

**Foundation/Site**

**General Requirements**

**IRC**

**UBC**

- Permits req'd. EXC:  
fences <6ft., walls<4ft., sheds, painting . . . . .[105.2] {106.2}
- Approved plans and permit card on site . . . . .[106.3.1] {106.4.2, 108.2}
- Are special inspection reports req'd.? . . . . .**T-b11** [109.2] {106.3.5, 1701.3}
- Verify setbacks—min. 3ft. to property line . . . . .[302.1] {108.1, T-5-A}
- Setbacks <3ft. req. 1hr. construction & no openings [302.1] {T-5-A}
- Inspection and approval prior to covering any work [109.1] {108.1}
- Pipe trench below footing offset min. 45° . . . . .**F-b3** [2603.7] {UPC 313.3}
- Temporary power (see p.25) . . . . .[107.3] {305-4}

**Slope/Grade**

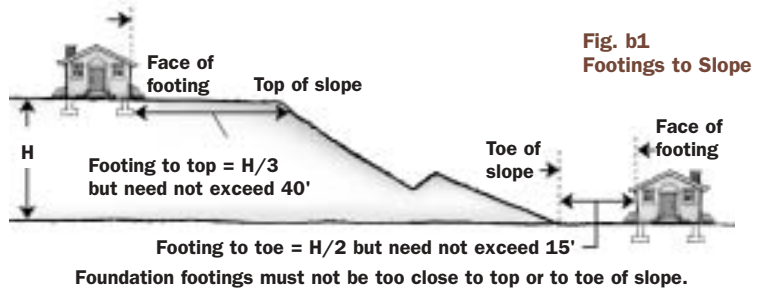
- Surface graded away from foundation  
min. 6in./10ft. {6ft.} . . . . .[401.3] {1829.2}
- Setbacks & clearances to slopes  
≥1 vert: 3 horiz . . . . .**F-b1** [403.1.7] {1806.5.2}
- Lot slope >1:10—foundation stepped or level . . . [403.1.5] {1806.4}
- Graded site—top of foundation min. 12in.+2%  
above street drain . . . . .[403.1.7.3] {1806.5.5}

**Forms**

- Size per Table b1 . . . . .[403.1] {T18-1-C}
- Pipe penetrations must be sleeved . . . . .[2603.5] {UPC 313.10.1}
- Excavation free of debris and roots . . . . .[408.4, 506.2] {3302}
- Beam connections 2in. air space on 3 sides . . . . [323.1] {2306.6}

**Rebar**

- 12in. min. splice lap or per design . . . . .[local] {1912.6.1}
- SDC D1&D2 {Zones 3&4}: Stem wall req's.  
#4 bar in top & bottom of footing/wall . . . . [403.1.3, 1,2] {1806.7.1}
- SDC D1&D2: Min. #4 vertical bar 4ft. on center [403.1.3] {n/a}
- Clearance to forms per Table b2 . . . . .[403.1.3] {1907.7.1}
- [SDC D1&D2] Min. 3in. clearance to soil  
(dobies not bricks) . . . . .**F-b2** [403.1.3] {1907.7.1}



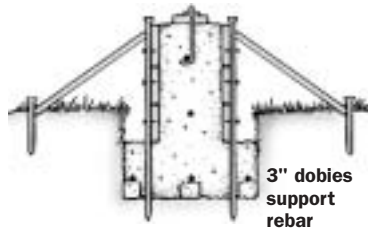
**Fig. b1**  
Footings to Slope

**Table b1 • Foundation Sizing**

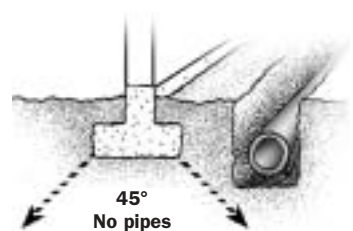
Dimension	Number of Floors Supported by Foundation		
	1	2	3
Depth into previously undisturbed soil	12"	[12"] {18"}]	[12"] {24"}]
Wall thickness	6"	8"	[8"] {10"}]
Footing thickness	6"	7"	8"
Footing width	12"	15"	[17"] {18"}]

Based on [T403.1] & [T18-1-C]

