

Special Foundations: what foundations, walls, and underpinning really are

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Abstract

In this paper David Bowden considers what foundations, walls, and underpinning really are. He establishes that underpinning is not a foundation and that reinforced concrete underpinning of a party wall as part of a basement extension produces in itself neither a foundation nor a special foundation.

He concludes that special foundations have had their day and all reference to them should be repealed along with the right to place any footings and foundations on the land of an adjoining owner.

Mole's new extension

Once upon a time, Mole had his friends round for tea. He was showing off his new basement extension to Ratty.

Toad, (pointing at the reinforced concrete underpinning):

"You ought not to have done that."

Badger, (agreeing with his friend and trying his best to appear clever):

"Now, I do not believe you wanted to do that, did you? it's a special foundation."

Mole:

"The hell it is Badger, that's a wall! The foundation's underneath it."

Ratty, (agreeing with Mole):

"Yes, I know a wall when I see one. Look, there are pictures hanging on it and everything."

Then came the Weasels from the Wild Wood and they said underpinning was always a foundation, never a wall, and as Mole had used reinforced concrete his was a special foundation. Mole should have got his adjoining owner's written consent first,

and as he had not done so the Weasels advised that his new underpinning be dug up and his earth worm larders emptied.¹

Mole, (disconsolately):

“Oh my, oh my. What to do?”

1 Special foundations introduction

Special foundations have become an issue recently, mainly due to the increased construction of residential basements in Central London boroughs within a few miles of the river bank.

House owners often want more space and, being restricted above ground, extend downwards, frequently to the displeasure of their neighbours. Such basement extensions usually involve underpinning party walls.

People dislike basements being constructed next door for many reasons, including disturbance and fear of damage. Their concerns are increased by knowing that there might be burrowing underneath their houses, the extent of which is unknown and hidden from view.

It may be that the debate about special foundations simply flows from such anxieties.

2 Pyramus & Thisbe Club Guidance Note and alternative approaches

The Pyramus & Thisbe Guidance Note 12 says there are two views on special foundations, the first being that underpinning a party wall in reinforced concrete constitutes a special foundation, the second that underpinning a wall is raising it downwards and so not a foundation in itself.

In a recent Pyramus & Thisbe Club debate, (“Special Foundations: what they are and are not”, 20 January 2015) the two main opposing views were expressed, essentially as in P&T Guidance Note 12:

The first approach was that underpinning a wall created a foundation, which if reinforced, would be a special foundation, and should part of it cross the boundary, the consent of the adjoining owner would be necessary. It was suggested that the underpinning could be done in two planes either side of the boundary, one reinforced

¹ Moles excavate larders off their living quarters in which to store earth worms for winter.

and one not, thereby avoiding the necessity for consent otherwise required by the 1939² and 1996 Acts.³

The second was that special foundations had a meaning in engineering terms, that raising downwards was a valid idea, and that underpinning of a party wall would be a wall if it were intended to be used as such. Within this approach, the advantage of using reinforced concrete for underpinning a wall was also mentioned, that is, it would be thinner to the advantage of both parties.

It was also suggested that it would be better to simply advise an adjoining owner to consent to special foundations because he would then have a claim against the building owner under the 1996 Act, s11(10) for any increased cost they might cause him in the erection of any building or structure in the future.

3 Raising downwards

The legal fiction of raising downwards was introduced in *Standard Bank of British South America v Stokes* [1878] 9 ChD 68.

Under the 1855 Act⁴ there was no right to underpin a party wall, although there was a right to raise one, and also a right to take down and rebuild one. It would not have made sense if the wall were to have had to be taken down and rebuilt simply to make its bottom lower. This led to the law being stretched to permit underpinning of a party structure.

According to the late John Anstey, *"The judge asked himself: "Is it absolutely necessary to limit this (the right to raise a structure) to raising above ground?" And answered himself: "I do not see the necessity". He went on to say, somewhat obscurely as it seems to me, that if all the party structure was above ground, it must be raised above ground, but if some of it was below the surface, it could be raised downwards."*

By the introduction of the right to underpin a party structure in the 1894 Act⁵ as *"a right to raise and underpin any party structure"* which continues in the 1996 Act as the right *"to underpin, thicken or raise a party structure"*, the necessity for the concept of raising downwards was removed.

