WHAT LIES BENEATH: SITE CONDITIONS AND CONTRACT RISK

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Julian Bailey

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137

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Introduction

Risk – how it is managed, and how it is allocated as between contracting parties – is perhaps the most important subject-matter for consideration by anyone embarking upon a building or engineering project. One particular source of risk to which building and engineering projects are prone is that site conditions will turn out to be less favourable than anticipated at the time of entering into the particular contract. Over and over, projects have been affected by unexpectedly bad ground conditions, and by the physical state of existing structures on which work is to be performed being worse than was foreseen. Running silt or sand, hard rock or inherent ground water[1] are typical culprits in this project quagmire. There are many others.[2]

The effects of unexpectedly adverse site conditions may be manifold. Works may have been planned on certain assumptions: that excavation could be effected using certain plant; that ground would be suitable for certain foundations; or that it would permit the use of particular work methods. The discovery of bad ground may necessitate a change to those work methods, possibly a complete revision of those work methods or the design of the works themselves. In extreme cases the works may need to be abandoned altogether. And even if the required work *is* capable of being performed in the manner originally contemplated, it may take longer than planned, or cost more, or both, all because of unexpectedly bad site conditions.

The picture may be further complicated where a contractor has embarked upon its works based on certain assumptions, or certain site information, which were communicated to the contractor by the owner,[3] or the owner's consultant. What if these assumptions or site information turn out to be wrong? A minor

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1 As opposed to water which is present on site due to precipitation: cf *Dennis Friedman (Earthmovers) Ltd v Rodney CC* [1988] 1 NZLR 184, High Ct NZ. However, should ground behave in an unexpected manner when subjected to precipitation, eg rainwater not draining as freely as anticipated, this characteristic of the ground (as opposed to the rain itself) may be regarded as a latent condition.

2 Although unfavourable *site* conditions generally may cause difficulties to a project, the most common type of unfavourable site conditions, which affect the smooth-running of a project, are sub-surface ground conditions. This paper focusses primarily upon the paradigm of bad ground conditions being encountered, although the principles under discussion are of general application.

3 There is no universally accepted term for a person who procures construction work. In this paper, 'owner', 'developer' and 'proprietor' are generally used, to be treated as synonymous with other terms such as 'employer' and 'principal'.

change of design or work methods may overcome a problem, with little added cost or time to the project. But what if the state of the sub-surface is far worse than expected, whether owing to poor geological conditions, contamination, or for other reasons, and the only way of dealing with those conditions involves a far more expensive method of working? What if the work now takes much longer than was originally anticipated? And if the site information in question is incorporated into the contract, what is the effect of that?

In most cases the ultimate question is: who is to bear the cost of site conditions being unexpectedly bad? The answer is often unclear. This is surprising, given the frequency with which unexpected site conditions have deleterious effects on projects. The purpose of this essay is to examine how the law deals with the risk of unexpectedly poor site conditions; and how that risk is allocated and managed, as between owner and contractor.[4]

The topic is approached by dividing the discussion between four sections:

1 What may be described as 'the general position' of the law in relation to the issue of risk allocation, ie in the absence of any express contractual stipulation on how risk is to be allocated between proprietor and contractor;

2 The allocation of risk which parties may make by express contractual stipulation;

3 The effect on risk allocation of erroneous or misleading information on site conditions being given by the owner (or its agent) to a prospective contractor; and

4 Matters affecting the entitlement of a contractor to contractual relief, and the effect on the parties' rights and obligations, when site conditions are so extreme as to potentially vitiate the contract itself.

1 The general position[5]

In relation to building and engineering contracts, if a contractor has promised – in unqualified terms – to construct a building or other structure for a lump sum price, that is what the contractor must do: the agreed price is all that the contractor is entitled to be paid for doing so. It is no excuse for late performance or non-performance that the site conditions which the contractor

4 No detailed consideration is given here to (i) liability of the owner, the contractor, or a consultant flowing from injury, damage or interference with property caused as a consequence of a failure to ascertain or anticipate site conditions; (ii) the liability of a consultant (eg an engineer or architect), in preparing a design, in failing to take adequate account of pre-existing site conditions (whether known or unknown); (iii) the liability of a consultant for the preparation of an erroneous or misleading report on existing site conditions (but see eg *Linden Homes South East Ltd v LBH Wembley Ltd* (2002) 87 Con LR 180, TCC); nor (iv) responsibility, as between the protagonists in a building or engineering project, should a completed structure subsequently turn out to be defective owing to the presence of ground conditions (whether known or unknown).

5 It is a little inaccurate to speak of a 'general position' on the allocation of risk of unforeseen ground conditions, since risk allocation differs from contract to contract. However, the law does take a position on how risk is allocated in the absence of any express stipulation to the contrary.

encountered were worse than it anticipated. In short, *the risk of adverse site conditions, whether they be known or latent, is with the contractor*.[6] It is, therefore, only if a contract makes express provision for the payment of additional money in the event of bad ground being encountered that the contractor will be entitled to additional payment (and usually also an extension of time for completion).

It follows that should the contractor have concern about the risk of unexpectedly bad ground conditions being encountered, which may cause disruption to the works and increase the cost, the contractor can always build an amount of money into its tender price to take account of this risk. An experienced contractor will often be in a good position to predict the likely temporal and economic effects of having to negotiate bad ground. A developer of land, in contrast, may have little or no idea which site conditions a contractor has anticipated, and is able to deal with. So if a contractor promises to a developer to construct a building on a piece of land owned by the developer, for a fixed price, a developer's expectations will usually be that the contractor will do what it has promised to do, for the agreed price.

Thus, in *Worksop Tarmacadam Co Ltd v Hannaby*, Russell LJ held:

> '[Counsel's] submission is that cl.15 [a remeasurement clause], read literally and in context, is sufficiently wide to permit these plaintiffs to charge for the additional work that they encountered because of hard rock. I disagree. Had the plaintiffs wished to make such a provision in the event of unforeseen conditions being encountered, it would have been the easiest thing in the world for them so to have provided in specific terms. They did not do so'.[7]

To like effect, Brandeis J in *US v Spearin*, a leading decision of the US Supreme Court, said:

> 'Where one agrees to do, for a fixed sum, a thing possible to be performed, he will not be excused or become entitled to additional compensation, because unforeseen difficulties are encountered. Thus one who undertakes to erect a structure upon a particular site, ordinarily assumes the risk of subsidence of the soil'.[8]

A contract may be expressed in absolute terms, requiring the contractor to supply a certain asset for an agreed price, regardless of whether site conditions are good, bad or as expected. Contracts for a fixed price, which do not permit additional compensation for bad ground conditions, nor entitle a contractor to additional time for completion, afford the prime example of 'absolute' contracts. By way of illustration, *Re Nuttall v Lynton and Barnstaple Railway*

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6 *Bottoms v York Corporation* (1892), *Hudson* Fourth Edition, Vol 2 Table of Cases Reprint (London, Sweet & Maxwell, 2001) 208, QBD and CA; *Worksop Tarmacadam Co Ltd v Hannaby* (1995) 66 Con LR 105, CA. See also *Thiess Services Pty Ltd v Mirvac Queensland Pty Ltd* [2006] QCA 050.

7 *Worksop Tarmacadam* (see note 6) at page 108.

8 *US v Spearin* 248 US 132 (1918), Supreme Ct, at page 136 (citations omitted).

