

TO: each RI/AS/DS/SAO/TAO

EXPLANATORY NOTES ON FIS COSTINGS

Version 1 - 27th February 2008.

All new clauses and revisions are in red and italics.

Note 1: This notice replaces all previous interpretations.

Note 2: Some assumptions (e.g. troughs + barriers = walls) have been made, but these do not affect overall costs. Also, to avoid the mathematics being even more complicated, some minor simplifications have been made in the detailed costing procedures.

Note 3: Buildings and structures should be measured by the field officer to the best of his or her ability. All dimensions should be recorded to the nearest 0.01 metre, i.e. to the nearest centimetre: (19.67 m, and not 19.674 m).

Note 4: Demolition Costs. The cost of the demolition of existing walls, or any other part of a building, in conversions cannot be grant-aided.

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1 General Items

- 1.1 **Common Walls.** Where new buildings are being constructed, there are no deductions for any common walls, either within buildings for a single use (e.g. a set of horse boxes) or for walls between buildings with different uses (e.g. parlour/dairy/farm office).

Where, however, a new building is being attached to an existing building [e.g. a new slatted house alongside an existing cubicle house, where the existing wall is shared] then the cost of the existing common wall is deducted from the cost of the new building, at the **omitted wall (non-feed face) deduction** rate.

- 1.2 **Points of Measurement.** Houses are measured internally, from the inner face of an external wall (see Fig. 1). A house with a feed passage (internal or external) shall be measured as follows : (a) the animal area is measured from the back wall of the house, (or from the inner flange of the stanchion where there are troughs or feed barriers) to the flange on the feed passage side of the stanchion; (b) a creep area is measured from the back wall of the creep to the flange on the cow area side of the stanchion at the front of the creep; (c) feed passages are measured from the flange(s) on the feed passage side of the stanchion; (d) The length of a drive-through feed passage is measured between the external faces of the building. A single entrance feed passage is measured from the external face at the entrance to the internal face of the back wall.

Note: The totals of the width measurements (creep / animal area/ feed passage / animal area) equals the side-wall to side-wall dimension.

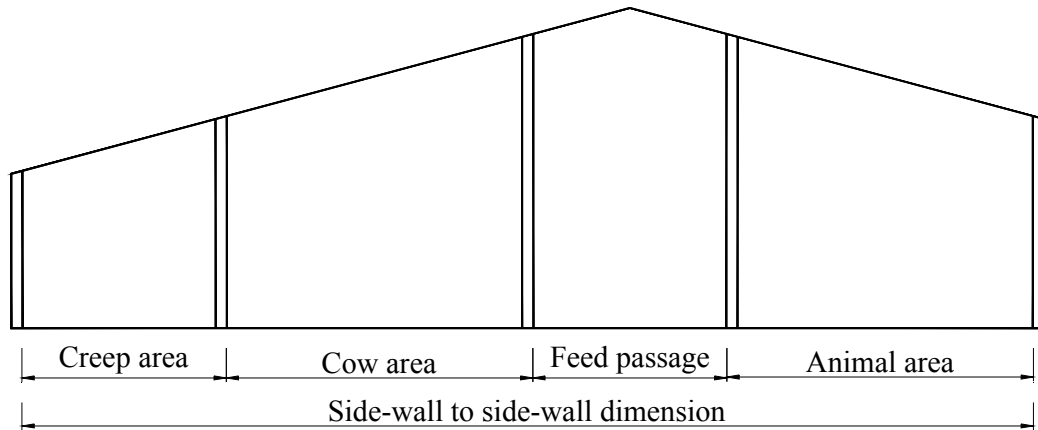


Fig. 1: Measurement points across a building

1.3 **Site Development.** An allowance may be made for additional fill for housing (including feed passage and any working concrete base) and silos under the following conditions:

- Total fill depth exceeds 450mm.
- Area of fill required exceeds one third of the site and 30m².

Under these conditions the following allowance may be made:

Payment for fill (at **site development** rate) between 150mm deep and 750mm deep (i.e. total maximum additional fill of 600mm).

Note: A slurry store, manure pit or tank shall not be constructed on made up ground. Such facilities shall be constructed on solid stratum in accordance with the particular specification.

2 Animal Areas (see attached sketches)

2.1 **Slatted Animal Area.** The maximum grant aided width of a **slatted cattle house** is the width of the slats plus 1m. Any additional width that is present is not paid for. It should be noted that the animal area costings for **slatted cubicle house** and **slatted cattle house** include the cost of the 2.5m standard overhang above the feed passage area, a 300mm standard overhang at the back of the animal area, and also all feed barriers and internal pen divisions. Note that if there is no such overhang, then a deduction of 2.5 sq. metres at the **back-to-back lean-to** rate is made per linear metre. If an overhang of only 1.5m has been fitted, a deduction of 1m² per linear metre is made at that rate. [No deduction necessary if there is no overhang at the back of the building.] If a 500mm thick spine wall has been constructed in the centre of a slatted animal area, the additional 200mm wide strip of concrete between the slats may be included in the animal area and not deducted from the additional 1m of concrete that can be paid at either side of the slatted area.

- 2.2 **Slatted cubicle houses.** The whole animal area is costed at the current **slatted cubicle house** rate, with the exception of houses which combine solid scraped floors and slatted floors (see sketch No's. 2 & 3). The **slatted cubicle house** rate ends at the edge of the scraped passage.
- 2.3 **Loose houses and Cubicle houses.** The whole animal area is costed at the current **loose house** or **cubicle house** rate as appropriate. These rates do not allow for any overhangs on the house.
- 2.4 **Added roofed slatted feed areas.** Where these are added to cubicle or other houses to form easy-feed systems, the new area is costed at the current **slatted cattle house** rate. Appropriate deductions should be made for omitted wall(s). All barriers, internal divisions, and internal slats and/or slabs are included in the standard rate. Also included is a 2.5m roof overhang above the feed passage. If the overhang is not installed, then a deduction is made at the **back-to-back lean-to** rate (as in 2.1). Up to 1m of concrete may be costed at **slatted cattle house** rate; and where the tank has to be kept out from the existing building up to 3m of concrete may be costed at loose house rate. If at payment stage, it was found that a tank was moved out 3m from house for safety reasons, then the extra area may be costed at **loose house** rate.
- 2.5 **Added unroofed slatted feed areas.** (a) where stanchions of the correct size and height for a building of the span of the feed area, together with full foundations, are provided (S.123 Clause 4.11), then the **slatted cattle house** rate (as in 2.1 above) is applied, with a deduction for the roof, plus an 2.5 overhang, at **back-to-back lean-to** rate. [If the house is subsequently roofed, it will be costed at the **back-to-back lean-to** rate]. (b) Where only stub-stanchions support the barriers, component costs will be used: tanks, slats, concrete areas, pen divisions and feed barriers.
- 2.6 **Added roofed solid-floor feed areas.** Where these are added to form an easy-feed system, they should be costed at the **loose house** rate with appropriate deductions, at **omitted wall (non-feed face) deduction** rate for the open back wall, and for other walls where appropriate. Where a proper feed barrier is installed in place of a wall this is regarded as an equivalent cost, and there is no deduction, or addition. Where no new floor is installed, a deduction is made for the existing concrete. [Any external overhang to a **loose house** is at the **back-to-back lean-to** rate].
- 2.7 **New slatted areas in existing buildings.** A deduction in the standard cost is made at the **back-to-back lean-to** rate for an existing roof over the animal area. A further deduction is made, also at the **back-to-back lean-to** rate, for a 2.5m band of existing roof over the side of an adjacent feed passage.