² London Building Acts (Amendment) Act 1939

³ Party Wall etc Act 1996

⁴ Metropolitan Building Act 1855

⁵ London Building Act 1894

However, it is kept on life support by those charmed by the belief that underpinning will always constitute a foundation. This may be because underpinning is more commonly associated with insurance paid subsidence remedial activity.

4 Walls, footings, foundations, and special foundations

There is no definition of “wall” in the 1996 Act nor in the previous acts. In the older ones a definition can be inferred from the context as they also included regulations regarding building works generally, as the Building Regulations do today. A wall has been defined as an enclosing element more than 70° from the horizontal.

From those older Acts we find that a wall was expected to be constructed of brick, to have footings projecting equally either side of specified widths, depths, and heights, and to be sitting on a foundation of either solid ground or artificially formed support resting on solid ground. Thicknesses of brickwork to walls and footings were specified dependent on height.

The 1844 Act,⁶ Schedule D, Part 1, required that *“Every Footing must be built either of sound Bricks or of Stone, or of such Bricks and Stone together, laid in and with Mortar or Cement in such Manner as to produce solid Work.”*⁷

It follows that a footing is part of a wall, and that a foundation is whatever provides support to a wall, with its footing, from the ground, either the ground itself or concrete, or other material laid onto the ground to take the load of the wall.

It is also clear from the old legislation where footings were a requirement, that a footing is the progressive widening of a wall to spread its load onto a foundation, and so not a foundation itself (cf 1844 Act, Schedule D, Part 1).

As the 1996 Act concerns itself only with party wall matters and not general building regulations, there is no definition of underpinning in the Act, and nor is there

⁶ Metropolitan Building Act 1844

⁷ 1844 Act, Schedule D, Part 1
– RULES concerning WALLS of whatever kind.

Foundations

With regard to the Foundations of Walls :–

Every external Wall, and every Party-Wall, and every Party-Fence-Wall, must be built upon a constructed Footing, based upon solid Ground, or upon other sufficient Foundation.

Footings

With regard to Footings of Walls, in reference to the Materials thereof, to the Width thereof, to the Height thereof above the Foundation, and to the Depth below the Surface :–

Materials

1. In reference to the Materials thereof :–

Every Footing must be built either of sound Bricks or of Stone, or of such Bricks and Stone together, laid in and with Mortar or Cement in such Manner as to produce solid Work.

of footing. However, the omission of statutory definition does not alter the meaning of the words.

The definition of “foundation” in the 1996 Act, s20, as in the 1939 Act, s44, is ““foundation”, in relation to a wall, means the solid ground or artificially formed support resting on solid ground on which the wall rests”. Under the 1930 Act, this definition only applied to a wall having footings.

“Special foundations” are defined in the same acts as “foundations in which an assemblage of beams or rods is employed for the purpose of distributing any load”.

Before 1939 there was no particular control of special foundations and the 1930 and 1894 Acts defined “foundation” as including a bressummer, but otherwise foundation has always been defined by reference to the solid ground on which the wall rests.

The origin of the special foundation restrictions and the report of the LCC Advisory Committee on the Amendment of the London Building Act 1930 is discussed in the addendum to this paper.

6 Underpinning

Underpinning is a process whereby a structure is provided with new lower level support from underneath, not necessarily a foundation. Whilst often undertaken to lower the level of a foundation to firmer ground, it is a process and not an entity in its own right: a verb not a noun.⁸

The right to underpin adjacent buildings, as opposed to party walls, is found in the 1996 Act, s6, and has existed from at least the 1844 Act, but only as a consequence of, and necessitated by, excavation of the land of the building owner. Since 1894 this

⁸ Definitions

from The American Heritage® Dictionary of the English Language, 4th Edition

transitive v. To support from below, as with props, girders, or masonry.

transitive v. To give support or substance to: "the public awareness that must underpin a sustained and concerted development effort for Africa and its youth" (Barber B. Conable).

from Wiktionary, Creative Commons Attribution/Share-Alike License

v. To support from below with props or masonry.

v. To give support to; to corroborate.

from the GNU version of the Collaborative International Dictionary of English

transitive v. To lay stones, masonry, etc., under, as the sills of a building, on which it is to rest.

transitive v. To support by some solid foundation; to place something underneath for support.

from The Century Dictionary and Cyclopedia

To pin or support underneath; place something under for support or foundation when a previous support is removed; underset; hence, figuratively, to support; prop.

from WordNet 3.0 Copyright 2006 by Princeton University. All rights reserved.

v. support with evidence or authority or make more certain or confirm

v. support from beneath

right has been expressed in terms of underpinning or otherwise safeguarding the foundations of the adjoining building.⁹ Underpinning¹⁰ a foundation is to extend the foundation to a lower level and so would constitute a foundation.