Co[9] concerned a contract for the construction of a railway for the lump sum price of £42,600. The contractor encountered a large quantity of rock in excavations and sought additional compensation for the more difficult work. The Court of Appeal held that the contractor was entitled to not a penny more than the lump sum. Smith LJ said:

> 'It seems to me… that it is an absolute contract; whether [the contractor] found rock in a small degree, or whether [the contractor] found rock in a large degree, the agreement was to do the work for £42,600'.[10]

The absolute nature of a contractor's obligation, in this regard, is fortified by case law which holds that there is no implied warranty from the owner that the contractor will be able to perform its work without encountering physical obstructions on site.[11] Similarly, a contractor who undertakes to perform particular work within a particular time generally takes the risk of inclement weather or other natural forces disrupting the works.[12] Likewise a proprietor who supplies a design to a contractor, which the contractor promises to implement, does not warrant that the design is 'buildable'.[13] It is for the contractor to make that call.[14]

The position described above needs to be qualified, however, albeit to a limited extent. The qualification arises in this way. When a contractor undertakes to build a structure, the contractor will, in the absence of agreement to the contrary, be taken to have warranted that the completed structure will be fit for its usual purpose, or for its intended purpose if the contractor is made aware of that purpose.[15] If a contractor's work product turns out to be unsuitable for its intended purpose, owing to poor ground conditions which the contractor did not know of, nor reasonably could have anticipated, the contractor will not be in breach of its fitness for purpose obligation, unless the contract in question elevates this obligation to the level of an 'absolute' undertaking.

By way of illustration, in *Barton v Stiff*[16] the Victoria Supreme Court held that a builder who had constructed a house using general purpose bricks was not in breach of his fitness for purpose obligation when those bricks turned out to be inadequate, due to the presence of salty groundwater which penetrated the

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9 *Re Nuttall v Lynton and Barnstaple Railway Co* (1899), *Hudson* Fourth Edition, Vol 2 Table of Cases Reprint (London, Sweet & Maxwell, 2001) 279, QBD and CA.

10 See note 9 at page 286, also at page 289 (Collins LJ in the CA). The contract in that case contained a disclaimer/'no reliance' clause: see further section 4 of this paper.

11 *Re Carr and the Shire of Wodonga* [1925] VLR 238, Vic Supreme Ct; *Thiess Services Pty Ltd v Mirvac Queensland Pty Ltd* (see note 6) at paragraph [34] (McPherson JA).

12 See eg *Jackson v Eastbourne Local Board* (1886), *Hudson* Fourth Edition, Vol 2 Table of Cases Reprint (London, Sweet & Maxwell, 2001) 81, CA and HL at pages 89-90 (Earl Selborne in the HL).

13 Although there is US authority taking a different position: *US v Spearin* (see note 8).

14 *Thorn v The Mayor and Commonalty of London* (1876) LR 1 HL 120, HL(E).

15 *Gloucestershire CC v Richardson* [1969] 1 AC 480, HL(E) at page 502 (Lord Upjohn); *Greaves & Co (Contractors) Ltd v Baynham Meikle* [1975] 1 WLR 1095, CA at page 1098 (Lord Denning MR) and 1103 (Geoffrey Lane LJ); *Independent Broadcasting Authority v EMI Electronics* (1980) 14 BLR 1, HL(E) at pages 44-45 (Lord Fraser) and 47 (Lord Scarman).

16 *Barton v Stiff* [2006] VSC 307.

brickwork. It was held that the presence of salty groundwater was 'highly unusual', ie could not reasonably have been anticipated by the builder.[17]

Subject to that, it remains generally true that a contractor will bear the risk of bad site conditions. A further consequence is that a contractor, acting prudently, will in effect be required to examine the site and ascertain whether there are any patent or possible obstructions to the performance of work, or other physical matters which will need to be taken into account.[18] But although it may be prudent, or ideal, for a contractor to carry out such site investigations, it will not always be economical or even possible for the contractor to do so.[19] A contractor may, therefore, be left in the position of relying upon information concerning site conditions which has been provided to it by the owner. One measure that a contractor can take, however, to reduce or even eliminate its risk in such a case is to seek to negotiate contractual terms which impose some or all of the risk of unexpectedly bad ground conditions on the owner.

2 Allocation of risk by contract

Generally

The allocation of contractual risk in building and engineering contracts, as in all contracts, is largely a matter for the contracting parties to decide. The

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17 Cases where the works are completed and adverse ground conditions give rise to the appearance of *defects* are to be distinguished, however, from cases where inherent site conditions cause a contractor's works to be *damaged* during the course of construction. A contractor who is in possession of a site usually takes the responsibility for damage to the works caused by adverse site conditions: *Jackson v Eastbourne Local Board* (see note 12). See also Sir Guenter Treitel QC, *Frustration and Force Majeure* (London, Sweet & Maxwell, 2nd ed 2004) paragraph 3-060. If, however, it is contemplated that the owner is to bear the risk of damage to the contractor's works as a consequence of site conditions, a contractual indemnity from the owner to the contractor will provide an effective means of shifting the risk to the owner: contrast eg *Brinkerhoff International Inc v Numac Energy Inc* (1997) 53 Alta LR (3d) 4, Alberta Court of Appeal, concerning an indemnity provision when an oil drilling contractor's equipment was damaged following a 'wild well blow out'.

18 *McDonald v Mayor and Corporation of Workington* (1893), *Hudson* Fourth Edition, Vol 2 Table of Cases Reprint (London, Sweet & Maxwell, 2001) 228, QBD and CA at pages 231-232 (Lord Esher MR in the CA); also *Keirl v Kelson* [2004] VSC 224 at paragraph [7] (Byrne J). Hence a contractor may be required to inform itself on the means of access to the construction site, so that if a preferred access route becomes unavailable, leaving only a more circuitous route to the site, the owner will not be in breach of its obligation to afford sufficient access: *Neodox Ltd v Borough of Swinton and Pendlebury* (1958) 5 BLR 34, QBD at pages 50-51 (Diplock J). Like a contractor who is about to embark on a project in largely unknown territory, the obligation of an engineer who is preparing a design which involves the construction of foundations must acquaint himself with the nature of the ground conditions, to ensure that the foundations are adequate to transmit the load of the structure to the ground without affecting the stability of the structure: *Ove Arup & Partners International Ltd v Mirant Asia-Pacific Construction (Hong Kong) Ltd* [2005] EWCA Civ 1585, [2006] BLR 187, CA at paragraph [91] (May LJ).

19 See eg *Abigroup Contractors Pty Ltd v Sydney Catchment Authority (No 3)* [2006] NSWCA 282.

courts are loath to interfere with that risk allocation, so as to disrupt or displace the agreed equilibrium of rights and obligations.[20]

How, then, should parties decide to allocate risk as between themselves? It is sometimes said – as if axiomatic – that, as a matter of best practice, each category of risk should be allocated to the party who is best able to manage or control it.[21] For risk management purposes, that may well be right. A person who bears a risk has an incentive to control it. Conversely, a person who can control a risk – but does not bear it – may have little or no incentive to take steps to ensure that the risk does not eventuate. By allocating a contractual risk to a party who is best placed to control that risk, it becomes in the interests of that party to do what it can to manage or eliminate the particular risk. Intuitively, if not as a matter of observable fact, it seems that an allocation of risk along such lines is one geared towards ensuring an efficient allocation of project resources.

The philosophy that a party who is best placed to control a risk should bear that risk does not, however, resolve the question: who should bear responsibility for circumstances over which *neither party* to a contract may have any particular control or special knowledge? If a contractor has no greater knowledge of likely site conditions than an owner, who should bear the risk of site conditions turning out to be more difficult than expected? There is no single, clear answer to this question.

