

HOW TO BUILD A SAND MARTIN WALL

Step-by-Step Guide based on the Thomastown House Project

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About the Thomastown Sand Martin Wall

The Thomastown House Sand Martin nesting wall is built at one end of a large pond. It provides 32 nesting chambers. Note : it would be possible to have 63 nest chambers in a wall of the same size.

The structure is made up of :

- an outer wall on the water's edge where the sand martin nest site entrances are located
- a back wall
- a passage which runs between the nest site wall and the back wall. This passage allows the nest sites to be accessed for cleaning, maintenance and research.

This wall was completed in 2019 and by 2021 nearly all 32 nest sites are occupied. Therefore, we would recommend building a larger wall with many more nests if possible.

Steps of the wall building process (see pages 3 to 7 for details)

- 1) Dig and lay foundations
- 2) Build nesting wall using a double row of cavity blocks
- 3) Use plastic silicone tubes to make tunnels in the outer row of cavity blocks leading to the inner row of cavity blocks
- 4) Use chamber of inner row of cavity blocks as the nesting chamber
- 5) Leave passage way and then build second parallel wall
- 6) Put roof over the whole structure

Dimensions of the Wall

- Length : 15.6 ft / 4.75 metres
- Height : 6ft / 1.80 metres

Materials used to Build the Wall

- Cement blocks for base layers of the nesting wall and the parallel wall
- 9" (215mm) wide cavity blocks for the rest of the wall



Step 1 - Foundations

- Dig and lay foundations to the following dimensions :
 - length 5.5 m
 - width 2.5 m
 - depth 0.3m
- The size of the foundations will vary depending on the size of wall you want to build and if have just a front wall or front and back wall with central passage.



Step 2 – Building the Nesting Wall

- The face of the wall must be vertical
- Once base is cured add several layers of solid cement blocks until you reach 1.5 metres high



- From that point onwards use the cavity blocks - two rows placed side by side.



- The outer block houses the tunnel whilst the innermost block contains the nest chamber



- Cover the top of the nesting wall with waterproof membrane



- Sheets of steel are fixed to the wall from the ground to the bottom row of tunnels to help keep predators away from the nest entrances



Step 3 – Making the tunnels

Height and Distance Apart of the rows of tunnels

Bottom row of tunnels should be no less than 1.3 metres above highest water level.

Distance between each row is 10 inches /25cm

Tunnel Dimensions

Tunnel Diameter : two different sizes of pipe were used at the Thomastown project 40 and 45mm.
Note : both widths are being used with no obvious preference by the sand martins.

Tunnel Length : 9 inches / 22cm

How to make the Tunnel

- 1) Place a plastic silicon tube (40mm or 45mm diameter) in the first cavity chamber of a block and then fill the space around the tube with concrete to hold the tunnel tube in place.
- 2) Before the concrete has fully set remove plastic silicon tube leaving a perfect tunnel with a diameter of 40 or 45 mm depending on the size of tube you have used.
Both widths are being used at the Thomastown project with no visible preference so far.

Step 4 – Nesting Chamber

- Line the floor of the nest chamber with 2 inches/5 cm of builders sand



- The back wall of each row of nests is covered by a 9 x 2 timber plank which has a little door at the back of each nest chamber for cleaning, inspection, ringing and monitoring.

Step 5 – Passage and Rear Wall

If you want to have a passage so that you can access the nest cavities then you'll need to build a parallel wall using solid cement blocks to the same height as the nesting wall.



Step 6 - Roof

- Put a row of cement blocks over the waterproof membrane.
- Place a piece of corrugated sheeting or something similar to act as a roof. This will need to be secured in place.



Approximate cost

The approximate cost for the materials is €1,200.00 which excludes labour and digger hire.

Attracting Sand Martins to the Wall

You can play attraction calls to catch their attention. Don't forget to apply for an NPWS lure licence if you play calls.

You can download a call from the internet and load it onto a USB stick

<https://www.xeno-canto.org/species/Riparia-riparia>

With Power Source :

If you have a power source at your wall you can :

- play the call from a CD player
- or an amplifier system as used for swift attraction calls
<http://www.swiftconservation.ie/wp-content/uploads/2020/04/2020-Notes-on-sound-system-for-playing-swift-attraction-calls-by-Lynda-Huxley.pdf>
- or an old laptop with speakers or any suitable device than can play calls through a speaker

No Power Source :

If you don't have a power source at your wall you can use a battery operated or chargeable device such as multi-media player. For example ;

- Auna multimedia waterproof speaker https://www.hifi-tower.ie/HiFi-TV/Multimedia-Home-Audio/Wireless-Speakers/Bluetooth-Speakers/Beachboy-Portable-Bluetooth-Speaker-USB-SD-AUX-FM-Blue-Blue-L.html?gclid=EAlaIQobChMI88X81O_G8AIVgdPtCh0dKQndEAQYBSABEgIH4PD_BwE
- Akai Bluetooth https://www.ebay.ie/itm/114158511768?mkevt=1&mkcid=1&mkrid=5282-53468-19255-0&campid=5338374299&customid=114158511768_293&toolid=1100

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