Underpinning a wall was to be done similarly to the construction of the wall itself in terms of dimensions and materials, to have proper footings, and to rest on a foundation. It was to be thicker than the original wall only if the additional height of wall so created required it. It was, therefore, clearly considered to be part of a wall and not a foundation.

Underpinning of a party wall can be done in brickwork, concrete, reinforced concrete, or any other suitable material. Nowadays, underpinning is almost always done in concrete, by excavating, casting, and dry-packing in a sequence of pins. Underpinning of foundations often includes dowel rods to link the various pins, and underpinning of walls in basement construction is more commonly undertaken in reinforced concrete, often integral to the box forming the monocoque structure of the building owner's new basement. It is because of the necessity for retaining adjoining land that reinforced concrete is usually chosen for deep underpinning of a party wall. It is not to distribute load that the reinforcement is included in the concrete.

Underpinning a wall in concrete, instead of in the more traditional materials, does not make it a foundation any more than raising a wall in concrete would, since the only variable is the material.

The 1996 Act, s2, gives various rights including underpinning a party structure, a party fence wall, or an external wall which belongs to the building owner and is built against a party structure or party fence wall, and s6 gives the right to underpin the foundations of a building or structure of the adjoining owner. Neither expressly gives the right to place projecting foundations on the land of the adjoining owner.

There is a difference between a wall and a foundation.

⁹ 1844 Act, sXXVIII,

THAT if it be necessary to excavate or dig out the Ground against the Wall of any adjoining Building for the Purpose of erecting a Wall thereon, or for any other Purpose, then it shall be lawful for the Building-Owner and he is hereby entitled so to do, but upon condition that the said Building-Owner do at his own Costs shore up and underpin such Wall, or such Part thereof, to its full Thickness and to the full Depth of such Excavation, with good sound Stock Bricks and Tiles or Slates bedded in Cement, or with proper and sufficient Materials, such Underpinning to be done in a workmanlike and substantial Manner;

¹⁰ 1894 Act, Schedule 1, para 10,

The underpinning of walls and chimneys shall be built with brick or stone bedded in cement to the full thickness of the old wall or work, and with proper footings, or to an additional thickness if the increased height of the wall so requires, and shall rest on the solid ground or on concrete, or on other solid substructure as a foundation, and the whole shall be executed to the satisfaction of the district surveyor.

Foundation is defined in the 1996 Act and, as before mentioned, is a supporting element enabling the load of the building or structure to be distributed over a sufficiently large area of ground to not exceed the load-bearing capacity of the ground and so avoid subsidence. A party wall is an enclosing or separating element in the vertical plane.

It follows that to extend a party wall downwards to enclose a basement, the right to underpin a party wall would be invoked and the wall would be underpinned. The structure thus formed would be part of the party wall. It would probably act as a retaining wall to the adjacent ground, but it would not in itself be a foundation, it would have a foundation beneath it. This would not be a new foundation placed partly on the land of the adjoining owner, but simply a foundation replacing the existing at a lower level. So, even if it were a special foundation, consent would not be needed.

As the structure thus formed is a wall, both by execution of right under s2¹¹ and also by fact of its purpose, it cannot be a foundation and so cannot be a special foundation. The consent of the adjoining owner would therefore not be required to underpin a party wall in reinforced concrete (unless perhaps the underpinning were to be part of a box basement).

7 Concentration of load

Even if the reinforced concrete used for underpinning were somehow considered to be a foundation, the reinforcing bars could not make that foundation a special foundation because they are not employed *“for the purpose of distributing any load”*. Instead, they are employed for the purpose of concentrating¹² the loads imposed horizontally by the retained ground of the adjoining land.