There is however one preliminary observation that can be made before exploring this issue further. If a contractor *is* to bear the risk of bad site conditions – foreseen or unforeseen – this acceptance of risk is likely to be reflected in the contractor's price. An owner may therefore be required to pay a premium for a contractor who takes the risk of bad conditions. By paying that premium, the owner obtains certainty on the cost of the works. On the other hand, if it is agreed that in the event of unforeseen site conditions being encountered, the contractor is (if materially affected by those conditions) entitled to additional compensation, this may result in a lower initial price. However, that price may rise (to an unpredictable extent, unless capped), should the contractor encounter unexpectedly bad conditions. The owner may therefore be willing to accept the risk of those conditions for the sake of a lower initial price.[22]

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20 *Watford Electronics Ltd v Sanderson CFL Ltd* [2001] EWCA Civ 317, [2001] BLR 143 at paragraph [63] (Peter Gibson LJ); *Carillion Construction Ltd v Farebrother & Partners* [2002] EWHC 216 (TCC), 84 Con LR 63 at paragraph [69] (HH Judge Seymour QC).

21 See eg Office of Government Contracts, *Best Practice: Risk Allocation in Long-Term Contracts* (November 2002), downloadable from www.ogc.gov.uk (visited 1st March 2007); also Robert Smith, 'Risk Identification and Allocation: Saving Money by Improving Contracts and Contracting Practices' [1995] ICLR 40.

22 However, even if a proprietor takes such an approach, there may still be contractual difficulties. An experienced and skilful contractor who anticipates poor site conditions may tender for a project at a price in excess of that of an inexperienced or unskilful contractor, who fails to take proper account of the likely site conditions. If the tender of the inexperienced or unskilful contractor is accepted, this may result in a dispute between the proprietor and the contractor, during or after the project, concerning the extra cost of

Risk with the contractor

It was seen above that the general position under building and engineering contracts is that where a contractor promises to supply specified goods and services by a specified date and for a specified price, that is what the contractor is required to do: the encountering of unforeseen site conditions affords no excuse for not meeting these contractual commitments. It follows that unless a contract makes specific provision for a contractor to be entitled to an extension of time for completion, additional compensation, or both, in the event of adverse site conditions being encountered, the risk of those conditions will remain with the contractor. This is essentially the position adopted by the JCT 05 form,[23] whose clause 2.29 lists '*exceptionally adverse weather conditions*' and '*force majeure*'[24] as 'relevant events', potentially entitling the contractor to an extension of time. But the contract makes no provision for any extension of time, or for that matter any increased compensation, in the event of unforeseen bad ground being encountered.[25] Hence the general position applies, ie the contractor bears this risk.

The general position is often fortified, to an extent, by contractual provisions to the effect that the contractor has inspected the site (or 'shall be deemed' to have done so) and has satisfied itself on the form and nature of the site, including the soil and its subsurface.[26] However, provisions of this nature only go so far. They deem a contractor to be aware of site conditions which ought to have been discovered upon reasonable inspection. A contractor therefore cannot plead ignorance of site conditions it *would have* discovered, had it undertaken adequate preliminary site investigations. Yet, critically, such provisions say nothing about *who bears the risk* of site conditions which were not reasonably discoverable, even if a proper site investigation had been undertaken.[27] It is this very issue which is addressed squarely in many standard forms of engineering contract, where the risk of unexpectedly bad site conditions is with the owner.

Risk with the owner

It is unsurprising that many of the standard forms of engineering contract, as well as bespoke forms used in projects requiring a large amount of ground

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the contractor's works owing to the bad ground, and the time for completion of its works. Perhaps this shows, yet again, that the lowest bid is not always the most desirable bid.

23 Joint Contracts Tribunal Ltd, *Standard Building Contract with Quantities 2005 edition (JCT 05, SBC/Q)*. JCT contracts are available from Sweet & Maxwell via www.jctcontracts.com (visited 27th February 2007).

24 As we shall see in section 4 below, unexpectedly bad ground does not usually constitute a *force majeure* event.

25 In the JCT *Major Project Form (JCT 05 MPF)* – on JCT forms, see note 23 – amendments necessitated by ground conditions or man-made obstructions are not 'Changes', unless specified to be so (clause 39.2).

26 Such provisions are not, however, in the nature of exclusion clauses: *Co-operative Insurance Society Ltd v Henry Boot Scotland Ltd* (2002) 84 Con LR 164, TCC at paragraph [52] (HH Judge Seymour QC, considering clause 2.2.2.4 of JCT80, Private with Quantities, as amended).

27 See *Humber Oil Terminals Trustee Ltd v Harbour and General Works (Stevin) Ltd* (1991) 59 BLR 1, CA at page 13 (Parker LJ).

works in conditions which may be difficult to anticipate, make provision for an extension of time and an increase to the contract price if there is delay or disruption to the contractor's works brought about by unforeseen site conditions. By way of illustration:

- ICE7[28] clause 12 contemplates a contractor who has encountered physical conditions or artificial obstructions which could not reasonably have been foreseen by an experienced contractor being granted an extension of time and/or payment for additional cost reasonably incurred (plus a reasonable percentage for profit) as a consequence of those conditions or obstructions.[29] It is, however, a condition precedent to this relief that the contractor gives notice, within a prescribed period, of the adverse conditions encountered.[30]
- NEC3[31] clause 60.1(12) identifies as a 'compensation event' the encountering by the contractor of physical conditions within the Site, other than weather conditions, which '*an experienced contractor would have judged at the Contract Date to have such a small chance of occurring that it would have been unreasonable for him to have allowed for them*'.[32]
- The FIDIC 'new Red Book'[33] clause 4.12 operates in a similar manner to the ICE and NEC3 conditions.[34]

Although these provisions vary, each of them only places the risk of bad site conditions on the contractor to the extent that the contractor *ought to have*

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28 Institution of Civil Engineers, *ICE Conditions of Contract 7th ed (ICE7)*, Measurement Version (London, ICE/Thomas Telford, 1999).

29 'Physical conditions' in this context include not only the composition or condition of the sub-surface (which may have been anticipated by the contractor), but how those sub-surface conditions are likely to behave if subjected to certain forces or stresses (which may not have been anticipated, nor could reasonably have been anticipated, by the contractor): *Humber Oil Terminals Trustee Ltd v Harbour and General Works (Stevin) Ltd* (see note 27).

30 *Humber Oils Terminal Trustees Ltd v Hersent Offshore Ltd* (1981) 20 BLR 16, QBD (considering clause 12 of the ICE Conditions, 4th ed). The engineer does not have authority to waive the need for compliance with the notification provisions: *Blackford & Sons (Calne) Ltd v Borough of Christchurch* [1962] 1 Lloyd's Rep 349, QBD at pages 356-357 (Sachs J, considering the ICE Conditions of Contract, 4th ed). See also *Monmouthshire CC v Costelloe & Kemple Ltd* (1965) 5 BLR 83, CA.

31 NEC, *Engineering and Construction Contract (NEC3)* (London, ICE/Thomas Telford, 2005). NEC contracts are also obtainable via www.neccontract.co.uk (visited 1st March 2007).

32 See also Brian Eggleston, *The NEC3 Engineering and Construction Contract – A Commentary* (Oxford, Blackwell, 2nd ed 2006) pages 231-234.

33 FIDIC (International Federation of Consulting Engineers), *Conditions of Contract for Construction for Building and Engineering Work Designed by the Employer 1999* (the new 'Red Book'), obtainable via www.fidic.org (visited 1st March 2007).