- 2.8 **Concrete in slatted cattle “animal areas”.** The standard **slatted cattle house** rate applies to the slatted area plus 1.0 m maximum width of concrete. No further concrete within the animal area is grant-aided in new standard slatted cattle buildings. This limit does not apply to the construction of organic housing.
- 2.9 **Slats in unroofed feed areas.** Use the **normal cattle slat** rate. Where farm machinery is crossing over a slatted area, then use the **heavy duty slats** rate.
- 2.10 **Roofing of livestock feedyard.** Use **loose house** rate less **concrete surfacing** rate (125mm on new foundation), less existing walls.
- 2.11 **Slatted feed area with bedded lie back.** Where a loose house is constructed with a slatted feed area along one side, [slatted feed area with bedded lie back] the total area of the house shall not exceed that for a loose house (i.e. 4.0m² per animal, including slatted area). The tank under the slatted area shall be sized to be 50% of the capacity of a fully slatted house. This system may be grant-aided under the FWM scheme for non-organic farmers. Organic beef units may have up to 7.0m² per animal under these conditions. Allowing for clause 2.8 above, there shall be a minimum 1.5m of concrete present (in addition to the 1m of concrete costed at the **slatted cattle house** rate requiring a total of 2.5m of concrete) to enable this additional area (1.5m or more) to be costed at the **loose house** rate.
- 2.12 **Slatted feed area with unbedded lie back.** Where a loose house is constructed with a slatted feed area along one side, [slatted feed area with unbedded lie back] the total area of the house shall not exceed that for a sloped floor house (i.e. 4.0m² per animal, including slatted area). The tank under the slatted area shall be sized to be 100% of the capacity of a fully slatted house. This system may be grant-aided under the FWM scheme for non-organic farmers. Organic beef units may have up to 7.0m² per animal under these conditions. Allowing for clause 2.8 above, there shall be a minimum 1.5m of concrete present (in addition to the 1m of concrete costed at the slatted cattle house rate requiring a total of 2.5m of concrete) to enable this additional area (1.5m or more) to be costed at the loose house rate.

3 Feed Passages and External Concrete

- 3.1 **Feed passage & working concrete to single-sided units.** The maximum area of grant-aided concrete (not including animal area) is equivalent to an 8m strip along the length of the house. The feed passage is included in this area. In the case of single sided loose house and single sided solid floor cubicle houses the **roofed central feed passage & feed barrier** rate is used for the area under the canopy, up to a maximum of 2.5m, all additional feed passage is costed

at the **concrete surfacing** rate. Enclosed feed passages to single sided houses are costed as if there was only a 2.5m overhang present, unless there is a cattle crush in the feed passage (see clause 5.4).

- 3.2 **Suspended passages attached to single sided houses.** A maximum width of 4m may be paid for a suspended passage attached to a single sided house. An additional 4m of concrete is costed at the **concrete surfacing** rate making up the 8m strip of concrete as in 3.1.
- 3.3 **Single sided house with enclosed feed passage.** This type of house is costed as per 3.1 or 3.2. No allowance can be paid for the additional roof or wall over the feed passage, unless a cattle crush is present under which circumstances the rules in clause 6.4 apply (see sketch 11).
- 3.4 **Feed passages within double-sided houses.** These are costed at the appropriate **concrete surfacing** rate up to a maximum width of 5m. Wider passages are costed as if they are 5m wide.
- 3.5 **Concrete for double-sided houses with an internal feed passage.** The maximum area of external grant-aided concrete (not including animal area) is equivalent to an 8m strip along the gable end of the house.
- 3.6 **Feed passages for loose house and cubicle houses.** The **roofed central feed passage & feed barrier** rate is the appropriate rate for feed passages for these types of houses. The **roofed central feed passage & feed barrier** rate may be used for a maximum of 5 metres for a double-sided house and 2.5m for a single-sided house. Note: this rate includes the concrete feed passage under the roof.
- 3.7 **Feed passages for calving pens.** Use the **roofed central feed passage & feed barrier** rate for 2.5m and the remainder at the appropriate **concrete surfacing** rate.
- 3.8 **Double width houses with external feed passages only.** Allow for 2.5m feed passages on either side of the house (see Fig. A). An 8m wide strip of concrete along the gable end of the house is costed at the appropriate **concrete surfacing** rate. The area is equivalent to: (Animal area width + 5m) x 8m. This area can be distributed around the house as the farmers so wishes. **Note:** No extra allowance to be given for the second overhang.

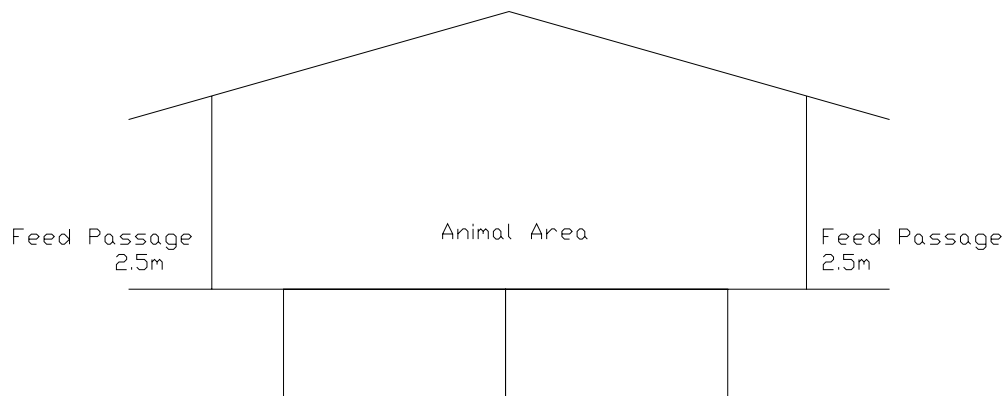


Figure A Double width houses with external feed passages

4 Farmyard Drainage

- 4.1 **Yard Drains** are costed based on individual components. These are measured on a linear basis. These drains are for the purpose of soiled water and run off from roofs and are strictly not for the purpose of silage effluent drainage as per S129. **Narrow Channels and Wide Covered Channels** are costed at the same rates as for around Silage aprons. **Covered Drains uPVC (150mm and 225mm)** and **Land Drainage Pipes** are costed individually per meter length.*
- 4.2 **Manholes/Inspection Chambers/Mud Traps** are costed at their respective rates. **Heavy Duty Covers** are costed as additional items to Manholes/Inspection Chambers/Mudtraps.*
- 4.3 **RWP (Rain Water Pipes) and Gutters** are costed as additional items at their respective rates where they are being retrofitted to an existing building.*