The reinforced concrete underpinning, as a retaining wall, concentrates the horizontal loads from adjoining land into a propping system, usually the floor slabs. The mechanism is much the same as above ground but acting horizontally rather than vertically.

Floors and beams in a framed building concentrate the vertical loads into columns. These loads are then transferred down through those columns to foundations for distribution to the ground. The distribution is done either through pad foundations spread over a large area or through piled foundation systems which take the loads to a great depth.

¹¹ 1996 Act, s2(2)(a)

¹² Thanks to Lawrence Hurst and Andrew Schofield for suggesting this point.

The loads from the building itself are neither concentrated nor distributed by the reinforced concrete of the underpinning but simply transferred through it. The reinforcement in reinforced concrete underpinning of a wall does not distribute any load.

8 Consent and repayment of additional costs

Underpinning a party wall in reinforced concrete will cause less harm to an adjoining owner than underpinning in mass concrete. The wall will be less thick, whilst maintaining the duty of support of the adjoining land, and so, there will be less inconvenience, loss and damage.

Should the adjoining owner come to develop later, he will not be inconvenienced by the reinforcing element as it is under the party wall, not projecting onto his land. The reinforcement may become redundant if the adjoining earth is removed, but the reduced thickness of the work can only minimise the possibility of any increased cost to the adjoining owner.

Further, as it is not an overriding interest under the Land Registration Act 2002, the adjoining owner would lose any cost protection on first transfer of either property because the building owner's liability under the 1996 Act, s11(10), will not run with the land unless registered (an unlikely eventuality).

Thus any perceived advantage in consent to special foundations would be lost.

The 1996 Act, s1(6), gives the right *"to place below the level of the land of the adjoining owner such projecting footings and foundations as are necessary for the construction of the wall"* on the line of junction. However, special foundations can never be placed on the land of the adjoining owner without his consent in writing.

If he does not give his consent there is no right to place the special foundations on his land.¹³

If an adjoining owner does give his consent, then he gains the right to be repaid any additional costs of erecting a building or structure caused to him by the special

¹³ 1996 Act, s7, (4)

Nothing in this Act shall authorise the building owner to place special foundations on land of an adjoining owner without his previous consent in writing.

foundations¹⁴. This is in addition to the compensation for any damage caused to his property in the placing of the foundations under s1(6)¹⁵ and the compensation for any loss or damage resulting to him by reason of any work executed in pursuance of the Act under s7(2)¹⁶, although in practice these heads of damage will overlap.

The 1939 Act contained almost identical provisions.¹⁷

9 Notices and counternotices

Special foundations are controlled by the 1996 Act even when wholly on the land of the building owner, who is required, under s3(1)(b), when serving a party structure notice, to give “*plans, sections and details of construction of the special foundations together with reasonable particulars of the loads to be carried thereby*”.

¹⁴ 1996 Act, s11,(10)

Where-

(a) *consent in writing has been given to the construction of special foundations on land of an adjoining owner; and*

(b) *the adjoining owner erects any building or structure and its cost is found to be increased by reason of the existence of the said foundations,*

the owner of the building to which the said foundations belong shall, on receiving an account with any necessary invoices and other supporting documents within the period of two months beginning with the day of the completion of the work by the adjoining owner, repay to the adjoining owner so much of the cost as is due to the existence of the said foundations.

¹⁵ 1996 Act, s1, (7)

Where the building owner builds a wall wholly on his own land in accordance with subsection (4) or (5) he shall do so at his own expense and shall compensate any adjoining owner and any adjoining occupier for any damage to his property occasioned by-

(a) *the building of the wall;*

(b) *the placing of any footings or foundations placed in accordance with subsection (6).*

¹⁶ 1996 Act, s7, (2)

The building owner shall compensate any adjoining owner and any adjoining occupier for any loss or damage which may result to any of them by reason of any work executed in pursuance of this Act.

¹⁷ 1939 Act, s1, (c)

Where in either of the cases described in paragraphs (a) and (b) of this subsection the building owner builds a wall on his own land he shall have a right at his own expense at any time after the expiration of one month but not exceeding six months from the service of the notice to place on land of the adjoining owner below the level of such land any projecting footings and foundation making compensation to the adjoining owner or the adjoining occupier or both of them for any damage occasioned thereby the amount of the compensation in the event of difference to be determined in the manner provided in this Part of this act.