34 Which is hardly surprising, as the FIDIC conditions were originally modelled on the ICE conditions. See Dr Nael Bunni, *The FIDIC Forms of Contract* (Oxford, Blackwell, 3rd ed 2005) pages 305-315; Patrick Lane SC, 'Disruption and Delay: Fair Entitlement and the Regulation of Risk' (2006) 22 Const LJ 92 at pages 97-98; and Christopher Thomas QC, Introduction to Jeremy Glover, *Understanding the New FIDIC Red Book* (London, Sweet & Maxwell, 2006).

anticipated such conditions.[35] This necessitates the somewhat hypothetical – and therefore not entirely straightforward – inquiry on what site investigations (if any) an experienced contractor in the contractor's position ought to have conducted, what information it would have gleaned from those investigations, and how that information ought to have been interpreted.[36] The issue is therefore largely one concerned not with a contractor's *actual* knowledge, but knowledge *imputed* to it.[37] What the contractor ought to have anticipated is largely a matter for expert evidence, although ultimately a matter for decision by a court or tribunal.[38]

The provisions above are to be contrasted with certain forms of engineering contract frequently used in the USA, particularly involving the Federal Government.[39] Here the contract provides a baseline of expected ground conditions;[40] a 'differing site condition' clause then entitles the contractor to additional time for completion and compensation,[41] should site conditions be encountered differing from those described in the baseline documents and

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35 Which may include transient or intransient conditions: *Humber Oil Terminals Trustee Ltd v Harbour and General Works (Stevin) Ltd* (see note 27).

36 See eg *Associated British Ports v Hydro Soil Services NV* [2006] EWHC 1187, TCC, 2006 WL 2524802 [Westlaw] at paragraph [312] (HH Judge Havery QC, considering clause 12 of the ICE Conditions of Contract, 6th ed).

37 *Packham v Board of Land and Works* (1874) 5 AJR 37, Vic Supreme Ct; *Gee v Summer Borough Council* (1893) 12 NZLR 63, Supreme Ct NZ; and *George Wimpey & Co Ltd v Territory Enterprises Pty Ltd* (1970) 45 ALJR 398, HCA. If a contract deems a contractor to have the knowledge it would have acquired had it conducted certain site investigations, such a deeming provision is given contractual effect, and there is no need to introduce notions of estoppel into the calculus of the parties' rights and obligations: *Abigroup Contractors Pty Ltd v Sydney Catchment Authority* [2005] NSWSC 662 at paragraphs [71]-[75] (McDougall J) (overruled on other grounds: [2006] NSWCA 282); cf *Peekay Intermark Ltd v ANZ Banking Group Ltd* [2006] EWCA Civ 386, [2006] 2 Lloyd's Rep 511 at paragraph [57] (Moore-Bick LJ). See also *Mitsui Construction Co Ltd v A-G (HK)* (1986) 33 BLR 1, PC at pages 17-18. It is a little odd that these provisions do not state expressly that the *actual knowledge* of the contractor is a matter to be considered. Theoretically, therefore, a contractor which actually knew at the time of tender of an adverse site condition – of which other contractors would not, and ought not, have known – could seek relief on the basis that the contractor could not have been expected to know of the particular site condition, even though it actually did. There is, however, no case law supporting such a narrow and pedantic interpretation of such clauses. A more commercially sensible interpretation, it is suggested, involves consideration of what the contractor *actually knew*, as well as what it *ought to have* known, about site conditions.

38 In such cases, consideration will usually need to be given to the site investigations which a *contractor* would be expected to undertake, as opposed to the investigations which would satisfy an expert geologist or geotechnician, who could have had a much greater amount of time to conduct investigations and consider the results obtained. The issue upon which an expert opines in such cases is essentially an issue of fact: *CJ Pearce & Co Ltd v Hereford Corporation* (1968) 66 LGR 647, QBD (Paull J).

39 Some US State legislatures also mandate the application of similar provisions in State government contracts: see eg the California Public Contract Code §7104, downloadable via www.leginfo.ca.gov/calaw.html (visited 1st March 2007).

40 Baseline information may be prepared by the owner, the contractor, a consultant, another party, or any combination of them.

41 Usually under the guise of providing an 'equitable adjustment' to the contract price and/or completion date.

adversely affecting the contractor's works.[42] One potential benefit of 'differing site condition' clauses is that they may obviate the need for inquiry on what site conditions the contractor ought to have anticipated. Instead they look at whether site conditions encountered were different from those stated or indicated in the contract.[43]

A further consideration is whether these provisions, largely compensatory to contractors, provide a sufficient incentive to contractors to develop efficiencies to overcome bad site conditions, when unexpectedly encountered. Incentives for cost efficiency are certainly increased when a contract uses a schedule of rates, or provides a mechanism for the adjustment of rates, in the event of unforeseen conditions being encountered.[44] If there is certainty over the rates payable for such work, a contractor has an incentive to minimise its costs and time for performance; by contrast, where a contractor is paid on a 'cost plus' basis if poor site conditions are discovered, matters of cost and time become less pressing.[45]

The above scenarios are all concerned with contracts under which a contractor is obliged to perform a certain type or volume of work, where the contractor becomes entitled *under the contract* to claim additional time for completion, or further money, in the event of certain unforeseen site conditions being encountered. This is to be distinguished from the situation where a contractor has agreed to perform only certain specified work (eg excavation in soil) but it encounters unforeseen site conditions which are not within that scope of work

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42 See eg *Olympus Corp v US*, 98 F 3d 1314 (Fed Cir, 1996); *HB Mac Inc v US*, 153 F 3d 1338 (Fed Cir, 1998); *Comtrol Inc v US*, 294 F 3d 1357 (Fed Cir, 2002); *Ace Constructors Inc v US*, No 04-299C (Ct of Federal Claims, 31 March 2006, Judge Lettow); *Universal Constructions Inc v US*, No 03-1502C, 03-2370C (Ct of Federal Claims, 18 April 2006, Senior Judge Margolis); *Renda Marine Inc v US*, No 02-306C (Ct of Federal Claims, 29 June 2006, Judge Hewitt). Such contract documentation usually distinguishes between 'Type I' and 'Type II' claims. A 'Type I' claim concerns variances in site conditions from those conditions indicated in the contract documents. 'Type II' claims are those which concern site conditions that are different from those that a contractor would reasonably expect to encounter for the work in question. See also Steven C Sanders, 'Unanticipated Environmental Costs in Construction Contracts: The Differing Site Conditions Clause as a Risk Allocation Tool' [1994] ICLR 466.

43 In relation to 'Type I' claims, but not 'Type II' claims. 'Type II' claims are less common than 'Type I' claims, for the very reason that a 'Type II' contractor claimant is required to adduce evidence of what conditions it anticipated (and ought to have anticipated), whereas a 'Type I' claimant already has a contractual baseline against which to found its claim. Having said this, 'Type I' claims often involve the issue of what site conditions the contractor *ought to have anticipated* in light of the ground conditions indicated in the relevant baseline: see eg *Weeks Dredging & Contracting Inc v US* 13 Cl Ct 193 (1987) at page 297.

44 A schedule of rates and prices may be included in a contract, based, say, on what the contractor is prepared to work for in certain types of material. The contractor may eg give one rate for excavation in soil and another for excavation in rock. The amount which the contractor is entitled to be paid for excavation will thus depend upon the actual quantities of the respective materials which are encountered. This is to be contrasted with a contract which only contemplates the contractor being paid for excavations performed to a stated depth, not for excavation to a greater depth, even if that extra excavation was necessitated by poor ground conditions: *Sam Woo Bore Pile Foundation Ltd v China Overseas Foundation Engineering Ltd* [2006] HKCFI 164.

45 Alternatives to using a schedule of rates, when poor site conditions are encountered, include the use of provisional sums or target-cost mechanisms.

