Potential Issues

- (Termite) Infestation Points
  - The Support Piers
  - Porches and Additions
  - Wood to Ground Contact
  - Pipes and Services
  - Debris (see picture to right)

- Subterranean termites can use sewage lines, electric conduits and other lines in contact between the house and the soil.
  - Is treatable, but regular inspection necessary.

- Debris buildup – bricks, broken bottles, trash, boards with nails, hypodermic needles.
  - While debris under a house may not actually lead to termite infestation, it can hinder an inspector from treating and inspecting properly.

- Porches & additions may seem insignificant, but the junction point of porches and additions is a major point of infestation in many of the homes that I have inspected.

The graph depicts the pier arrangement of a typical "shotgun" style house. When porches and additions are added, additional piers are placed in contact with the piers of the existing structure.

When treating these areas the pest control operator should take extra care to make sure that the termiticide is applied to form a continuous barrier.

Types of Piers

- Brick and Mortar
  - Brick and mortar piers, common in most of the old homes in New Orleans, are some of the most difficult to inspect and treat. The problem is that Formosan subterranean termites can travel through the center of the pier as easily as they can travel up the exterior.

  Furthermore, it is difficult to apply a continuous chemical barrier that the termites cannot bypass. (See figure 1.) Proper treatment requires that the soil around each pier be treated by trenching or drilling. Each pier must then be drilled between every other brick to reach the center and chemical applied to the holes.

- Hollow Brick Piers (CMU)
  - With this type of pier, subterranean termites can enter the structure by tunneling up the outside of the pier (as seen in figure 2) or they can travel through the center. Proper inspection requires that each pier be examined on all four sides and that the wood above each pier be examined for signs of damage and infestation.

  Treatment requires adding a chemical barrier around all four sides of each pier by trenching or drilling. The interior of the blocks should also be treated by drilling each void or pouring the product in from the top.
• **Concrete Caps**
  
o Both brick and hollow block piers can be greatly improved with the addition of solid concrete bases or caps.

  Concrete caps prevent termites from tunneling straight through the piers and into the wood. Therefore if the termites are able to penetrate the treatment barrier, they can easily be spotted when forced to tunnel around the cap.

  For proper treatment, the pier should still be drilled and treated.

• **Concrete Pads**
  
o This shows that concrete pads are similar in that the termites need to tunnel around the concrete to get into a structure, thus giving you the opportunity to detect the infestation easily.

  Solid concrete pads also easier to treat since only the soil around the perimeter of the pad needs to be treated and not the interior of the pier. The concrete pad must be solid with no cracks or holes and extend above the level of the soil.

• **Concrete Slab vs. Solid Concrete (preferrable)**

  The concrete slab above the brick will expose any termites getting through the mortar on their way into the house.

  The solid concrete slab with a termite shield ensures that termites will have to expose themselves.

• **Wood to Ground Construction**
  
o An invitation for subterranean termite infestation
Construction Process

- Although many people are now using methods such as slab on grade foundations and cinder blocks as substitutes for wooden piers they still offer a strong solution for many people.
- When constructing pier and beam foundations, piers are driven 12 to 15 ft in to the ground below the site of the building. These piers then support wooden beams which in turn support the floorboards of the building.
- This stacking method has distinct advantages in the construction of a home. The layering results in gaps which are large enough to be used as a crawlspace. This manoeuvrable space offers an advantage as utility installers can use this crawl space to lay wiring and ductwork.
- Modern pier and beam foundations are often constructed from different materials to their 1970s counterparts. Bricks or blocks of concrete are used to support large single concrete footings. These footings can be reinforced if required to provide extra durability.

Block and Pad VS Pier and Beam

- Block and pad foundations and pier and beam foundations have similar features that perform differently. The main feature of the two methods is that they both support the building off the surface of the ground providing an adequate crawlspace for installing utilities.
- The main difference between the two is the depth in the ground where the supports rest. Pier and beam foundations support a building from 12 to 15 feet below the ground, supporting the structure on wooden or more commonly concrete blocks. Block and pad foundations support the structure using concrete blocks about 5 feet below the soil at the most. However these depths may very depending on the density and moisture levels of earth in the area.
- The substantial difference in depths can make a noticeable difference to the levels of subsidence support offered. As pier and beam foundations rest deeper in the earth they are less affected by climatic changes. This is as the soil deeper in the ground is less affected by moisture from the surface which cannot penetrate deep into the soil. The block and pad method is popular as it is more cost effective and provides a long lasting solution.
- The crawlspace below the building can provide many benefits. This makes it less work to make any changes to installations which may crop up during the build. The crawlspace can also improve ductwork efficiency and allow for better ventilation from air conditioning systems.

Sources: