDARD AND WTH
15. ALL STEEL ANGLES OR PLATES SHALL CONFORM TO G40.21 M300W.
16. ALL BOLTS SHALL be a307 bolts. PROMDE STANDARD WASHERS AT TIMBER SURFACE,
17. ALL EXTERIOR TIMBER EXPOSED TO WEATHER SHALL BE PRESSURE-TREATED.

PLYWOOD SHEATHING NOTES
SHEATHING SHALL BE EXTERIOR TYPE PLYWOOD CONFORMING TO CSA 0121-M1978, "DOUGLAS FIR
PLYWOOD" ORACSA $0151-M 1978$ "CANADIAN SOFTWOOD PLYWOOD". PLYWOOD" OR CSA O151-M1978, "CANADIAN SOFTWOOD PLYWOOD".
ALL SHEATHING IS TO BE TONGUED-AND-GROOVED.
PLYWOOD SHEATHING SHALL BE INSTALLED WTH THE SURFACE GRAIN AT RIGHT ANGELS TO THE
FRAMING AND WITH THE END JOINTS STAGGERED.
LAYOUT PLYWOOD STAGGERED JOINT PATTERN SUCH THAT PLYWOOD SHEET IS AT LEAST TWO SPAN
CONTINUOUS WHERE POSSIBLE.
ALL END JOINTS MUST BE POSITIONED ALONG CENTRE LINE OF SUPPORT.
PLYWOOD SHEATHING SHALL BE INSTALLED WTH AT LEAST $\mathrm{H}_{2}$ " GAP BETWEEN SHEETS.
FASTENERS SHALL BE SPIRAL OR RING THREAD NAILS $2^{\prime \prime}$ LONG MINIMUM, UNLESS NOTED
OTHERWSE.
UNLESS NEOTED OTHERWSE, PLYWOOD SHEATHING SHALL BE NALLED TO SUPPORTS AT $6 "$
MAXIMM
MAXIMUM ALONG EDGES AND 10"MAXIMUM ALONG INTERMEDIATE SUPPORTS.


CONCRETE NOTES

1. CEMENT SHALL BE PORTLAND CEMENT TYPE 10 - UNLESS NOTED OTHERWISE
2. CONCRETE PROPERTIES
element
FOOTING
SLABS AND BEAMS
SLABS AND BEAMS
WALLS (.N.N.)
MASORRY GROUT


Notes:
A. PUMP MIX SLUMPS SHALL ALSO CONFORM TO THE ABOVE.
B. WATER CEMENTING MATERIALS RATIOS FOR EXPOSURE CLASSES SHALL BE AS PER
c. AIR CONTENTS FOR EXPOSURE CLASSES AND AGGREGATE SIZES SHALL bE AS PER
D. SLUMP TOLERANCES SHALL BE $\pm 20 \mathrm{~mm}$ FOR SLUMPS LESS THAN 80 mm , AND $\pm 30 \mathrm{~mm}$
3. ALL BOTTOM EDGES OF EXPOSED SLABS AND BEAMS, AND ALL EXPOSED COLUMN AND

4. SEECEALCATLONCYLORIDE, IN ANY FORM, IS PERMITTED IN ANY CONCRETE MIX.
4. CURING AND PROTECTION OF CONREETE FOR HOT, COD OR CRY WEATHER SHALL BE
5.
IN ACCORDANCE WTH CSA-A23.1. FFR COLD WEATHER SEE ALSO "COLD WEATHER IN ACCORDANCE WTH CSA-A23.1. FOR COLD WE
REQUIREMENTS" ON THE STRUCTURAL DRAWNGS.
AGAINST ANY UNAUTHORIZED REPRODUCTION
CONTRACTOR TO VERIFY SITE MEASUREMENTS AND REPORT ANY DISCREPANCIES TO DESIGNER

| SITE: |  |  | STRUCTURAL NOTES | ${ }^{\text {DWG NO: }}$ |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | SCALE: | DRAWN BY: K.L \& M.M. |
|  |  |  | CHECKED BY: |
|  | daiso | 07/10, |  |  |
|  | mbommason tos pemmt | ${ }^{1 / 2 / 211}$ |  | DATE: 01/12/11 |