(eg hard rock). In such cases the work required is not work which the contractor promised to perform – it is not work 'under the contract' – so the contractor is entitled to refuse to go ahead, unless there is a variations power in the relevant contract which may be deployed to coerce the contractor into performing the work.[46] Or, if the contractor does perform work which is outside the contract, it will be entitled to a *quantum meruit* for doing so.[47]

3 Information provided to the contractor

General position

A procurer of building or engineering work is under no general duty to provide a prospective contractor with information in the former's possession concerning known or expected site conditions.[48] There are, however, obvious commercial and practical advantages in so doing (either directly or through an agent, such as a consultant). Disclosure of such information potentially obviates the need for each tenderer to conduct its own site investigations. This should shorten the procurement period and minimise the overall expense to all parties of site investigations. Conversely, if relevant information in the owner's possession is not provided, it may be very difficult – in some cases impossible – for a tenderer to obtain that information, even if it conducted its own site investigations, especially where there is a long history of works on the site conducted at the proprietor's behest; and the conducting of site investigations is generally problematic. A proprietor with a detailed knowledge of conditions on site may be in an excellent position to inform a tenderer of what it needs to know.[49]

If a proprietor *does* communicate information regarding site conditions to a contractor before entering into a contract, and that information is inaccurate, misleading, or both, does this affect the allocation of risk of adverse site

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46 *US v LP & JA Smith* 256 US 11 (1921), US Supreme Ct at pages 16-17. Cf *McDonald v Mayor and Corporation of Workington* (1893), *Hudson* Fourth Edition, Vol 2 Table of Cases Reprint (London, Sweet & Maxwell, 2001) 228, CA.

47 *C Bryant & Son Ltd v Birmingham Hospital Saturday Fund* [1938] 1 All ER 503, KBD.

48 There is generally no assumption of responsibility by an owner to a contractor to provide such information: *Dillingham Constructions Pty Ltd v Downs* [1972] 2 NSWLR 49, Supreme Ct NSW. It might be said that the (pseudo) maxim 'let the contractor beware' applies. However, in the USA there is authority for the proposition that, at least in government contracts, '… when the government agency is in possession of information pertinent to construction work to be performed under a contract, there is a duty to fully disclose and furnish to the contractor the facts of which the agency has knowledge': *D Federico Co v Bedford Redevelopment Authority* 723 F 2d 122 at page 125 (1st Circuit, 1983). See also *Helene Curtis Industries Inc v US* 160 Ct Cl 437, 312 F 2d 774 (1963); *Petrochem Services Inc v US* 837 F 2d 1076 (Fed Cir, 1988). On the so-called 'doctrine of superior knowledge', see eg J William Eshelman and Susanne Langford Sandford, 'The Superior Knowledge Doctrine: An Update', 22 Public Contract Law Journal 477 (1993). On the position in Canada, see *Bank of Montreal v Hydro-Quebec* [1992] 2 SCR 554, Supreme Ct of Canada.

49 Cf *Dillingham Constructions Pty Ltd v Downs* (see note 48), which concerned the performance of works by a contractor on the floor of Newcastle harbour in New South Wales. The Government, which put the harbour works out to tender, had substantial and important information concerning the sub-surface conditions of the harbour floor, but it was held not to owe a duty of care to the contractor to disclose that information.

conditions as between the parties? No general answer can be given, apart from this: whether an owner will be rendered liable to a contractor for providing erroneous or misleading site information depends upon the precise circumstances in which the information was handed over.

In this regard, there are four possibilities (to an extent overlapping) to consider:

(i) The proprietor provides a contractual warranty that the information supplied to the contractor is accurate and/or complete;

(ii) The proprietor warrants neither the accuracy nor the completeness of the information provided to the contractor, nor does it disclaim liability for the accuracy or completeness of that information;

(iii) The site information supplied to the contractor contains a misrepresentation, whether innocent or fraudulent; or

(iv) There is a disclaimer as to the accuracy or completeness of the information provided to the contractor.

(i) Warranty of accuracy and/or completeness

Where it is represented to a contractor that it is to rely upon site information supplied to it by the owner for the purpose of the contractor preparing its tender, the owner may be taken to warrant contractually, either expressly or by necessary implication, that the information is accurate.[50] If, therefore, the site information turns out to be incorrect, and the contractor relied upon that information to its detriment, the contractor will become entitled to substantial damages, under the law of contract, for any proven loss.[51]

The leading modern English authority is *Bacal Construction (Midlands) Ltd v Northampton Development Corporation*.[52] A design and build contractor was given tender information which stated that the ground of the site in question consisted of a mixture of certain sand and clay. The contractor was instructed to prepare its foundation design on that assumption.[53] As it turned out, the ground also contained patches of soft calcite rock known as 'tufa'. The presence of tufa rendered the contractor's design inadequate. The foundations therefore needed to be redesigned, and additional excavation was performed, imposing an additional cost on the contractor. The contractor contended that it was an implied term of the contract, or an implied warranty, that the ground conditions would accord with the hypotheses upon which the contractor had

50 The warranty may be an implied term of a building or engineering contract, or it may be a standalone collateral warranty. It is relatively uncommon in such a contract for there to be an express representation that site information supplied to the contractor is accurate: cf *Co-operative Insurance Society Ltd v Henry Boot Scotland Ltd* (see note 26) at paragraph [58] (HH Judge Seymour QC).

51 Liability may also be founded upon misrepresentation, on which see section 3(iii) below.

52 *Bacal Construction (Midlands) Ltd v Northampton Development Corporation* (1975) 8 BLR 88, CA.

53 It was common ground that if the ground was of the stated composition, the contractor's foundation design was adequate.

been instructed to prepare its design. The Court of Appeal accepted this contention.[54]

There is American authority to similar effect. In the leading case of *US v Spearin*,[55] a contractor was engaged to construct a dry dock in the Brooklyn Navy Yard, according to plans and specifications provided by the US Government. Part of the contractor's works involved relocating a sewer. This part of the works, however, was flooded as a consequence of water backing up in the relocated sewer after heavy rain and a high tide. The effective cause of the flooding of the works was the presence of a dam in a connecting sewer, which caused internal pressure that broke the relocated sewer. The contractor was unaware of the presence of the dam in the connecting sewer; nor, it seems, could the contractor have discovered the dam. The plans and specifications were therefore erroneous to the extent that they failed to take account of the dam and the likely effect its presence would have on the works, if there was heavy rain and a high tide. The contractor had proceeded to construct the works in accordance with the plans and specifications, so there was no question of their 'buildability'.

Brandeis J, delivering the opinion of the Supreme Court, held: '… if the contractor is bound to build according to plans and specifications prepared by the owner, the contractor will not be responsible for the consequences of defects in the plans and specifications'.[56]

The judge went on to describe the effect of the contract prescribing the work to be performed, and of the contractor having performed the work so described:

> '… the insertion of the articles prescribing the character, dimensions and location of the sewer imported a warranty that if the specifications were complied with, the sewer would be adequate. This implied warranty is not overcome by the general clauses requiring the contractor to examine the site, to check up the plans, and to assume responsibility for the work until completion and acceptance'.[57]

The *Spearin* case is by no means easy to reconcile with English law concerning contractual responsibility for unforeseen site conditions.[58] No

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54 See note 52 at pages 100-101 (Buckley LJ, with whom Stephenson and Lawton LJJ concurred). It has been suggested that such a warranty would not be implied under the law of Australia, at least where the contract in question is a standard form: Douglas S Jones, 'Force Majeure in Australian Construction Law' [1995] ICLR 295 at page 309.

55 See note 8.

56 See note 8 at page 136.

57 See note 8 at page 137. Likewise, in *US v LP & JA Smith* (see note 46) it was held that a contractor which had undertaken to excavate a shipping channel in the Detroit river, where the material to be removed was specified to consist *'of sand, gravel, and boulders, all in unknown quantities'* was entitled to additional compensation when it encountered a natural bed of limestone rock within the area to be excavated. See also *Robins Maint Inc v US* 265 F 3d 1254 at page 1257 (Fed Cir, 2001).

