

**Table 1** Required Reinforcement for Varying Height Basement Walls (150mm/6")

MAX. HEIGHT OF FINISHED GRADE ABOVE BASEMENT FLOOR (BACKFILL HEIGHT)	REQUIRED VERTICAL REINFORCEMENT FOR MAXIMUM BASEMENT WALL HEIGHT		
	2.4m (8 ft.)	2.7m (9 ft.)	3.0m (10 ft.)
1.2m (4'-0")	10M (#4) @ 400 (16")	10M (#4) @ 400 (16")	10M (#4) @ 400 (16")
1.35m (4'-6")	10M (#4) @ 400 (16")	10M (#4) @ 400 (16")	10M (#4) @ 400 (16")
1.6m (5'-3")	10M (#4) @ 400 (16")	10M (#4) @ 400 (16")	10M (#4) @ 400 (16")
1.8m (6'-0")	10M (#4) @ 400 (16")	10M (#4) @ 400 (16")	15M (#5) @ 400 (16")
2.0m (6'-6")	15M (#5) @ 400 (16")	15M (#5) @ 400 (16")	15M (#5) @ 400 (16")
2.2m (7'-3")	15M (#5) @ 400 (16")	15M (#5) @ 400 (16")	15M (#5) @ 400 (16")
2.35m (7'-9")	15M (#5) @ 400 (16")	15M (#5) @ 400 (16")	15M (#5) @ 400 (16")
2.6m (8'-6")	—	15M (#5) @ 200 (8")	15M (#5) @ 200 (8")
2.8m (9'-3")	—	—	15M (#5) @ 200 (8")
3.0m (9'-9")	—	—	15M (#5) @ 200 (8")



**Table 1a** Required Reinforcement for Varying Height Basement Walls (200mm / 8")

MAX. HEIGHT OF FINISHED GRADE ABOVE BASEMENT FLOOR (BACKFILL HEIGHT)	REQUIRED VERTICAL REINFORCEMENT FOR MAXIMUM BASEMENT WALL HEIGHT			
	3.0m (10 ft.)	3.3m (11 ft.)	3.6m (12 ft.)	3.9m (13 ft.)
< 2.6m (< 8' - 6")	15M (#5) @ 400 (16")	15M (#5) @ 400 (16")	15M (#5) @ 400 (16")	15M (#5) @ 400 (16")
2.8m (9' - 2")	15M (#5) @ 400 (16")	15M (#5) @ 400 (16")	20M (#6) @ 400 (16")	20M (#6) @ 400 (16")
3.0m (9' - 10")	20M (#6) @ 400 (16")	20M (#6) @ 400 (16")	20M (#6) @ 400 (16")	20M (#6) @ 400 (16")
3.2m (10' - 6")	—	20M (#6) @ 400 (16")	20M (#6) @ 400 (16")	20M (#6) @ 400 (16")
3.4m (11' - 2")	—	—	15M (#5) @ 200 (8")	15M (#5) @ 200 (8")
3.6m (11' - 10")	—	—	15M (#5) @ 200 (8")	15M (#5) @ 200 (8")
3.8m (12' - 6")	—	—	—	15M (#5) @ 200 (8")

**Alternative Rebar:**

15M (#5) @ 400 (16") may be replaced by 10M (#4) @ 200 (8") or 2-10M (#4) @ 400 (16")  
 20M (#6) @ 400 (16") may be replaced by 2-15M (#5) @ 400 (16") or 15M (#5) @ 400 (16") + 10M (#4) @ 400 (16") - alternating bars @ 200 (8")

**Note:** For commercial, industrial or institutional applications, minimum horizontal reinforcing steel shall be 15M (#5) @ 300 (12") or 15M (#5) @ 600 (24") + 10M (#4) @ 600 (24") - alternating bars @ 300 (12").

For residential applications, minimum horizontal steel shall be 10M (#4) @ 600 (24").



