

## Detailed Estimation Spreadsheet Problem

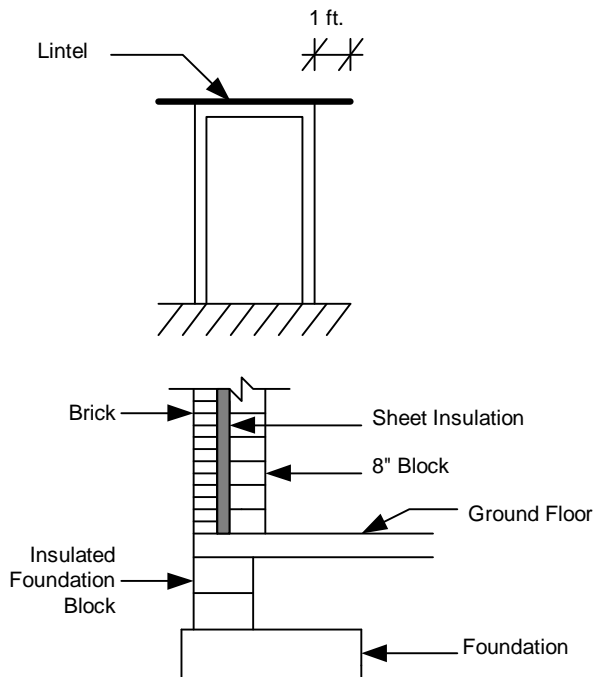
Attached are drawings for a one-story building that has the following characteristics:

- Foundation walls: 12" block
- Exterior walls: 8" block with face brick exterior, walls A, B, and C.  
8" block with special brick exterior, wall D.
- Interior partitions: 4" block.
- Counter: Glazed 8" block = \$1,600/M
- For block: Precast lintels for the outside walls and CMU lintels for the inside walls 1 ft. into the wall @ side.  
Bond beams are along the top of exterior walls.  
Joint reinforcement @ 3 courses of block (16" o.c.).  
Waste : 4% for 4" and 8" blocks and 2% waste for foundation blocks
- For brick: Steel lintels  
7 bricks/sq.ft.  
Ties cost \$0.17 each and are placed at 16" o.c. vertical, 26" o.c. horizontal.  
Waste: 6%.
- Perimeter insulation:  
For walls use 2" thick sheet insulation (applied only to exterior walls).  
For foundations use polystyrene beads poured into cavities of 12" block.  
Waste is 4% for sheet insulation and 2% for block insulation (to be added in quantity take-off formula).
- Normal door openings are 8' high. Wider openings are full height.
- Do not consider cost of scaffold.
- Typical number of workers on site: 8
- For 12" block (Foundation walls) use the following:  
12" block = \$1,800/M  
Type of mortar: M, PM  
Mortar: CF/M = 84  
Units/mason day = 160
- Assigned crew = 4 masons, 1 apprentice, and 3 helpers. (for 8" & 12" block)
- Use mortar type M 1: 1 : 6 for 8" block and type N 1: 1 : 6 for interior walls.
- For 4" block use 4 masons, 1 apprentice, and 3 helpers, and for face brick use 4 masons and 3 helpers.
- Project overhead is \$6,000 plus \$200 per day.
- Project markup is 11%.
- 1 bag of portland cement = 94 lbs., unit weight = 104.5 lbs/CF.

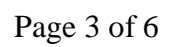
With the help of the masonry spreadsheet template (mastkoff.xls), do the following:

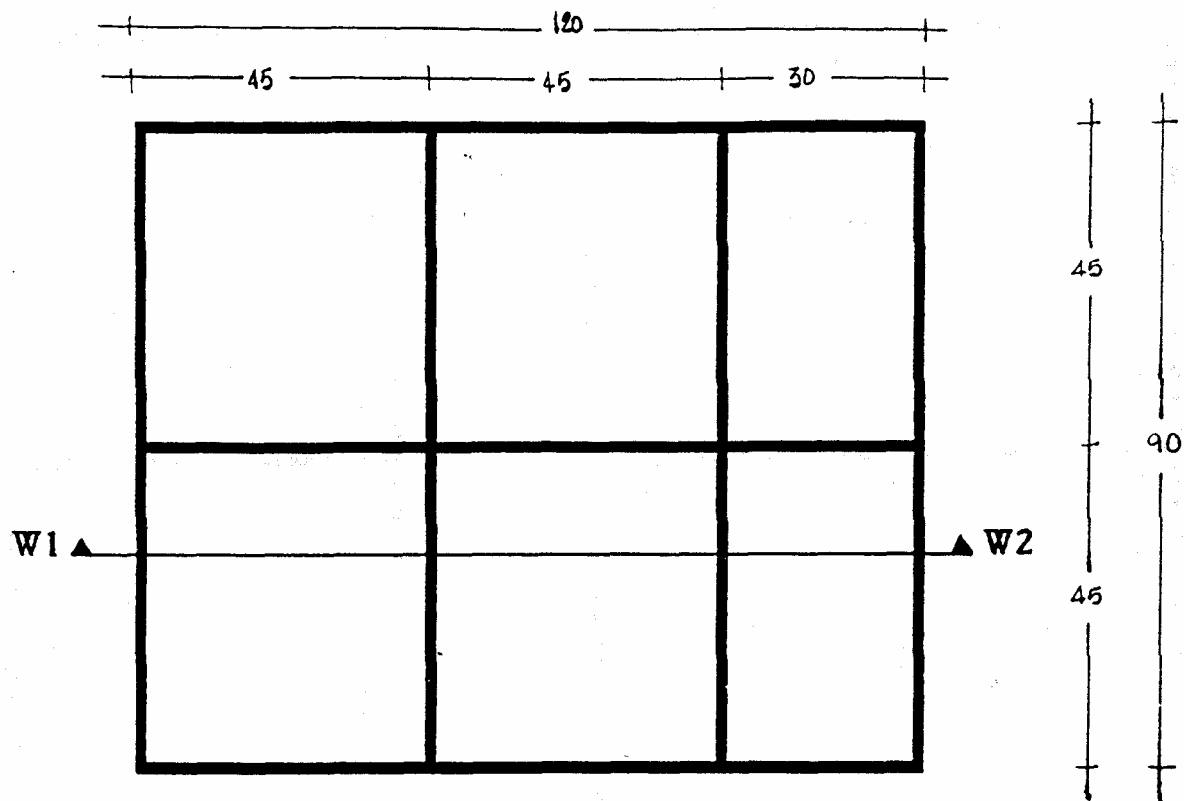
Prepare a quantity take-off, calculate a bid price, and print an estimate spreadsheet. Enter your quantities in the given spreadsheet (insert zeros for irrelevant items). Use the prices given in the spreadsheet. Printout the spreadsheet with your quantities. You will have to add row(s) for any items not included in the given spreadsheet.

The mastkoff.xls file is available at [RICarr.com](http://RICarr.com), as is this homework assignment.



**Not to Scale**



**Foundation plan**