58 Under English law, an owner who provides plans or specifications to a contractor does not warrant that the work described in the plans and specifications is capable of being performed at all, or that it is capable of being performed in a particular manner: *Thorn v The Mayor and Commonalty of London* (see note 14) at pages 128-129 (Lord Cairns

representation was made by the US Government on the existence (or non-existence) of physical features such as the dam, nor of the physical possibility of performing the work without disruption from latent site conditions. It seems that the Supreme Court could equally have taken the view that the contract was 'absolute' in nature, so the contractor took the risk that its works would be dislocated by surges of water – even unexpected ones. What appears, however, to have been critical to the Supreme Court's decision was that (i) the plans and specifications were prepared by the Government; and (ii) the contractor had no way of verifying the accuracy of those plans and specifications. The combined effect was an implied representation by the Government that the works could be performed in accordance with the proffered plans and specifications.

The point which emerges from both *Bacal* and *Spearin* is that where an owner prepares or has prepared a design, or obtains site information, which it passes on to a contractor, the finding (or not) of a warranty of accuracy of the design or the site information is fact- and context-specific. But it will heavily depend on whether or not it is contemplated that the contractor should conduct its own verification exercise (of the design, the site information or both) and whether in any event the contractor has the capacity to do so. Another important factor, as we shall see later, is whether there has been anything in the nature of a disclaimer of the accuracy or correctness of the particular design or site information.

(ii) No warranty of accuracy, no disclaimer of responsibility

When an owner supplies site information to a contractor, and the information is neither represented to be accurate,[59] nor is there any express disclaimer of liability for inaccuracies, is the owner liable to the contractor (eg for any increased costs) should the information turn out to be wrong? The answer is a qualified 'no'. The fact that site information has been disseminated to a contractor does not displace the general position, namely that where a contractor undertakes to build a particular structure for a particular price, it is bound to do so, regardless of whether site conditions turn out to be worse than expected.[60]

Thus, where a site report is referred to, or perhaps even incorporated into, a contract, the mere reference to or incorporation of the site report simply identifies a source of information relevant to the contractor: it does not, in the

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LC); *Jackson v Eastbourne Local Board* (see note 12) at page 91 (Earl Selborne in the HL). The courts of Canada have adopted this approach: *Nova Scotia Construction Co v Quebec Streams Commission* [1933] SCR 220, Supreme Ct Canada; *City of Moncton v April Contracting Ltd* (1980) 29 NBR (2d) 631, New Brunswick Ct of QB.

59 And there is no express or implied contractual warranty on the accuracy of the site information.

60 Hence, where the information supplied to a contractor concerning site conditions is incomplete, and the contractor is aware of this, it is the duty of the contractor to warn the owner of this incomplete information, and the need to obtain further information, at least where the contractor has agreed to take responsibility for the operations and work methods under its control: *Enertrag (UK) Ltd v Sea & Land Power and Energy Ltd* [2003] EWHC 2196 (TCC), 100 Con LR 146 at paragraphs [324] and [330]-[336] (HH Judge Toulmin QC).

absence of any contraindication, constitute a warranty by the owner on the conditions that the contractor *will* encounter.[61] Furthermore, where an owner makes available to a contractor, at the time of tender, a report on site conditions and states that 'this document does not form part of the contract documents', that will show that the owner does not warrant the accuracy of information contained in the report.[62]

The major qualification to the above is that where site information supplied by the owner at the time of tender *is* inaccurate or misleading, and the contractor relies upon that information in entering into the contract, the contractor may have rights outside the contract, based upon there having been a misrepresentation.

(iii) Misrepresentation

A misrepresentation is a statement of fact which is incorrect. When erroneous site information is provided to a tenderer, and the tenderer, in reliance upon it, enters into a building or engineering contract, there may be an actionable misrepresentation, sounding in damages.[63] At common law an innocent misrepresentation (ie an erroneous statement made without knowledge of its falsity) was not actionable.[64] Only a fraudulent misrepresentation was.[65] It

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61 *Dillingham Constructions Pty Ltd v Downs* (see note 48) at pages 56-57 (Hardie J); *Co-operative Insurance Society Ltd v Henry Boot Scotland Ltd* (see note 26) at paragraph [49] (HH Judge Seymour QC). Similarly, if, in letting a contract, an owner provides to a contractor a bill of quantities which, in fact, is incorrect, by understating the quantity of work required to be performed, the owner does not impliedly warrant that the information contained in the bill is accurate. Bills of quantities usually represent an *estimate* of the work required: it is for the contractor to satisfy itself that the bill is accurate, although a contractor will not always have the means of doing so: *In re Ford & Co and Bemrose & Sons* (1902), *Hudson* Fourth Edition, Vol 2 Table of Cases Reprint (London, Sweet & Maxwell, 2001) 324, CA.

62 *Morrison-Knudsen International Co Inc v Commonwealth* (1972) 46 ALJR 265, HCA at page 270 (Gibbs J). The inclusion of a site report as a contract document is, without more, ambiguous in effect.

63 It is not necessary that the representation was wholly relied on, in the sense that 'but for' the representation, the representee would not have entered into the transaction. It is enough if the representation was sufficiently important to the representee's conduct, even if it was not fundamental to the validity of the decision made by the representee: *JEB Fasteners Ltd v Marks Bloom & Co* [1983] 1 All ER 583, CA at page 588 (Donaldson LJ); *Wärtsilä France SAS v Genergy plc* (2003) 92 Con LR 112, TCC at paragraph [23] (HH Judge LLoyd QC).

64 *Walker v Milner* (1866) 4 F&F 745 at page 761 [176 ER 773 at page 780], QB (Cockburn CJ); *Banbury v Bank of Montreal* [1918] AC 626, HL(E) at page 713 (Lord Wrenbury).

65 Damages recoverable for fraudulent misrepresentation cover all actual damage flowing from entering into the contract: *Doyle v Olby (Ironmongers) Ltd* [1969] 2 QB 158, CA at page 167 (Lord Denning MR); *Banque Bruxelles Lambert SA v Eagle Star Insurance Co Ltd* [1997] AC 191, HL(E) at page 215 (Lord Hoffmann); *Smith New Court v Scrimgeour Vickers* [1997] AC 254, HL(E) at page 265 (Lord Browne-Wilkinson); and *Amec Mining Ltd v The Scottish Coal Co Ltd*, Court of Session, Outer House (unreported, 6 August 2003) at paragraphs [44]-[45] (Lord Carloway). However, if there is an arbitration clause in the relevant building or engineering contract, a dispute involving allegations of pre-contract fraud will not necessarily be referable to arbitration. It all depends upon the width of the arbitration clause: *Monro v Bognor Urban District Council* [1915] 3 KB 167, CA.

was only by statutory reform that an innocent misrepresentation became actionable.[66] An innocent misrepresentation may separately give rise to an action in negligence, but only where there is – in law – an assumption of responsibility by the proprietor towards the tenderer creating a duty of care.[67] Just as a proprietor does not, in the absence of conduct indicating the contrary, warrant the accuracy of site information provided to a tenderer, a proprietor does not, in an ordinary case, assume responsibility towards a tenderer (and thereby owes no duty of care) for the accuracy of such information.[68] An assumption of responsibility is not, however, a precondition to all forms of liability for misrepresentation.

The position now is, therefore, that where erroneous site information is given to a contractor before a contract is entered into, and the contractor relies upon that information to its detriment, the contractor will have a cause of action against the owner based in misrepresentation *even if* the contract makes no provision for the contractor to be compensated in the event of unforeseen ground conditions being encountered. A misrepresentation may, therefore, have the effect of shifting the allocation of risk between the parties from the contractor to the owner.[69] It is only if liability for misrepresentation is excluded by an effective disclaimer that there will be no shifting of risk.

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66 Misrepresentation Act 1967 (England & Wales). It is beyond the scope of this paper to give detailed consideration to the operation of the Act; see eg Stephen Furst QC and Sir Vivian Ramsey (eds), *Keating on Construction Contracts* (London, Sweet & Maxwell, 8th ed 2006) paragraphs 6-014 - 6-025.