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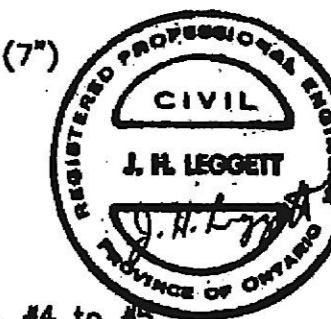
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**Table 4a. Lintel Table - Imperial Steel**

Minimum Steel Reinforcement of Lintels [either 150mm (6") or 200mm (8") Core]

Uniformly Distributed Load	Lintel Span in metres (feet)	Lintel Span in metres (feet)									
		1.0 (3'-3")	1.5 (5'-0")	2.0 (6'-6")	2.5 (8'-3")	3.0 (9'-9")	3.5 (11'-6")	4.0 (13'-0")	4.5 (14'-9")	5.0 (16'-6")	
100	1.5	2#4	2#4	2#4	2#4	2#4	2#4	2#4	2#4	2#4	
200	2.9	2#4	2#4	2#4	2#4	2#4	2#4	2#4	2#4	2#4	
300	4.4	2#4	2#4	2#4	2#4	2#4	2#4	2#4	2#4	2#4	
400	5.8	2#4	2#4	2#4	2#4	2#4	2#4	2#4	2#5	2#5	
500	7.3	2#4	2#4	2#4	2#4	2#4	2#4	2#5	2#5	2#5	
750	11.0	2#4	2#4	2#4	2#4	2#4	2#5	2#5	2#5 T 2#5 B	2#5 T 2#5 B	
1000	14.6	2#4	2#4	2#4	2#4	2#5	2#5	2#5 T 2#5 B	2#5 T 2#5 B	—	
1250	18.3	2#4	2#4	2#4	2#5	2#5	2#5 T 2#5 B	2#5 T 2#5 B	—	—	
1500	21.9	2#4	2#4	2#4	2#5	2#5	2#5 T 2#5 B	—	—	—	

- Minimum lintel height = 300 mm (12")
- For lintel height = 250mm (10"), increase bar size to next larger, i.e. #4 to #5, #5 to #6 etc.
- All Bars Top and Bottom, i.e. 2#4 = 2#4 Top + 2#4 Bottom
- Clear concrete cover = 25 mm (1") [Top and Bottom bars]
- Uniformly distributed load includes service (actual) live and dead loads. If concentrated loads are applied, consider the lintel to have a 50% increase in span to produce the same bending as uniformly distributed load.
- Lintel / load combinations to the right and below solid line require shear reinforcement of #4 stirrups (U) at 175 mm (7")
- Concrete strength  $f_c = 20 \text{ MPa}$  (3000 P.S.I.)
- Reinforcing steel  $f_y = 400 \text{ MPa}$  (60 K.S.I.)
- Design to CSA A23.3-94
- Increase bar size to next larger for 250 mm (10") core, i.e. #4 to #5, #5 to #6 etc.



Adelstein Allen Rubell  
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<b>Lintel Schedule</b>								
Unit	Max. Lintel Length (L)	Min. Lintel Depth (D)	(T) Lintel Thickness	Above Opening			Sides	BTM \$\$\$
				BTM. Bar	TOP BAR	Stirrups		
LSB-0	3'-0"	12"	6"	(1) #4	N/R	N/R	(1) #4	(1) #4
LSB-1	3'-11"	12"	6"	(2) #4	N/R	N/R	(1) #4	(1) #4
LSB-2	6'-9"	12"	6"	(2) #5	N/R	N/R	(1) #4	(1) #4
LSB-3	9'-1"	12"	6"	(2) #5	(1) #5	#3 (2- Both sides) @ 8"OC	(1) #4	(1) #4
LSB-4	13'-0"	12"	6"	(2) #5	(2) #5	#3 (2- Both sides) @ 8"OC	(1) #4	(1) #4

N/R Indicates Not Required  
 \*\*Not Required at Door Openings

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RESIDENCE FOR:  
**THORNE RESIDENCE**  
 21629 Keeney Rd  
 Parkton, Maryland 21120

Owner  
 Project Name  
 ICF Wall & Lintel  
 Specifications

Project number 2021-572  
 Date 2-3-2021  
 Drawn by Author  
 Checked by Checker

**S-002**

Scale