1939 Act, s56, (5)

Where in pursuance of section 45 (Rights of owners of adjoining lands where junction line not built on) or the said section 46 of this consent in writing has been given to the construction of special foundations on 'land of an adjoining owner, then if the adjoining owner erects any building or structure and its cost is found to be increased by reason of the existence of the said foundations the owner of the building to which the said foundations belong shall on receiving an account with any necessary vouchers within two months after the completion of the work by the adjoining owner repay to the adjoining owner so much of the cost as due to the existence of the said foundations.

The statutory definition of special foundations means that most reinforced concrete foundations, including piled foundation systems, constitute special foundations which, even if not to extend onto adjoining land must be included in any party structure notice. Many party structure notices for works including special foundations do not include such details, and are thus invalid.

If the special foundations are to be placed partly on the land of the adjoining owner and he consents to them, he can also serve a counter notice under s4(1)(b) requiring them to *“be placed at a specified greater depth than that proposed by the building owner; or be constructed of sufficient strength to bear the load to be carried by columns of any intended building of the adjoining owner or both”*.

Special foundations were originally reinforced pad foundations for columns of a framed structure. They were seriously large pieces of engineered structure, capable of relatively simple modification to support columns of an adjacent building, and their spread onto adjoining land needed to be controlled. With the advent of piled foundation systems in the nineteen sixties, the using of special foundations needing to project onto adjoining land has effectively ceased.

The requirement to give plans etc with the notice stems from the expectation that special foundations would likely be shared by adjacent buildings (see addendum on the origins of the special foundation restrictions).

10 Conclusion

The term “special foundations” is sometimes misconstrued to include projections from the face of a party wall, and as discussed above, the underpinning of a party wall.

The concept of special foundations has become outdated. Now an annoyance and hindrance rather than the simple safeguard originally intended, it should be laid to rest.

Walls are no longer required, and do not need, to have equally projecting footings and foundations. The right under the 1996 Act, s1(6), *“to place below the level of the land of the adjoining owner such projecting footings and foundations as are necessary for the construction of the wall”* is, therefore, no longer necessary and should be repealed. Without this right, there would be no need for the restriction on placing special foundations on adjoining land, and so all references to them in the 1996 Act¹⁸ should also be removed.

¹⁸ s3(1)(b), s4(1)(b), s7(4), s11(10), and s20

11 Summary

The salient points are:

- 1 raising downwards is a legal fiction outdated for over a century,
- 2 underpinning is the action of carrying out work to transfer support to a lower level, not a foundation in itself,
- 3 underpinning a wall in brick would not be considered a foundation, and using concrete (reinforced or otherwise) rather than brick will not make it one,
- 4 as a party wall can be constructed of reinforced concrete, so can underpinning or raising it be, above or below the ground,
- 5 even if underpinning were to be considered a foundation, any reinforcement could not make it a special foundation, it not being for the purpose of distributing any load but concentrating it,
- 6 the foundation to the underpinned party wall, being simply a replacement of the existing but at a lower level because of the underpinning, cannot be dependent on the adjoining owner's consent, even if it were a special foundation,
- 7 there is no realistic possibility of the costs of any new building or structure of the adjoining owner being increased by the existence of the reinforced underpinning of a party wall,
- 8 there is no genuine benefit to the adjoining owner in pretending that underpinning a party wall in reinforced concrete constitutes a special foundation so that consent can be given and a right to additional costs obtained, because that right will self-extinguish on first transfer and is in any event no better than his rights under s1(6) and s7(2),
- 9 most party structure notices for works involving reinforced concrete foundations on the land of the building owner, if they satisfy the definition of "special foundation" are invalid as they do not include the requisite details of those foundations, and
- 10 special foundations have had their day and should be done away with by simple repeal of the right to place below the level of the land of the adjoining owner such projecting footings and foundations as are necessary for the construction of the wall and all associated verbiage.

“Phew” said Mole, “That was a long read for a small furry.”

“I am so pleased I don’t get to lose my extension and I can keep my earth worms after all.”

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