67 *Hedley Byrne & Co Ltd v Heller & Partners Ltd* [1964] AC 465, HL(E); *Henderson v Merrett Syndicates Ltd* [1995] 2 AC 145, HL(E).

68 *Abigroup Contractors Pty Ltd v Sydney Catchment Authority (No.3)* [2006] NSWCA 282 at paragraph [114] (Beazley JA). It may be necessary, however, to distinguish between inaccuracies in site *information* provided to a contractor, and an erroneous *interpretation* of accurate site information. If accurate information has been provided to a contractor, but the contractor has misinterpreted the information provided, it is the contractor who bears the consequences of that misinterpretation. (Conversely, even if a borehole has been badly drilled, an expert may still be able to interpret the information obtained from the borehole log).

69 To similar effect, in Australia section 52 of the Trade Practices Act 1974 (Cth) prohibits corporations from engaging in conduct which is misleading or deceptive, or likely to mislead or deceive. The Act confers upon a person who, by reason of a corporation's contravening conduct, has suffered loss or damage, the opportunity to claim a remedy – including damages – against it. By way of illustration, in *Abigroup Contractors* (see note 68) the defendant was held to have breached section 52 by failing to disclose to a tenderer a geological report in its possession which indicated that the foundation rock level at a dam was substantially lower than that represented by the defendant to the contractor. The result was that the contractor, performing work on a lump sum basis, was actually required to excavate around five times greater the volume of material than it expected, with no additional compensation under the contract. The contravening conduct was that the defendant had represented at the time of tender that it did not have geological information, such as the report available, when in fact it did. Had the report been disclosed, the contractor would have adjusted its tender to reflect the volume of excavation required, so was held to be entitled to substantial damages. In contrast to actions founded on misrepresentation, where liability for misrepresentation may be excluded, the 1974 Act positively discourages clauses which purport to exclude liability for breach of section 52: they are void under section 68.

(iv) Disclaimers (or equivalent)

Disclaimers, or equivalent contractual provisions, are often deployed in building and engineering contracts, trying to ensure that a proprietor is not held legally accountable to the contractor for any inaccuracies or misleading statements in site information which has been passed on to the contractor. The wording of disclaimer clauses varies, as does their efficacy.

In order to be effective as a disclaimer, a clause must make clear that no liability is accepted for errors or misleading statements in site information provided by the proprietor. This is demonstrated vividly by *Morrison-Knudsen International Co Inc v Commonwealth*,[70] a case before the High Court of Australia. In that case, a contractor was engaged to construct runways at Tullamarine Airport, Melbourne. The Commonwealth, which owned the airport, had supplied to the contractor information, not forming part of the contract, concerning ground conditions. It was contended that this information was false and misleading insofar as it failed to disclose the existence of large quantities of cobbles in certain locations. The contractor brought a claim against the Commonwealth for increased costs in the amount of A$2.5m owing to the presence of the cobbles. It was alleged that the Commonwealth owed a duty of care to the contractor in the compilation and communication of the site information. The Commonwealth, however, argued that the contract provided a complete defence to the claim.[71] Two contract terms were relied on, both of which were and are common in building and engineering contracts. One provided that the contractor 'shall be deemed…to have informed himself as to the site and local conditions'. The other provided that, '[a]ny failure by the Contractor to acquaint himself with the available information' – held to include the site information supplied by the Commonwealth – 'will not relieve him from responsibility for estimating properly any difficulty or the cost of successfully performing the work'.

The High Court of Australia held that these clauses were, however, ineffective to exclude the Commonwealth's liability for any misleading or erroneous content in the site information proffered.[72] What was lacking were any words to the effect that no responsibility was accepted for any inaccuracies in the site information provided.[73]

A 'no reliance' clause, though a different type of contractual provision, is in effect a disclaimer of liability. Such a clause provides that the contractor has not relied upon any information supplied to it by the owner (or its agent) in entering into the contract, so that it takes upon itself the risk and responsibility for performing the works in accordance with the contract. The purpose of these 'no reliance' clauses is not to confirm what has actually happened. In

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70 *Morrison-Knudsen International Co Inc v Commonwealth* (see note 62).

71 Leaving aside the question of whether a duty of care could be owed by the Commonwealth to the contractor – a question not decided by the High Court.

72 This accords with the *Spearin* case discussed above – see note 55 and linked main text.

73 Where there is such a disclaimer, under English law it will be effective in its terms to exclude a proprietor's liability for pre-contractual misrepresentation only if it satisfies the requirements of reasonableness in section 11(1) of the Unfair Contract Terms Act 1977: see also Misrepresentation Act 1967 section 3.

many cases, they do the opposite – the contractor may have relied entirely upon the information given to it by the owner in preparing its bid. Nevertheless, a 'no reliance' clause creates an evidential estoppel which precludes the contractor from asserting that it *did* rely, in submitting its tender, upon site information provided to it by the owner.[74] There is a large body of case law, in the United Kingdom and elsewhere, confirming the efficacy of such clauses.[75] 'No reliance' clauses therefore place the burden of conducting a site investigation squarely on the contractor, even if the contractor has not carried out such a survey and has simply relied on site information given to it by the owner, or by a consultant retained by the owner.[76]

The position, therefore, may be summarised as follows: although an owner will normally bear responsibility for misrepresentations contained in site information provided to a contractor before entering into a building or engineering contract, that liability may be excluded by an effective contractual provision.[77]

4 Contractual relief for adverse ground conditions

Conditions for contractual relief

Although a building or engineering contract may contemplate a contractor not bearing the risk of unforeseen site conditions, that allocation of risk may be conditional upon the contractor claiming relief from the effects of adverse site conditions, eg by providing timely notice of those conditions and of their anticipated or actual effect. So the giving of a contractual notice may represent a condition precedent to a contractor's entitlement to relief.[78] Furthermore, the extent of relief which a contract affords, in the event of unforeseen adverse site conditions being encountered, need not be entire. For instance, a contract may allow a contractor to request a variation instruction to permit it to change its work methods to accommodate unexpected site conditions; however, the contract may provide that any such instruction does not confer upon the contractor an entitlement to an extension of time for

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74 *Watford Electronics Ltd v Sanderson CFL Ltd* (see note 20) at paragraphs [38]-[40] (Chadwick LJ).

75 *S Pearson & Son Ltd v Dublin Corporation* [1907] AC 351, HL(E); *Trade Indemnity Co Ltd v Workington Harbour & Dock Board* [1937] AC 1, HL(E) at pages 17-18 (Lord Atkin); *Howard Marine & Dredging Co Ltd v A Ogden & Sons (Excavations) Ltd* [1978] 1 QB 574, CA at page 594 (Lord Denning MR); *Emcor Drake & Scull Ltd v Edinburgh Royal Joint Venture* [2005] CSOH 139 at paragraph [38] (Lord Drummond Young).

76 *Dennis Friedman (Earthmovers) Ltd v Rodney CC* (see note 1) at page 190 (Smellie J).

77 However, under Australian law corporate liability for misleading or deceptive conduct may not be excluded by contract: see note 69.

78 As has been held to be the case in relation to the ICE Standard Form: *Humber Oil Terminal Trustees Ltd v Hersent Offshore Ltd* (see note 30), considering clause 12 of the ICE Conditions, 4th ed. The courts do not adopt a narrow or pedantic approach to considering the adequacy of any such notices, in communicating details of the ground conditions: see *Atlantic Civil Pty Ltd v Water Administration Ministerial Corporation* (1992) 39 NSWLR 468, Sup Ct NSW at pages 473-474 (Giles J). It is possible for a contractor to waive its right to claim additional time for completion and/or compensation in the event of bad ground being encountered: *Smith Developments Ltd v Dormer Construction Ltd* [2006] NZHC 582.

completion, or additional compensation.[79] Risk *may* be allocated on an 'all or nothing' basis, but it need not be.