5 Omitted Walls, Sliding Doors, Vented Sheeting & Meal Troughs

- 5.1 **Meal troughs.** No grant is paid for troughs at the back of a slatted pen (see sketches No. 9 & 10) (the cost of the trough is regarded as equivalent to the cost of the omitted wall). No grants are paid for any system of barriers, or troughs, with feed passages (covered or otherwise) at the back of a slatted pen. The only grant is the standard costing rate for the animal area (see sketch 10).
- 5.2 **Omitted walls from slatted houses.** Where walls have been omitted from the gable ends of slatted houses, the **omitted wall (non-feed face) deduction** rate shall be used, and also for an omitted back wall where there is only a restraining barrier in place (i.e. no feed barrier with stub wall or trough).
- 5.3 **Omitted walls from loose houses.** Where walls have been omitted, but the specified barriers and channels are in place (S.123 Clause 2.8), no deductions are made.
- 5.4 **Sliding Doors.** All sliding doors, installed in new or in existing houses, are costed at the **sliding door** rate (per square metre). For sliding doors to animal areas (i.e. not feed passages) deduct the length of the door opening multiplied by the **omitted wall (non-feed face) deduction** rate i.e. Slatted cubicle animal area multiplied by **Slatted cubicle area** rate less length of door opening multiplied by **omitted wall (non feed face) deduction** rate. Sliding doors may be omitted from one or both ends of a feed passage within most of our buildings, either to improve ventilation or to improve management. Unsheeted galvanised gates may be fitted in place of such doors, these are to be costed at the unsheeted **gate** rate. Roller doors are costed as if a conventional sliding door is present.
- 5.5 **Vented Cladding.** Standard costs include normal standard cladding, but an additional cost is allowed per square metre at the **vented cladding-allowance** rate for all such cladding on side or gable walls on new houses, and on sliding doors. Where vented sheeting is fitted in new houses an allowance of the difference between vented end cladding and standard steel end cladding is paid for the area of vented sheeting present (including along the sides of the building). Only in conversions, where vented cladding is fitted as part of the upgrade work is the **ventilated steel cladding** rate (full rate) paid.
- 5.6 **Costing for upgrading outlet ventilation in conversion work.** Where a haybarn structure is being converted, and the existing ventilation is inadequate, an allowance using the **upgrading outlet ventilation** rate can be given for raising each sheet to 275mm clear of the surrounding

sheets. Two nonadjacent sheets need to be raised at least 275mm in each bay to meet the ventilation requirements. All sheets raised must be non-adjacent.

6 Cattle Crushes and Holding Pens

- 6.1 **Roof over Cattle Crushes.** Where a cattle crush is installed within a roofed animal area, the building is measured to the internal wall as usual. The crush itself is costed on component parts. Where an external overhang is installed over a crush it shall conform to S.101 (max. 2.5m overhang) and be costed at the **back-to-back lean-to** rate. A wall (maximum height 1.8m) may be grant aided along one side of the crush, equal to the length of the crush.
- 6.2 **Cattle crushes.** There is no investment limit for cattle crushes either approved or paid after the issue of version 5 of the explanatory notes on costings.
- 6.3 **Channels around un-walled loose houses.** All channels around un-walled loose houses should be costed at the appropriate rate. The rates for these channels are the same as for silage slabs.
- 6.4 **Cattle crushes in enclosed feed passages of single sided houses.** Where a cattle crush is installed in the feed passage of an animal house with an enclosed feed passage, up to 2.5m width of roof and a wall (maximum 1.8m high) may be paid for the length of the feed passage.
- 6.5 **Cattle holding pens greater than 2m² per head.** Where a cattle holding pen greater than 2m² per animal is applied for and constructed, the entire area applied for may be constructed, however, the maximum payable is 2m² per animal. The entire wall/barrier around the pen may be paid. The receipt will need to be adjusted to allow for the lesser area of concrete and this new figure shall be compared to the standard cost for the lesser area of concrete. The area under the crush itself is not included in the 2m² per animal limit. An additional 1.2m x length of the crush can be paid in addition to the holding pen. This consists of 0.6m under the crush and a 0.6m walkway alongside the crush (as per S.137).

7 Slats and Scrapers

- 7.1 **Floor repairs when scrapers being installed.** When a scraper is being installed into an existing house, the cost of repairing the floor, so that it meets the required standard, can be grant-aided. For floor repairs use the appropriate **concrete surfacing** rate.

7.2 Where single or twin slats are being replaced, add an additional 20% to the cost of the slats, both internal and external. This applies to an ordinary slat or a manhole slat. It does not apply to the steel manhole assembly in a slat.

8 Concrete Tanks and Slurry Stores

8.1 **Measurement of Tanks.** Tanks are now costed on a component basis:-

- Each linear metre of external wall;
- Each linear metre of any spine wall;
- The floor area of the tank;
- The excavated volume of soil;
- The volume of backfill.

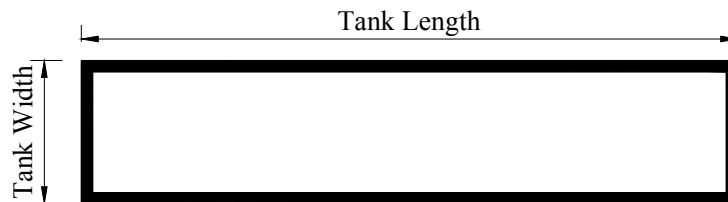


Fig. 2: Tank type 1: Standard Tank

8.2 **Calculation of tank walls.** The external tank wall length is either directly measured from external corner to external corner, or calculated from the internal length of the tank with additions for the wall thickness. The external width is also measured in the same manner which means, in effect, that each corner is counted twice. (This is to allow for the extra cost of constructing corners.) The internal depth is measured directly from the top of the wall to the floor of the tank. The costings give a linear metre rate for each wall height and thickness of wall.

8.3 **Calculation of tank floor.** External Tank Length + 0.5m multiplied by External Tank Width + 0.5m.

8.4 **Calculation of excavated volume.** External Tank Length + 2metres multiplied by External Tank Width + 2 metres multiplied by Internal Depth + 0.5metres. Where simple or very little excavation is required (sloped ground or existing dug-out storage) then only actual volume excavated is calculated.

8.5 **Calculation of backfilling.** Calculate the length of all the external tank walls added together, and add on an extra 4m (this allows for the backfill in the four corners). This figure is multiplied by the internal depth of the tank, and then multiplied by 1.0m. This gives the cubic

content of backfilling. Where simple or very little backfilling is required (sloped ground) then only actual volume backfilled is calculated.

- 8.6 **Cost of extended tank covers.** The cost of any external covers for tanks extending beyond the end of an animal building are **not** included in the cost of the animal area and as such should be added on to the cost of the building. The covers to extended tanks are measured up to the outside face of the gable end of the house; then costed at the appropriate rate for the cover (heavy duty slabs or slats). The cost of safety manholes are additional to the external cover, and it is permitted to grant-aid as many external safety manholes as have been provided.
- 8.7 **Spine Walls.** The length of each spine wall is measured and multiplied by the appropriate rate. (No **foundation** rate is allowed to be given for spine walls.) All reinforced concrete beams are costed at the **beam** rate. The length of the beam is considered to be the opening width plus 0.3m (150mm bearing at each end).
- 8.8 **Tanks in existing buildings.** Where tanks are constructed within existing buildings allow 8% extra to the basic cost (excavation, backfill, outer walls and floor) to cover the cost of work in confined space and for temporary supports to the existing structure during construction work. (No extra for spine wall or beams to be allowed).
- 8.9 **Tanks for silage effluent.** Where purpose built tanks are used to store silage effluent, add 5% to basic cost (excavation, backfill, outer walls and floor) for 40N concrete as per Clause 6.2 of S123. (Tanks constructed of concrete block shall not be used for silage effluent storage).
- 8.10 **Costing of shallow tanks.** Shallow tanks (1.2m or less) are costed in the same manner as standard tanks, except the wall rate is based on the appropriate **mass concrete/concrete block wall** rate.
- 8.11 **Costing of slurry channels / transfer channels.** Slurry channels / transfer channels are costed as per shallow tanks.
- 8.12 **Channel running alongside tank.** Where the channel and tank share a common wall no deductions are made for the first 2 metres of common wall. For all additional common wall appropriate deductions are to be made for walls, floors, excavation and backfilling.