| WALL SCHEDULE |  |  |
| :---: | :---: | :---: |
| WALL NO. | DESCRIPTION LOADBEARING | SECTION |
| T1 | EXTERIOR WOOD FRAMED WALL <br> 1-1/2" VENEER STONE <br> GALVANIZED METAL FLASHING W/ DRIP EDGE MORTAR <br> METAL LATH STOP 1" FROM FINISHED EDGES GALVANIZED BRICK TIE NAILED TO EACH STUD 6" PERFORATED 15LB. ASPHALT <br> 15 LB BUILDING PAPER (MOISTURE BARRIER) <br> ½" PLY SHEATHING T\&G <br> 2"X6" WOOD STUDS AT 16" O.C <br> R-20 BATT INSULATION <br> 6MM POLYETHYLENE (AIR AND <br> VAPOUR BARRIER) <br> 1/2" GYPSUM BOARD |  |
| <T2 | EXTERIOR WOOD FRAMED WALL <br> 1-1/2" VENEER STONE <br> GALVANIZED METAL FLASHING W/ DRIP EDGE MORTAR <br> METAL LATH STOP 1" FROM FINISHED EDGES GALVANIZED BRICK TIE NAILED TO EACH STUD 6" PERFORATED 15LB. ASPHALT 15 LB BUILDING PAPER (MOISTURE BARRIER) <br> $1 / 2$ " PLY SHEATHING T\&G <br> 2"X6" WOOD STUDS AT 16" O.C <br> R-20 BATT INSULATION <br> 6MM POLYETHYLENE (AIR AND <br> VAPOUR BARRIER) <br> ½" PLY SHEATHING T\&G <br> INTERIOR ROMAN BRICK VENEER |  |

## DOOR SCHEDULE <br> DOOR NO. DESCRIPTION

DETAIL

D-1 EXTERIOR PATIO SLIDING GLASS DOOR W/ TRANSOM

1-3/4" THICK


| WINDOW SCHEDULE |  |  |  |
| :---: | :---: | :---: | :---: |
| WINDOW NO. | DESCRIPTION | DETAIL |  |
| G-1 | VSE ELECTRIC VENTING SKYLIGHT 25" X 48" GLASS AREA SEE DETAIL SP-2 |  | The undersigned has reviewed and takes responsibility for this design, and has the qualifications and meets the requirements design, and has the qualifications and meets the require set out in the Ontario Building Code to be a designer. QUALIFICATION INFORMATION |


| AGAINST ANY UNAUTHORIZED REPRODUCTION | SITE: |  | WALL AND DOOR SCHEDULE | $\stackrel{\text { DWG NO: }}{\mathrm{N}}-1$ |
| :---: | :---: | :---: | :---: | :---: |
| CONTRACTOR TO VERIFY SITE MEASUREMENTS AND REPORT ANY DISCREPANCIES TO DESIGNER | Whal erj ack | reser mind one | SCALE: | $\begin{aligned} & \text { DRAWN BY: } \\ & \text { K.L \& M.M. } \end{aligned}$ |
|  |  |  |  | $\begin{aligned} & \text { CHECKED BY: } \\ & \text { T.M. } \end{aligned}$ |
| DRAWINGS PREPARED FOR CONSTRUCTION PERMIT | mommen | \% |  | T.M. ${ }^{\text {DATE: 01/12/11 }}$ |

## Wood Frame Construction

All lumber shall be spruce-pine-fir No. 1 \& 2, and shall be identified by a grade stamp Maximum moisture content $19 \%$ at time of installation
Wood framing members which are supported on concrete in direct contact with soil shall be separated from the concrete with 6 mil polyethylene

## Walls

Exterior walls shall consist of:

## cladding

sheathing paper lapped 4 " at joints
$3 / 8$ " fibreboard or gypsum board or $1 / 4$ "
plywood sheathing
$2 \times 6$ studs @16" o.c.
$2 \times 6$ bottom plate and double $2 \times 6$ top plate $2 \times 4$ studs @16"0.c. can be utilized provided the combined $R$ value of the batt insulation and exterior rigid insulation achieves $R-20$.
Interior loadbearing walls shall consist of: $2 \times 4$ studs @16" o.c.
$2 \times 4$ bottom plate and double $2 \times 4$ top plate
$2 \times 4$ mid-girts if not sheathed
1/2" gypsum board sheathing