Frustration, mutual mistake, force majeure *and hardship*

The scenario under discussion thus far in this paper has contemplated two (or potentially more) parties being bound by a contract involving the performance of building or engineering work, and the work of the contractor becoming more difficult than anticipated (ie more expensive and/or time consuming) due to the presence of unexpected site conditions. This is to be contrasted with extreme cases, where site conditions are so unexpectedly bad as to undermine the foundation on which the contract was entered into, by virtue of the required work being radically different to what the contract contemplated.

If adverse unforeseen site conditions have such an effect on the contractor's operations, three possibilities arise:

1 The contract may be frustrated;

2 It may be regarded as void, on the basis that the parties were mutually mistaken on the site conditions which existed; or

3 The work in question may be regarded as so different to what the contractor promised to do that, even if it may physically be performed, and is performed at the owner's request, the contractor will be entitled to payment for that work outside of the contract on a *quantum meruit* basis.

It has to be said that cases where construction contracts fall under any of these categories are almost unheard of.[80] This is not entirely surprising, as cases concerning unexpectedly adverse ground conditions tend to concern matters of hardship, delay and loss – matters which are to be expected, to varying extents, in building and engineering contracts, but which do not in themselves call the doctrine of frustration, or cognate principles, into play.[81] It is only if the subject-matter of a contract is destroyed, eg if a site is washed away in a flood or falls away in a landslip, that there will be frustration.[82] Consistent with this position is the fact that the encountering of unexpectedly adverse ground conditions does not usually constitute a *force majeure* event, unless the contract specifically provides that it does.[83]

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79 *Simplex Concrete Piles Ltd v Borough of St Pancras* (1958) 14 BLR 80, QBD.

80 For examples where such arguments, or analogous arguments, have failed, see *Wilkins & Davies Construction Co Ltd v Geraldine Borough* [1958] NZLR 985, HCNZ (Henry J); *Seton Contracting Co Ltd v A-G (NZ)* [1982] 2 NZLR 368, HCNZ at pages 376-378 (Prichard J); and *Thiess Services Pty Ltd v Mirvac Queensland Pty Ltd* (see note 6) at paragraph [36] (McPherson JA).

81 *Davis Contractors Ltd v Fareham Urban District Council* [1956] AC 696, HL(E).

82 See eg *Jackson v Eastbourne Local Board* (see note 12) at page 96 (Lord Bramwell in the HL); *Wong Lai Ying v Chinachem Investment Co Ltd* (1979) 13 BLR 81, PC. The change in the condition of the land must be permanent, not transient: *Metropolitan Water Board v Dick, Kerr & Co Ltd* [1918] AC 119, HL(E) at page 128 (Lord Dunedin).

83 See Philip Lane Bruner, 'Force Majeure Under International Law and International Construction Contract Model Forms' [1995] ICLR 274; Dr Arthur McInnis, 'Frustration and Force Majeure in Building Contracts' in Ewan McKendrick (ed), *Force Majeure and*

In contrast, hardship is relevant under the (non-binding) UNIDROIT *Principles of International Commercial Contracts*,[84] which deal with exceptional changes in the circumstances in which performance of contractual obligations is required. Where such changes have the effect of producing hardship upon a party, that disadvantaged party is entitled to request renegotiation of the contract terms. Hardship is regarded as having arisen where there is an unforeseen change of circumstances in a fundamental way. An increase in the cost of performance by more than 50% is regarded as a fundamental change.[85] If there is a request for renegotiation, the other party is required to negotiate in good faith to adapt the contract to alleviate the burden. Should no agreement be reached, either party may approach an appropriate court to seek either an order that the contract be terminated, or that the contract be adapted to restore its equilibrium.

Conclusions

This survey of the legal landscape shows that the allocation of risk of adverse site conditions is a matter largely for the protagonists to a project to work out between themselves. The real difficulty for contracting parties is not so much the position taken by the law in relation to the risk of latent site conditions, but rather that here, as in so many other aspects of building and engineering projects, the parties are not always clear in their articulation of contractual risk. If the parties *are not* clear on where the risk of unexpectedly poor site conditions lies, the risk will usually be with the contractor.

Where, however, contracts *do* attempt to shift the risk of unexpectedly poor site conditions from the contractor to the proprietor, they usually do so by providing, in effect, that the contractor is entitled to have more time to perform its work, and additional compensation, should conditions which *could not reasonably have been anticipated* be encountered. This then focuses attention on what the contractor should have expected – a matter that often involves many grey areas, in turn a source of legitimate debate or dispute. This is not a particularly satisfactory result, as the objective of all building and engineering contracts should be to bring certainty to the relationships of the parties, rather than leave an opening for disagreement on what the contractor should have anticipated. A measure which reduces the scope for dispute over such issues requires a contract setting out the baseline ground conditions against which a contractor has prepared its tender, against which ground conditions actually encountered are to be compared.

Frustration of Contract (London, Lloyd's of London Press Ltd, 2nd ed 1995) ch. 10 at page 202.

84 UNIDROIT, *Principles of International Commercial Contracts* (2004 edition), downloadable from www.unidroit.org (visited 1st March 2007). The *Principles* represent an admirable attempt to restate the law of international commercial contracts. It may even be said that they represent the closest there is to a *lex mercatoria*. See also Philip Lane Bruner, 'Force Majeure and Unforeseen Ground Conditions in the New Millennium: Unifying Principles and "Tales of Iron Wars"' [2000] ICLR 46 at pages 54-56.

85 UNIDROIT *Principles* (see note 84), Article 6.2.2. See also Anne Janzen, 'Unforeseen Circumstances and the Balance of Contract' (2006) 22 Journal of Contract Law 156 at pages 158-161.

A complementary measure is for the parties to focus *before entering into a contract* on the site investigations which ought to be conducted, and what the implications are of data obtained from any such investigations. It is, however, all too easy for an observer on the sidelines to opine '*spend more time and money on site investigations*'. In many projects, this is perhaps advice that would be well heeded. But all projects are subject to time and money constraints, so there will not necessarily be available to the parties a good or complete set of information on what conditions the contractor is likely to encounter.

There is also, to complicate matters, the issue of whether a proprietor should be liable to a contractor for erroneous or misleading site information given to the contractor, which the contractor relies upon in formulating its tender. There is everything to be said for a proprietor in possession of relevant site information *sharing* that information with prospective contractors. Yet if a proprietor is conscious that it may be held liable for errors in any information supplied, this provides a *disincentive* to the communication of relevant information. The risk of such liability may, however, be excluded by way of an effective disclaimer, although even disclaimer clauses do not always provide an iron-clad defence against claims for misrepresentation.[86]

From a project-management perspective, the important matters are the obtaining and sharing of relevant information on existing site conditions, the early identification of risk deriving from adverse conditions and the management of that risk so as to ensure the efficient completion of the project. If these matters are not adequately addressed, the relevant building or engineering contract may be called upon to determine who is to bear the time and cost consequences of bad site conditions. If the contract is sufficiently clear on how the risk of poor site conditions is allocated as between the parties, the effect (if any) on the parties' rights and obligations in the event of poor site conditions being encountered will be readily ascertainable. If not, there is fertile ground for dispute.

Julian Bailey is a solicitor with CMS Cameron McKenna LLP.

86 Eg under the Misrepresentation Act 1967 (England & Wales) a disclaimer will be ineffective if it must satisfy the statutory requirements of 'reasonableness' and fails to do so. And under the Australian Trade Practices Act 1974 (Cth), it is impossible to exclude liability for breach of the statutory prohibition on misleading or deceptive conduct by corporations (see note 69).

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Jackie Morris
67 Newbury Street
Wantage, Oxon OX12 8DJ
Tel: 01235 770606
Fax: 01235 770580
E-mail: admin@scl.org.uk

Website: www.scl.org.uk