- 8.13 **Standard cost for the removal of tank ends.** The cost of removing tank ends so as to construct external agitation points can be grant-aided. Use the **removal of end tank wall** rate for the cutting and removal of an end wall of an existing concrete tank. Where there are multiple tank sections (i.e: a tank with a spine wall) **removal of end tank wall** rate shall be given for each section.
- 8.14 **Cost for installation of 150mm pipe agitation system.** Where a pipe agitation system is installed, the **pipe agitation system** rate shall be used.
- 8.15 **Cover for small effluent tanks.** This costing shall only be used for tanks that are less than 8m² surface area. Covers on larger tanks shall be costed as having pre-cast concrete slabs in place.
- 8.16 **Pillars and beams,** when used in place of a solid spine wall for the length of the tank, shall be costed as if an equivalent solid 300mm reinforced concrete spine wall is in place.
- 8.17 **Disruptive Excavation.** The additional rate in the Standard Costings is only to be paid where evidence is absolutely clear that substantial extra costs were involved. Such a rate will be very much the exception rather than the rule. An applicant who wishes to claim for disruptive work must notify the AES office to allow for an inspection during excavation. The District Superintendent is to confirm the expenditure in every case.*
- Taking the entire cubic volume of the excavation (8.4 above), the best estimate should be made as to the volume of Solid Rock, Boulders/ Fragmented Rock. This volume is multiplied by the excavation rate of €12.00/m³. This amount is paid as well as standard excavation costs.*
- 8.18 **Simple excavation.** Where simple or very little excavation is required (sloped ground or existing dug-out storage) then only actual volume excavated is calculated.
- 8.19 **Drainage.** Where drainage is required to lower the water table around slurry tanks land drainage rates should be used.
- 8.20 **Where steel reinforcing is required for 4m wide tanks** and over, or as a precaution against flotation where ground water is a problem (i.e. where full drainage cannot be provided), an allowance for steel mesh should be made. The use of A393 mesh is for exceptional floatation problems only, and an Engineer shall confirm need for A393 mesh.
- 8.21 **Mesh in floors of tanks.** When mesh is installed in the floors of tanks the area with mesh is to be calculated as the internal floor area of the tank.

8.22 **Thicker floors.** Where extra thickness of concrete is used in floor as a precaution against flotation where ground water is a problem (i.e. where full drainage cannot be provided), an allowance may be made per extra 25mm thickness of floor (a Chartered Engineer shall confirm need for the extra thickness of concrete).

8.23 **Calculation of cost of tank type '2'.** (Two separate tanks joined across the solid passage at each end to permit slurry circulation as in Fig. 3.) Initially calculate the tank as if it were a standard tank. Then the following additional calculations are required to cost this type of tank:

- Cost of internal wall.
- Deduction for area not covered by floor.
- Deduction for amount not excavated.
- Cost of backfilling internal portion.

The cost of the internal wall is calculated as per 8.2 but using dimensions 'A' and 'B' as the external wall dimensions. The figure calculated here is then added onto the cost of the external tank wall as calculated in 8.2.

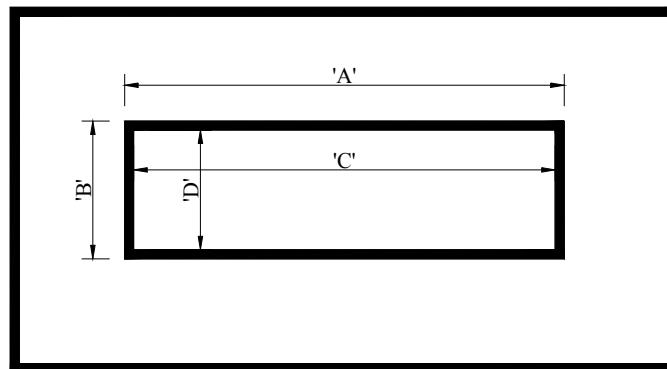


Fig. 3: Tank type 2: Tank with backfilled centre portion

The area of floor that needs to be deducted is calculated as follows:

Dimension 'C' minus 0.5m (gives length of area not covered by floor) multiplied by dimension 'D' minus 0.5m (gives width of area not covered by floor). The area calculated here is then deducted from the overall floor area as calculated in 8.3.

The reduction in the volume of excavation is calculated as follows:

Dimension 'C' minus 2m (gives length of portion not excavated) multiplied by dimension 'D' minus 2m (gives width of portion not excavated) multiplied by the internal depth plus 0.5m. The figure calculated here is subtracted from the figure as calculated in 8.4.

The increase in allowance for backfilling is calculated as follows:

2 x Dimension 'C' plus 2 x dimension 'D' [$2C+2D$ = length of portion to be backfilled] multiplied by the internal depth of the tank multiplied by 1m. This figure is then added onto the volume as calculated in 8.5.

8.24 **Calculation of cost of tank type '3'**. (Tanks with one or two long arms as in Fig. 4.)

The wall length is the sum of the full length of each wall segment (each corner to be counted twice as per 8.2).

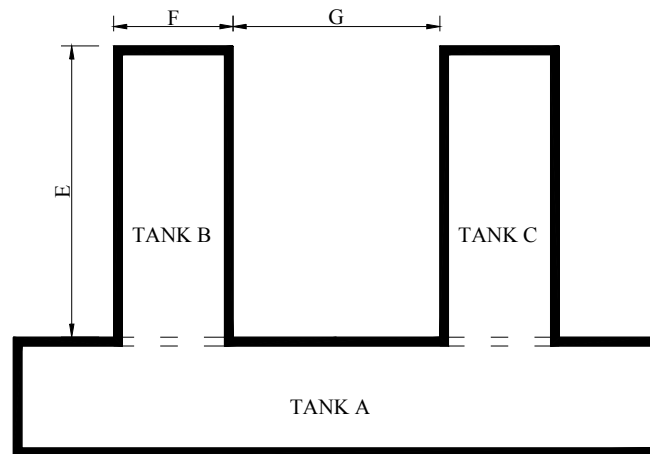


Fig. 4: Tank type 3: Tank with 2 long arms

The floor area is calculated as follows:

Calculate the area of the floor for 'tank A' as per 8.3.

The length of the floor of 'tank B' is to be taken as dimension 'E'. The width of the floor of 'tank B' is to be taken as dimension F plus 0.5m. So the floor area of 'tank B' is calculated as: $E \times (F + 0.5) =$ floor area of 'tank B'. The floor area of 'tank C' is calculated in the same manner.

The floor areas of 'tanks B and C' are then added to the floor area for 'tank A' to give the total floor area to be costed.

The volume of excavation is calculated as follows:

Calculate the volume of the excavation for 'tank A' as per 8.4.