## Floors

See for floor joist size and spacing requirements
Joists to have minimum $11 / 2$ "of end bearing
Joists shall bear on a sill plate fixed to foundation with $1 / 2^{\prime \prime}$ anchor bolts @ 7’ 10 " o.c Header joists between $3^{\prime} 11^{\prime \prime}$ and $10^{\prime} 6^{\prime \prime}$ in length shall be doubled. Header joists exceeding $10^{\prime} 6$ " shall be sized by calculations Trimmer joists shall be doubled when supported header is between 2' 7" and 6' 7". Trimmer joists shall be sized by calculations, when supported header exceeds 6'7"
$2 \times 2$ cross bridging required not more than $6^{\prime} 11^{\prime \prime}$
from each support and from other rows of bridging
Joists shall be supported on joist hangers at all
flush beams, trimmers, and headers.
Joists located under parallel non-loadbearing partitions shall be doubled
See for subflooring requirements

## Roof \& Ceilings

See for rafter, roof joist and ceiling joist size and spacing requirements
Hip and valley rafter shall be 2" deeper than common rafters
$2 \times 4$ collar ties @ rafter spacing with $1 \times 4$ continuous brace at mid span if collar tie exceeds $7^{\prime} 10^{\prime \prime}$ in length
See S04 for roof sheathing requirements
Notching \& Drilling of Trusses, Joists, Rafters
Holes in floor, roof and ceiling members to be maximum $1 / 4 x$ actual depth of member and not less than 2" from edges
Notches in floor, roof and ceiling members to be located on top of the member within $1 / 2$ the actual depth from the edge of bearing and not greater than $1 / 3$ joist depth
Wall studs may be notched or drilled provided that no less than $2 / 3$ the depth of the stud remains, if load bearing, and $19 / 16$ "f non-load bearing
Roof truss members shall not be notched, drilled or weakened unless accommodated in the design

## Roofing

Fasteners for roofing shall be corrosion resistant. Roofing nails shall penetrate through or at least $1 / 2$ " into roof sheathing
Every asphalt shingle shall be fastened with at least 4 nails
Eave protection shall extend 2' $11^{\prime \prime}$ up the roof slope from the edge, and at least $113 / 4$ "from the inside face of the exterior wall, and shall consist of Type M or Type S Roll Roofing laid with minimum 4"head and end laps cemented together, or glass Fibre or Polyester Fibre coated base sheets, or self sealing composite membranes consisting of modified bituminous coated material. Eave protection is not required for unheated buildings, for roofs exceeding a slope of 1 in 1,5 or where a low slope asphalt shingle application is provided
Open valleys shall be flashed with 2 layers of roll roofing, or 1 layer of sheet metal min .23 $5 / 8$ " wide
Flashing shall be provided at the intersection of shingle roofs with exterior walls and chimneys Sheet metal flashing shall consist of not less than $1 / 16$ "sheet lead, $0.013^{\prime \prime}$ galvanized steel, $0.018^{\prime \prime}$ copper, $0.018^{\prime \prime}$ zinc, or $0.019^{\prime \prime}$ aluminum

Columns, Beams \& Lintels
Steel beams and columns shall be shop primed. Minimum $31 / 2^{\prime \prime}$ end bearing for wood and steel beams, with $77 / 8^{\prime \prime}$ solid masonry beneath the beam.
Steel columns to have minimum outside diameter of $27 / 8^{\prime \prime}$ and minimum wall thickness of $3 / 16$ "
Wood columns for carports and garages shall be minimum $31 / 2^{\prime \prime} \times 31 / 2^{\prime \prime}$; in all other cases either $51 / 2^{\prime \prime} \times 51 / 2$ "or $71 / 4$ "round, unless calculations based on actual loads show lesser sizes are adequate. All columns shall be not less than the width of the supported member Masonry columns shall be a minimum of $13 / 8$ " $\times 113 / 8$ "or $91 / 2^{\prime \prime} \times 15$ "
Provide solid blocking the full width of the supported member under all concentrated loads

Insulation \& Weatherproofing

| Ceiling with attic | $R-40$ |
| :--- | :--- |
| Roof without attic | $R-30$ |
| Exterior Wall | $R-20$ |
| Foundation Wall | $R-12$ |
| Foundation $>50 \%$ exposed | $R-17$ |
| Exposed Floor | $R-25$ |
| Slabs on Grade | $R-12$ (unheated) |
|  | $R-10$ (heated) |