**Fig. b2**  
T Foundation with Forms



**Fig. b3**  
Pipes near Footings



**Plates & Sills**

- Bottom of sill 8in. {6in.} to earth . . . . . [323.1] {1806.1}
- Sill material treated or naturally decay resistant . . [323.1] {2306.4}

**Anchor Bolts**

- 2in. bolts min. {d SZ4} 7in. embedment  
max. 6ft. spacing . . . . . [403.1.6] {1806.6}
- Within 12in. of end of sill . . . . . **F-b4** [403.1.6] {1806.6}
- SDC D1&D2 {Zones 3&4}: plate washers, bolts [403.1.6.1] {1806.6.1}
- 4ft. o.c. for 2 story . . . . . [403.1.6.1] {local}

**Hold-Downs**

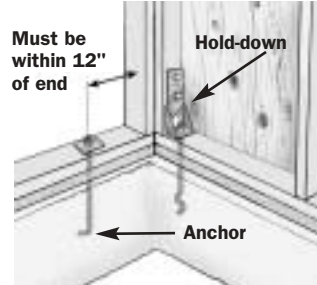
- Hold-down embedment per design specs . . . . . [manu.] {manu.}
- Bolts installed to manufacturer's specs . . . . . [manu.] {manu.}
- All load transfers floor to floor to design specs . . . [601.2] {1629}

**Table b2 • Rebar Clearances**

Foundation Surface	Rebar Size		
	All	≤#5	≥#6
In contact with soil	3"		
Exposed to weather		12"	2"
Dry	w"		

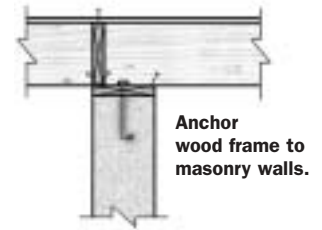
Based on [T403.1] & [T18-1-C]

**Fig. b4**  
Anchor Bolts  
and Hold-Downs

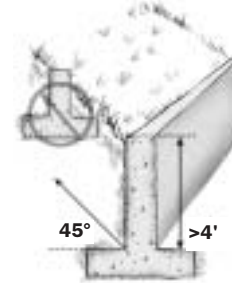


Hold-downs brace structure during seismic or wind forces.

**Fig. b5**  
Anchoring to Masonry Walls



Anchor wood frame to masonry walls.



**Fig. b6**  
Retaining Wall  
Engineering  
Required

Surcharge would be any load within 45° of footing or slope >1 vert. to 3 horiz.

**Concrete Masonry Units (CMUs)**

**General Requirements**

- 6in. block OK for one story to 9ft. . . . . [606.2.1] {2109.6.1}
- 8in. block if more than one story or >9ft. . . . . [606.2.1] {2109.6.1}
- Beam connections—2in. airspace on three sides [323.1] {2306.6}
- Roof & floor structures to be anchored to masonry walls . . . . . **F-b5** [606.10] {2309}

**Grout**

- All cells with reinforcement must be filled . . . . . [609.4.1] {2104.6.1}
- Cleanouts req'd. at bottom of each grouted cell for pours >4ft. {5ft.} . . . . . [609.1.5.2] {2104.6.1}
- Grout continuous pour max. lift 5ft. . . . . [609.1.4] {2104.6.1}
- Clean grout space—max. 2in. projections . . . . . [609.1.3] {2104.6.1}

**Reinforcing**

- SDC D1&D2: min. #3 vertical bars 4ft. o.c. . . . . [404.1.4] {2106.1.12.4}
- Vertical rebar ≤6% of grout space [609.1.2] {2107.2.2.1}
- Lap rebar splices 40x bar dia. . . . . [609.1.3.2] {2107.2.2.2}
- Support/positioners min. 200 bar dia. (8ft. #4 bar) [609.4.1] {2104.5}
- Cover—min. min.; 2in. to weather or soil . . . . . [606.12] {2107.2.2.2}

**Retaining Walls**

- Walls supporting >4ft. of backfill req. design . . . [404.1.3] {1804.2}
- Surcharge within 45° must be engineered . [105.2,404.1.3] {1804.6}
- Enclosing habitable space—req's. moisture barrier [406.1] {1833.1}