The length of the excavation for 'tank B' is to be taken as dimension 'E'. The width of the excavation for 'tank B' is to be taken as dimension F plus 2m. So the excavated volume for 'tank B' is calculated as: $E \times (F + 2.0) \times$ internal depth of tank plus 0.5m = excavated volume of 'tank B'. The excavated volume for 'tank C' is calculated in the same manner.

The excavated volumes for 'tanks B and C' are then added to the excavated volume for 'tank A' to give the total excavated volume to be costed.

The volume of backfill is calculated as follows:

Calculate the volume of the backfilling for 'tank A' as per 8.5.

The length of the backfilling for 'tank B' is to be taken as dimension 'E' x 2 (to allow for both side walls) x internal depth x 1m. There is no allowance for the width of 'tanks B or C' as this has already been accounted for ('tank A'). So the backfilled volume for the 'tank B' is

calculated as: $E \times 2 \times \text{internal tank depth} \times 1 = \text{backfilled volume for 'tank B'}$. The backfilled volume of 'tank C' is calculated in the same manner.

The backfilled volumes of 'tanks B and C' are then added to the backfilled volume for 'tank A' to give the total backfilled volume to be costed.

8.25 Calculation of cost of Tank Type 3a.

The type of tank shown in Figure 5 is to be costed in the same manner as Tank Type 3. The only difference is that there are four sub-tanks to be costed in this type.

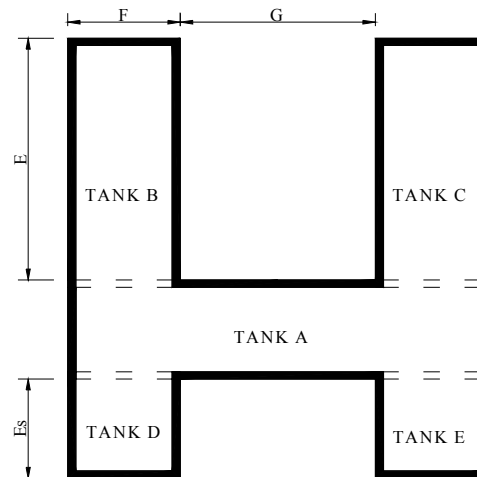


Fig. 5: Tank type 3a: Tank with 4 long arms

8.26 Precast Concrete Tanks Excavation and backfilling are based on standard costs and tank is based on receipted cost. Where cover is supplied as part of the tank, payment will be made on receipted cost. Otherwise, costs shall be paid on standard cost for slats or slab as appropriate.

8.27 Volume of excavation and backfill for Carlow precast tanks.

A request was made to have standard volumes for the excavation and backfilling to be allowed when precast tanks are being costed. Below is a list of these figures for each of the different size tanks still available from Carlow precast.

Tank Size (gallons)	Excavation volume (m ³)	Backfill volume (m ³)
8,000	103.96	58.07
7,000	102.26	48.21
5,000	63.43	36.85
3,500	55.71	35.76
2,500	40.21	26.21
1,500	29.93	21.51
1,000	19.85	15.18

8.28 **Costing of Geo-membrane lined slurry/effluent stores.**

If contractor does all work then payment is made on receipted cost.

Where the applicant undertakes the excavation of the store, then the excavation is paid on the basis of the standard costs.

Where the applicant undertakes the construction of the agitation point, this shall be paid on receipted cost for this item.

Where the applicant undertakes the construction of the safety fencing, then the safety fencing is paid on the basis of the standard costs.

Liner will always be done by lining contractor and as such shall always be paid on receipted cost.

Works relating to the laying of pea gravel is paid on the basis of receipted cost.

Where the applicant undertakes the construction of the inspection chamber, payment is made on the basis of component (standard) costs. Where the contractor undertakes the construction, payment is made on the basis of receipted costs.

8.29 **Costing of metal sided circular over ground slurry stores.** It is common practice when circular steel stores are being constructed that the materials for the base are supplied directly by the farmer, while the store contractor constructs the base. In these cases the full receipted cost from the store contractor and the cost of both the concrete and reinforcing steel for the base shall be paid. The **hardcore foundation** rate shall be used if the farmer or another contractor has constructed the hardcore foundation. In the cases where the farmer constructs the base of the store the base is to be costed at the **Tank Floor** rate. The total base and foundation diameter is the tank diameter plus 600mm. To calculate the area of the base of the tank use Πr^2 ($\Pi = 3.14$, $r = \text{radius} = \text{half the diameter of the store}$). If a receipt is received for a concrete pump in connection with a circular store, then this may be paid as part of the cost of the store. Additional costs such as **Floating Cover** or **Tent Cover** is based on the area of the space it is required to cover. Use the above formula to calculate the area of cover required.

8.30 **Earth Lined Store.** Is based on receipted cost. **Construction Supervisor** is additional and is based on the standard cost. **Fencing** is also an additional cost.

9 Safety Measures

- 9.1 Protective Fence. Length of fence multiplied by appropriate rate per meter.*
- 9.2 Tank Extension Covers. See 8.6 above for costing.*
- 9.3 Removal of Internal Agitation Point is costed on a per unit replaced basis.*
- 9.4 Sliding Door in Place of Sheeted Gate is based on the area of the door multiplied by the sliding door rate.*

10 Feed Stores

- 10.1 Meal Bins and Grain Silos shall be costed by the size of the bin multiplied by the appropriate rate from costings.*
- 10.2 Concrete Base (min 250mm) shall be costed at the Concrete Base (250mm) rate.*
- 10.3 Augers are costed on a per unit basis.*

11 Silage Bases

- 11.1 Silage Stores are costed based on the separate cost of Base, Channels, Walls and Apron as appropriate for the structure.*
- 11.2 If an existing silo** or base has been grant aided within the previous seven years, no grant is available (except in cases where the base was unavoidably damaged during grant-aided conversion work).
- 11.3 The apron in front of a silo** should be a defined area with a drainage channel at the leading edge: if no channel, the apron shall slope back to the main channel (S. 128). It is part of the base and constructed to the same standard and costed as such. [It is also a defined CLASS 8 structure for planning purposes].
- 11.4 A silo base is measured** from the outer edge of the kerbs [a maximum of 400mm from the channel] (or the front edge of a defined 40N apron). The lengths of the channels are measured, and the calculated sums are added to the cost of the slab. [Measure each of the two channel types separately where appropriate, and cost accordingly.]

- 11.5 **The height of a silo wall** is measured on the outside of the wall at the front of the silage pit. The height of the wall is as shown in Figure 1 of S. 120 (Dimension H, i.e. from the top of the foundation to the top of the wall).
- 11.6 **Measurement of a walled silo base.** This shall be calculated using the internal length and width of the floor; the apron is calculated as above. All measurements are to be taken at floor level.
- 11.7 **Length of walls in a walled silo.** The walls of a walled silo are measured in the same manner as tank walls, i.e.: the corners are counted twice.
- 11.8 **Common Walls.** For common walls between two silos, add 35% to the standard wall rate.