Supply Ducts in unheated space $\mathrm{R}-17$
Insulation shall be protected with gypsum board or an equivalent interior finish, except for unfinished basements where 6 mil poly is sufficient for fibreglass type insulations Ducts passing through unheated space shall be made airtight with tape or sealant
Caulking shall be provided for all exterior doors and windows between the frame and the exterior cladding
Weatherstripping shall be provided on all doors and access hatches to the exterior, except doors from a garage to the exterior
Exterior walls, ceilings and floors shall be constructed so as to provide a continuous barrier to the passage of water vapour from the interior and to the leakage of air from the exterior


Natural Ventilation
Every roof space above an insulated ceiling shall be ventilated with unobstructed openings equal to not less than $1 / 300$ of insulated area Insulated roof spaces not incorporating an attic shall be ventilated with unobstructed openings equal to not less than $1 / 150$ of insulated area. Roof vents shall be uniformly distributed and designed to prevent the entry of rain, snow or insects
Unheated crawl spaces shall be provided with 1.1 ft of ventilation for each $538^{2} \mathrm{ft}$ Minimum natural ventilation areas, where mechanical ventilation is not provided, are: Bathrooms: $\quad 0.97 \mathrm{ft}^{2}$
other rooms: $\quad 3 \mathrm{ft}^{2}$
Unfinished basement: $0.2 \%$ of floor area
Doors and Windows
Every floor level containing a bedroom and not served by an exterior door shall contain at least window having an unobstructed open area of 3.8 ft2 and no dimension less than 15 "which is openable from the inside without tools Exterior house doors and windows within $6^{\prime} 7^{\prime \prime}$ from grade shall be constructed to resist forced entry. Doors shall have a deadbolt lock The principal entry door shall have either a door viewer, transparent glazing or a sidelight

## Exterior Walls

No windows or other unprotected openings are permitted in exterior walls less than $3^{\prime} 11^{\prime \prime \prime}$ rom property lines
$5 / 8^{\prime \prime}$ fire rated drywall shall be installed on the inside face of attached garage exterior walls and gable ends of roofs which are less than $3^{\prime} 11^{\prime \prime}$ from property lines
Non combustible cladding shall be installed on all exterior walls less than $235 / 8$ " from property lines

Ceramic Tile
When ceramic tile applied to a mortar bed with adhesive, the bed shall be a minimum of $1 / 2^{\prime \prime}$ thick \& reinforced with galvanized diamond mesh lath, applied over polyethylene on subflooring on joists at no more than 16 "o.c. with at least 2 rows cross bridging

Access to Attics and Crawl Spaces Access hatch minimum19 3/4" $\times 2^{\prime} 4^{\prime \prime}$ to be provided to every crawl space and every roof space which is $108 \mathrm{ft}^{2}$ or more in area and more than $235 / 8$ "in height

Garage Gasproofing
The walls and ceiling of an attached garage shall be constructed and sealed so as to provide an effective barrier to exhaust fumes All plumbing and other penetrations through the walls and ceiling shall be caulked Doors between the dwelling and attached garage may not open into a bedroom and shall be weatherstripped and have a self-closer

Alarms and Detectors
At least one smoke alarm shall be installed on or near the ceiling on each floor and basement level $2^{\prime} 11$ "or more above an adjacent level Smoke alarms shall be interconnected and located such that one is within $16^{\prime} 5^{\prime \prime \prime}$ of every bedroom door and no more than $49^{\prime} 3^{\prime \prime}$ travel distance from any point on a floor A carbon monoxide detector shall be installed on or near the ceiling in every room containing a solid fuel burning fireplace or stove

 ced r



## Excavation and Backfill

Excavation shall be undertaken in such a manner so as to prevent damage to existing structures, adjacent property and utilities
The topsoil and vegetable matter in unexcavated areas under a building shall be removed. The bottom of excavations for foundations shall be free of all organic material
If termites are known to exist, all stumps, roots and wood debris shall be removed to a minimum depth of $113 / 4$ în excavated areas under a building, and the clearance between untreated structural wood elements and the ground shall be no less than 17 3/4"
Backfill within $235 / 8$ " of the foundation walls shall be free of deleterious debris and boulders over $97 / 8^{\prime \prime}$ in diameter

Dampproofing and Drainage
In normal soil conditions, the exterior surfaces of foundation walls enclosing basements and crawl spaces shall be dampproofed. Where hydrostatic pressure occurs, a waterproofing system is required
Masonry foundation walls shall be parged with $1 / 4$ "of mortar coved over the footing prior to dampproofing
4" foundation drains shall be laid on level, undisturbed ground adjacent to the footings at or below the top of the basement slab or crawl space floor, and shall be covered with 6 " of crushed stone. Foundation drains shall drain to a storm sewer, drainage ditch, dry well or sump Window wells shall be drained to the footing Downspouts not directly connected to a storm sewer shall have extensions to carry water away from the building, and provisions shall be made to prevent soil erosion
Concrete slabs in attached garages shall be sloped to drain to the exterior
The building site shall be graded so that surface, sump and roof drainage will not accumulate at or near the building and will not adversely affect adjacent properties