12 Sheep Housing

- 12.1 **Conventional sheep housing** shall be costed for the entire floor area (concrete floor, penning, feed passages etc) of the house at the appropriate rate. Component parts costing may be used if a more simple acceptable construction is being erected.
- 12.2 **Unroofed sheep house** shall be costed at the appropriate house rate minus the steel umbrella structure at the **back-to-back lean-to** rate for the entire floor area.
- 12.3 **Concrete feed passages** or other concrete areas in an otherwise gravel-floored house shall be costed at **concrete surfacing rate on existing foundation**. – Obsolete for all sheep houses approved on or after 3rd September 2004.
- 12.4 **Slatted sheep housing.** Pay the **conc-floored house (pens included)** rate and add the **slatted flooring** rate per m² of slatted floor constructed. The tanks are to be costed separately as in Section 8 above.
- 12.5 **Sliding doors to sheep houses.** Sliding doors are costed as additional extras in the same manner as for cattle housing.
- 12.6 **Single sided sheep house with canopy over feed passage.** Use appropriate sheep house rate out to edge of canopy (max. 2.5m), and the remainder at the appropriate **concrete surfacing** rate.

13 Calf Housing

- 13.1 **Calf Houses.** Use the **calf housing** rate for any calf house. Feed passage shall be costed as per clauses 3.1 and 3.6.
- 13.2 **Additional creep areas** for calves for a cubicle or slatted cow house shall be costed at the **creep area** rate. The cost of the creep divider is included in this rate.

14 Isolation Box / Calving Box

- 14.1 **Isolation Box** This building is costed at the **Isolation Box** rate for the entire floor area of the house. Any feed passage shall be costed at the **Roofed Feed Passage** rate.*
- 14.2 **Calving Box.** This is calculated at the **Calving Box** rate. This is measured on a square meter basis. This rate is not to be used in a penned area in a loose house. All specifications must be fully met.*

15 Bull Pens

- 15.1 **Bull House with Exercise Area and Service Pen.** This shall be costed for the entire floor area. This rate is not to be used in a penned area in a loose house. All specifications must be fully met.*
- 15.2 **Bull House without Exercise Area and Service Pen** shall be costed at the appropriate rate. Costs included similar to above but exclude the Exercise Area.*

16 Pig Housing

- 16.1 **Pig Housing.** All pig housing shall be based on vouched receipts. However, tanks shall be costed as per section 8.
- 16.2 **Feeders** are an additional item and are based on the standard cost.*
- 16.3 **Ventilation System** Installed by contractor as an additional cost is based on vouched receipts.*

17 Poultry Housing

17.1 All poultry housing (Brooder Housing, Layer House, Broiler House and Free Range House) shall be based on vouched receipts.

18 Sheep Dipping / Handling Facilities

18.1 Fixed Dipping Facility cost based on a meter squared basis subject to a maximum limit of 0.8m²/sheep. Larger units may be built but will only pay up to 0.8m²/sheep.

18.2 Mobile Dipping facilities are based on unit cost.

18.3 Specialised Sheep Spraying Facility is based on unit cost.

18.4 Fixed Sheep Handling Unit. Cost is based on meter-squared basis subject to a maximum limit of 0.8m²/sheep. Larger unit may be built but will only pay up to 0.8m²/sheep. The roof over the sheep handling unit is based on the back-to-back lean to rate.

18.5 Portable Sheep Handling Unit. Based on unit cost.

18.6 Rollover Crate. Based on unit cost.

18.7 Weighing Scales. Based on unit cost.

19 Bovine Mats.

19.1 Cubicle Mats are measured by measuring the area of the cubicle mat and multiplying it by the Cubicle Mat rate.

19.2 Slat Mats cost is calculated by measuring the specific slatted area covered by slat mats multiplied by the Slat Mat rate.

19.3 Loose Area Mats can be used within the solid floored animal area in the house.

20 Timber Housing

20.1 All houses in timber, including houses with laminated or composite structural members, are to be costed at standard rates as for steel construction.

21 Conversions

- 21.1 “**Conversion**” means the work involved in upgrading an existing structure for a new purpose (e.g. loose house to slatted cattle house). “Extension” means the addition of an extra structure to a building that is otherwise unchanged.
- 21.2 **Conversion cost** shall normally be calculated as the cost of the structures as new, reduced by the current cost of those elements that are not replaced (i.e. new structure minus deductions for existing facilities). All ventilation, electrical wiring, lighting, water supply, etc. shall be brought up to the requirements of the appropriate DAF specification. For conversions of milking parlours and dairies see section 23. Basic principle: deduct useable part of existing building from cost of structure being converted to.
- 21.3 In cases of **simple conversions**, costs based on component parts e.g. insertion of concrete floor into gravel-floored house.
- 21.4 Where the outlet ventilation is required to be upgraded, an allowance may be made for the raising of two sheets per bay.
- 21.5 Where an existing house is being converted to a slatted cattle unit, up to 3m width of concrete in the slatted animal area can be grant-aided. The additional concrete area is to be calculated at the **concrete surfacing** rate.
- 21.6 Under the OFI schemes, a conversion is permitted if the building is sound and suitably located. The conversion must lead to improved efficiency and improved pollution control. The structure shall be in substantial compliance with specification S101, and all bracing shall be brought up to, or newly installed to full S101 requirements. [A reduction of one size in stanchions/ rafters, e.g. IPE 200 rather than IPE 220, would be allowed, but weaker structures should be brought to the attention of the Specialist Unit]. All missing or defective gutters and down-pipes shall be replaced, and the discharge from the down-pipes shall be directed to a clean water disposal system.
- 21.7 When a new extension is being added to an existing building without further work being proposed, there is no requirement to check the existing structure or bracing. However gutters and down-pipes shall be checked as above. Any stanchions or rafters / trusses used to support the new roof shall also be in compliance with S101.
- 21.8 Where a wall is being deducted, assume the wall to be 1.5m high of 225mm unreinforced mass concrete. In the case of a dairy or parlour, assume wall to be 2.8m high of block and plaster.

21.9 **Re-roofing an existing building.** Use the **back-to-back lean-to** rate plus electrics plus side & end cladding.

21.10 Guttering on Existing Buildings. Measurements to be taken per linear meter along the roof eave.

22 Use of Steel Framed Umbrella Structures

22.1 These costs are only to be used in the following circumstances only:

- for the calculation of the deduction for the cost of a roof in a conversion;
- for calculating the cost of a roof as in 2.5;
- for the cost of a deduction when no overhang is present.

22.2 **Calculation of cost of steel framed umbrella structure.** In all cases first calculate the cost as if the building has 3 bays (bay width to be taken as actual bay width as constructed – not necessarily 4.8m or 6.4m). The roof width for these calculations is the ‘Total Roof Width’ as shown in Figure 5 below.

If the building has more than three bays the additional bays are costed at the ‘Rate for additional bays’. Conversely, if the building has less than three bays the ‘missing bays’ are to be deducted from the cost for the 3 bay structure at the ‘Rate for additional bays’. Deductions for existing roofs in conversion work shall be taken at the appropriate **back-to-back lean-to** rate (irrespective of the building structure i.e. trussed roofed, rafter roofed, etc.).

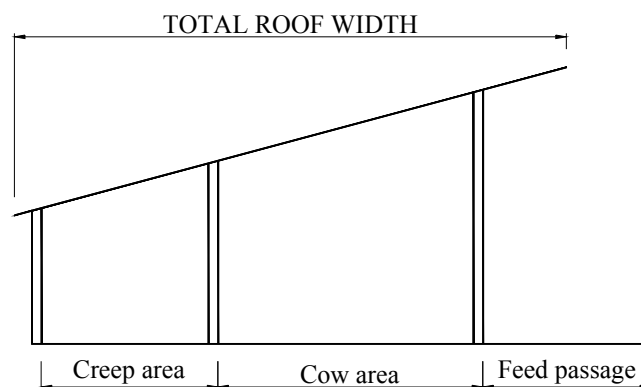


Fig. 5: Dimension required for steel framed umbrella structure calculation

23 Dairy and Parlour Costings

There are 3 types of work in relation to parlours that need to be taken account of, these are:

- 1) New parlours.
- 2) Extensions to parlours (requires building to be extended).
- 3) Conversion of existing building to a parlour.

It is likely that a multiple of these types of work will apply to any one given application for milking parlour work.

- 23.1 **New parlours.** The **milking premises** rate shall be used for the building, less any common walls as per 1.1. In addition the following item shall also be costed separately: pump for removal of waste pit water (submersible pump). All other items are included in the building cost.
- 23.2 **Extensions to parlour where building is extended.** The extension shall be costed as a new parlour. This applies no matter how small the extension. There is no requirement to deduct the wall between old and new parlours.
- 23.3 **Conversion of existing building to parlour.** Costs of conversions shall be calculated as the cost of the structures as new, reduced by the current cost of those elements that are not replaced. Basic principle: deduct useable part of existing building from cost of structure being converted to.
- 23.4 **New dairy.** The **dairy** rate shall be used for the building, less any common walls as per 1.1. In addition: water heaters shall be costed separately, All other items such as wash troughs, all plumbing, wash hand basins and storage cabinet are included in the building cost.
- 23.5 **Dairy extensions.** These shall be costed in line with 23.2.
- 23.6 **Dairy conversions.** These shall be costed in line with 23.3.
- 23.7 **Costing of Electrics.** In new buildings and conversions, electrics are included in the building rate.
- 23.8 **Maximums for dairy aprons.** The maximum area of concrete that may be grant-aided for a dairy apron is *50m²*. A gravel dairy apron may be grant-aided up to 300m².

- 23.9 **Costing of collecting yards.** These shall be costed on component parts, when constructed as a dedicated collecting yard and is sized on the basis of 1.25m² per cow. In effect, concrete is costed at the 125mm **concrete surfacing** rate, with 200mm Mass Concrete Wall or tubular steel barriers (4 rails). *The backing gate rate is only to be used for automatic backing gates, manual backing gates are to be paid as standard "Gate" rate.*
- 23.10 **Roofed collecting yards.** Costed as 23.9 plus back-to-back lean-to rates. Electrics shall be based on vouched receipts.
- 23.11 **Roofed slatted collecting yards.** Costed as 22.10 plus slats plus tank (tank as per section 8).
- 23.12 **Grant aid of Electrical Costs Associated with Bulk Milk Tanks** The cost of the electrical installation should be included with the installation cost of Bulk Milk Tank, and so be grant aided on the basis of the receipts. If the electrical connection of the Bulk Milk Tank to the isolator was performed by someone who was not an electrician, then the 'Certificate of installation of Mechanical / Electrical equipment' must be completed. This is in line with the electrical costs of automatic slurry scrapers.
- 23.13 Meal Feeding System for Milking Parlour. Cost is calculated by multiplying the number of cow places served by the feeders by the Meal Feeding System for Milking Parlour rate.*
- 23.14 Milking Machine. Cost is calculated by multiplying the number of cluster units by the Milking Machine rate.*
- 23.15 Autowashers. Costs are based on a fixed unit rate.*
- 23.16 Robotic Milking Machines. Costs are based on a fixed unit rate, which only covers the milking machine.*
- 23.17 Bulk Milk Tank/Bulk Milk Silo. Cost is calculated by multiplying this rate by volume of tank in litres. Price also includes Autowasher.*
- 23.18 Cooling Equipment and Compressor for Bulk Milk Tank are additional costs and are costed per unit.*
- 23.19 Ice Builder Cost is calculated by multiplying this rate by the size in Kcals.*
- 23.20 Plate Cooler and Compressor are costed per unit.*

24 Drafting Facilities

*24.1 **Drafting Gate.** Cost includes **Drafting Gate and Software.** Lead in race and penning are an additional cost and are costed at their respective rates.*

25 Manure Pits

- 25.1 **A manure base is measured** from the outer edge of the kerbs [a maximum of 200mm from the channel]. The lengths of the channels are measured, and the calculated sums are added to the cost of the slab.
- 25.2 **Measurement of a floor of a walled manure pit.** This shall be calculated using the internal length and width of the floor. All measurements are to be taken at floor level.
- 25.3 **Length of walls in a walled manure pit.** The walls of a walled manure pit are measured in the same manner as tank walls, i.e.: the corners are counted twice. The length of foundation is the same as the wall.
- 25.4 **A manure pit base is to be costed** using the 125mm **concrete surfacing** rate.
- 25.5 **Cost of roof over manure pit:** Use **haybarn** rate. Area of roof: (floor length + 1m) x (floor width + 1m).

26 Horse Stabling and Fencing

- 26.1 **American Barns.** Cost the overall structure at **loose house** rate and then add the length of dividers and fronts for the boxes present. Sliding doors out of the main building are costed as extras as per clause 5.4 of these explanatory notes.
- 26.2 **Conversion to Stables.** Use **American barn internal fit-out** rates and vouched receipts for plumbing and electrics. For floor repairs use the appropriate **concrete surfacing** rate.
- 26.3 **Horse Boxes** (Single boxes / external boxes in line). The fixed rate is given per box, regardless of size. The only extra payment is for the concrete and channels.
- 26.4 **Complex incorporating single row of Horse Boxes and enclosed feed passage.** This set up shall be costed as per 25.1.

27 Horse Lunging/Exercise Areas

- 27.1 **Lunging Area** is costed per meter-squared for the riding surface, per linear meter for the fence (1.75m high) and per unit for the gate.
- 27.2 **Exercise Area** is costed per meter-squared for the riding surface, per linear meter for the fence (1.25m high) and per unit for the gate.
- 27.3 **Gallops** are costed per meter squared.
- 27.4 **Prefabricated Lunging Area.** Costed per unit meter squared.
- 27.5 **Horse Walker.** Cost is per meter squared. A roof is additional and is fitted at the appropriate rate. The entire area covered by the walker is used in this case, not the reduced area used in 27.6.
- 27.6 **Rubber Tiles and Concrete Surfacing** are costed per unit area. To calculate the area requirement use $\Pi r_1^2 - \Pi r_2^2 =$ Shaded Area (below) multiplied by the appropriate rate. ($\Pi = 3.14$, $r =$ radius = half the diameter of the horse walker. See figure 1 below.

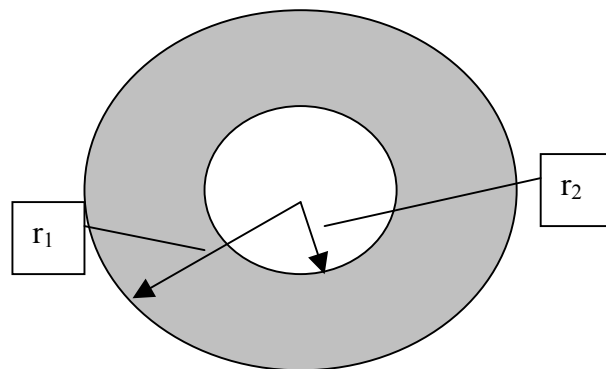


Figure 1. Surface area requirements for rubber tiles and concrete flooring.