## Footings

minimum2200 psi poured concrete
minimum4 8 " below finished grade
Footings shall be founded on natural undisturbed soil, rock or compacted granular fill with
minimum bearing capacity of 570 psf
Footing Size

| Floors | Supporting | Supporting | Column |
| :---: | :---: | :---: | :---: |
| Supported | Ext. Wall | Int. Wall | Area |
| 1 | $97 / 8^{\prime \prime}$ | $97 / 8^{\prime \prime}$ | $4.3 \mathrm{ft2}$ |
| 2 | $133 / 4^{\prime \prime}$ | $133 / 4^{\prime \prime}$ | $8.1 \mathrm{ft2}$ |
| 3 | $173 / 4^{\prime \prime}$ | $193 / 4^{\prime \prime}$ | $10.9 \mathrm{ft2}$ |

Increase footing width by $25 / 8$ " for each storey of brick veneer supported, and by $51 / 8$ for each storey of masonry
The projection of an unreinforced footing beyond the wall supported shall not be greater than its thickness

## Step Footings

Vertical Rise
23 5/8"Max. for firm soils
15 3/4"Max. for sand or gravel
Horizontal Run $=235 / 8 " \mathrm{Min}$.


Foundation Walls
To be poured concrete, unit masonry or preserved wood (see drawings for type and thickness)
Dampproofing shall be a heavy coat of bituminous material
Foundation wall to extend minimum5 $7 / 8$ " above finished grade.
A drainage layer is required on the outside of a foundation wall where the interior insulation extends more than $2^{\prime}-11$ "'elow exterior grade. A drainage layer shall consist of

Min. 3/4" mineral fibre insulation with min. Density of $3.6 \mathrm{lb} / \mathrm{ft}^{2}$
Min. 4" of free drainage granular material, or
An approved system which provides equivalent performance
Foundation walls shall be braced or have the floor joists installed before backfilling

## Concrete Floor Slabs

Garage, carport and exterior slabs and exterior steps shall be 4650psi concrete with 5-8\%air entrainment
Other slabs 3600psi concrete
Minimum3" thick, placed on a minimun4" of coarse, clean, granular material
All fill other than coarse clean material placed beneath concrete slabs shall be compacted to provide uniform support

## Masonry Walls

Where constructed of $31 / 2$ "brick, wall shall be bonded with header course every 6th course Provide 2" solid masonry or continuous 1 1/2" plate under all roof and floor framing members Provide $71 / 2$ " solid masonry under beams and columns
Masonry wall to be tied to each tier of joists with $19 / 16^{\prime \prime} \times 3 / 16^{\prime \prime}$ corrosion resistant steel straps, keyed minimum4" into masonry. When joists are parallel to wall, ties are to extend across at least 3 joists @ 6-7" o.c.
Inside back of wall to be parged and covered with No. 15 breather-type asphalt paper
For reduced foundation walls to allow a brick facing while maintaining lateral support, tie minimum3 1/2" brick to minimum 3 1/2"backup block with corrosion resistant ties at least 0.028 in $^{2}$ in cross sectional area, spaced $77 / 8$ " vertically and 2'-11"horizontally, with joints completely filled with mortar
Masonry over openings shall be supported on corrosion resistant or prime painted steel lintels with a minimum of $5 / 8$ " end bearing

Masonry Veneer
Minimum2 $3 / 4$ "thick if joints are not raked and $31 / 2$ "thick if joints are raked Minimum1" air space to sheathing Provide weep holes @ $311 / 2$ " o.cat the bottom of the cavity and over doors and windows
Direct drainage through weep holes with 20 mil poly flashing extending minimum $57 / 8$ " up behind the sheathing paper
Veneer ties minimum 0.030 " thick $\times 7 / 8$ " wide corrosion resistant straps spaced @ 23 5/8" vertically and $153 / 4$ "horizontally
Fasten ties with corrosion resistant 0.125 " diameter screws or spiral nails which penetrate at least $1-3 / 16$ into studs