28 Outwintering Pads

- 28.1 **Out Wintering Pad** is costed by calculating the area then multiplying by the appropriate rate, depending on construction i.e. Geomembrane, 500mm earth liner or 750mm earth liner.
- 28.2 **Feed Barrier** is additional and is measured per linear meter and multiplied by the Feed Barrier Free Standing Rate.
- 28.3 **Concrete Surfacing.** Where there is a concrete standing area for cattle and /or concrete area for feed passage this area is multiplied by appropriate concrete rate.

28.4 Electric Fence. All fencing and penning is costed at the 2 Strand Electric Fence per linear meter rate.

29 Fencing

29.1 Fencing. All specific types of fencing is costed on a per meter basis.

30 Miscellaneous Receipted Cost Items

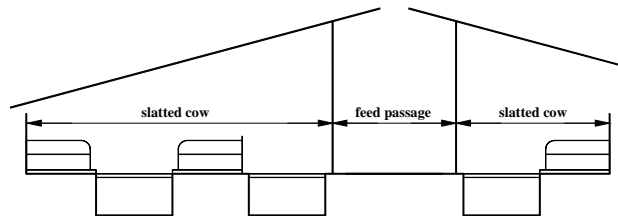
The following items are based on receipted costs:

- *Feeding System for Calves*
- *Retrofitting of Feeding Systems for Pigs*
- *Automatic Slurry Scrapers*
- *Mobile Slurry Tank with Trailing Shoe*
- *Mobile Tank with Injection System*
- *Retro Fitted Trailing Shoe*
- *Umbilical System with trailing Shoe*
- *Umbilical System with Injection System*
- *Self-Travelling Irrigator*
- *Pulse Jet Irrigator*
- *Soiled Water Pumps*
- *Rain Water Pump*
- *Burried Piping*
- *Band Spreader (15m or greater boom)*
- *Band Spreaders (Less than 15m boom)*
- *Retro Fit Band Spreader (15m or greater boom)*
- *Retro Fit Band Spreaders (less than 15m boom)*
- *Mobile Slurry Tank Low Trajectory*
- *Slurry Separators Screw System*
- *Slurry Separators other Systems*
- *Rotary Spreader*
- *Moving Floor Dual Spreader*

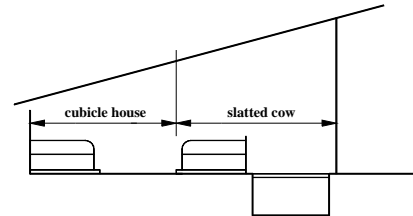
Dr Robert Leonard, A.I.
Michael O'Donoghue, A.I.
Con Collis, A.A.I.

31 Appendix I

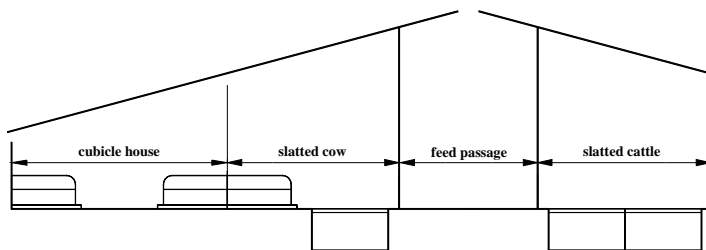
Legend slatted cow: slatted animal area with cubicles
 slatted cattle: slatted animal area, cattle
 feed passage for slatted house only



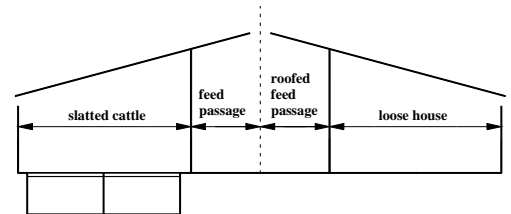
1 SLATTED COW HOUSE; CENTRAL PASSAGE



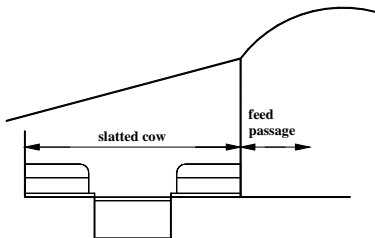
2 SCRAPED PASSAGE; TANK IN FRONT



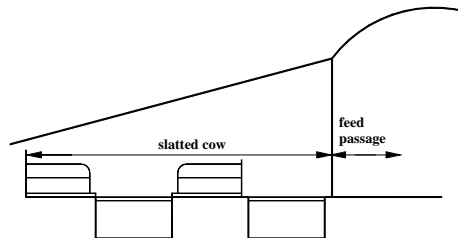
3 CUBICLE HOUSE & SLATTED COW & CATTLE HOUSE; CENTRAL PASSAGE



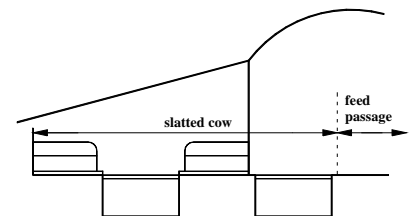
4 SLATTED HOUSE : FEED PASSAGE : LOOSE HOUSE



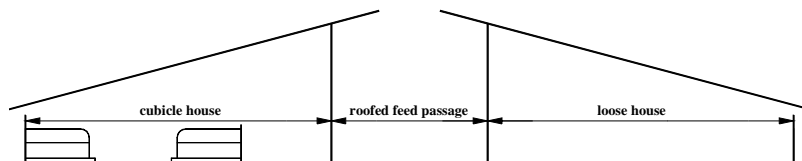
5 LEAN-TO SLATTED COW HOUSE



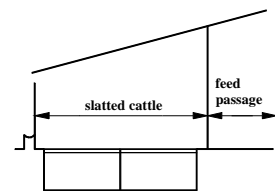
6 LEAN-TO SLATTED COW HOUSE



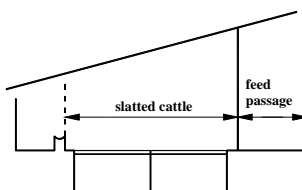
7 LEAN-TO SLATTED COW HOUSE - CONVERSION



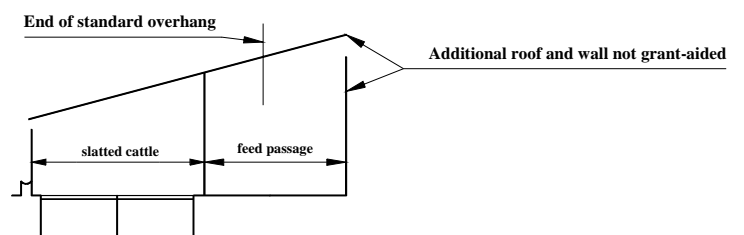
8 CUBICLE HOUSE : FEED PASSAGE : LOOSE HOUSE



9 TROUGH AT BACK OF SLATTED HOUSE



10 FEED PASSAGE & TROUGH AT BACK OF SLATTED HOUSE



11 SINGLE SIDED SLATTED HOUSE WITH ENCLOSED FEED PASSAGE