Holloway Thliveris LLP
Construction and Commercial Lawyers

Dangers Lurking Beneath - The Risk of Subsurface Conditions

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Introduction

The **success or failure** of various types of civil earth works contracts can depend on knowing with reasonable certainty what lies below the ground.

Is it clay? Is it rock? Is it frozen? Is it too wet? Is there too much or too little? Is it contaminated?

If the contract says one thing but it turns out to be something else, **who is responsible?** If the contract does not say anything but the contractor encounters something unexpected, who is responsible?

Failure to properly **assess the risk** and properly manage the consequences of unfavourable subsurface conditions can literally sink a contractor and potentially a whole project.

The objective of this presentation is to provide construction industry professionals with guidance on how to assess the risks and address the consequences of unexpected subsurface conditions.

What are subsurface conditions?

Subsurface conditions are physical, geological and environmental characteristics beneath the surface of the ground.

Examples are nearly unlimited but can include:

- Soil composition
- Water content
- Groundwater
- Ice
- Bedrock
- Man-made structures
- Artifacts
- Contamination

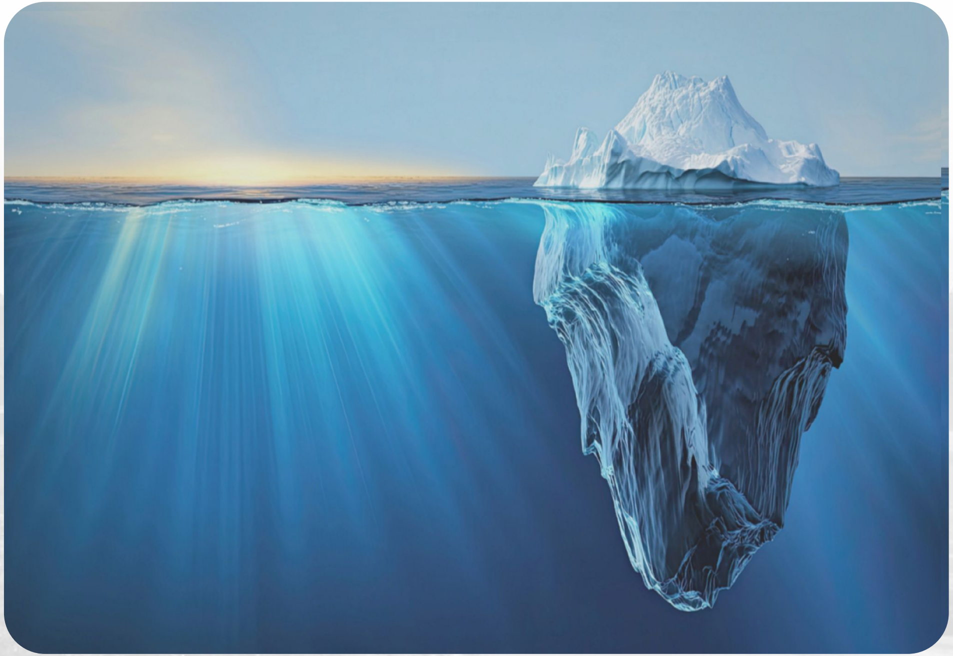
Subsurface conditions may not only relate to construction site areas but also to off-site areas that are incidental to on-site construction, such as borrow pits, quarries and access roads

What is the Concern?

Actual conditions differ From expected conditions.

Can seriously affect:

- Cost
- Schedule
- Project viability



The concern is that actual subsurface conditions may be **materially different** from expectation, also known as **Differing Site Conditions** or "DSC".

Unexpected subsurface conditions can mean a significantly **more expensive** and protracted project to complete. It can literally mean the difference between success and failure.

Civil project success at a cost-effective price requires that, as much as reasonably possible:

- The nature of subsurface conditions are investigated and accurately identified
- The nature and extent of risk of incorrect assumptions is identified, priced and fairly allocated as between owner and contractor
- Where unexpected adverse subsurface conditions are encountered, they are addressed proactively, promptly, reasonably and fairly.

Categories of Unexpected Subsurface Conditions

Conditions that are different from contract.

Conditions that are different from what is commonly encountered.

There are two broad categories of unexpected subsurface conditions in which, if encountered, a contractor may be entitled to compensation:

- Subsurface conditions that differ materially from those indicated in the contract; and
- Unusual subsurface conditions that differ materially from ordinarily encountered and generally recognized as being inherent in the type of work being performed pursuant to the contract.

An example of the first category of unexpected subsurface conditions is the geotechnical report appended to the contract indicates clay and sand but actual conditions reveal large concentration of boulders.

An example of the second category of unexpected subsurface conditions is where the contract does not provide any information about subsurface conditions but upon excavation a fuel tanks (and potentially hydrocarbon-impacted soil) are unearthed in an active agricultural field, which is unexpected, given the current manner of activities in the area.

Assess the Risk

- While there are strategies to address the occurrence of adverse subsurface conditions (which are discussed later in this presentation), it is best to accurately identify, assess, price and/or avoid the risk of adverse subsurface conditions in the first place.

- This all starts at the pre-tender and tender stage.

Physical Risk

The following are some considerations that should a contractor's assessment of the physical risk that actual conditions may be materially different than expected:

- Does this project appear to be well designed?
- Where is the location of the work? Is it accessible? Do you have experience working in the general area?
- Do the tender documents include representations of expected subsurface conditions (such as a geotechnical report)? If so, what do they say? What do they not say? What qualifiers/limitations are placed on relying on such information?
- Do you understand everything contained in the geotechnical report? If not, have you consulted a professional who can interpret it for you?

- Have you asked the owner/consultant if there is further information/documentation relating to the physical, geological, topographical and environmental characteristics of the site?

- Do you have a reasonable opportunity to conduct your own due diligence, such as a site inspection or consulting someone who is experienced in the area?

- Did you attend all pre-bid meetings?

- What are the consequences of a worst-case scenario? Let's say you need dry but everything is wet. Or you need thawed but everything is frozen. Can you price that risk and remain competitive? Can you absorb it? Should you even bid?

Contractual Risk

Don’t let dollar signs obscure contractual warning signs.

Many a contractor’s dream of early retirement, lake-front cottages and high-end cars have been crushed by the sharp end of a lawyer’s pen.

When it comes to assessing the actual words of the contract as they relate to subsurface conditions, these are the clauses to watch for:

Differing Site Conditions clause:

- Look for a clause in the contract that basically says if site conditions are materially different from those represented in the contract documents, then the contractor may be entitled to an increase in price and/or time.
- From a contractor's perspective, this is good and serves to reduce risk.

Site Inspection Clause:

- Look for a clause in the contract that says something to the effect that the contractor has had an opportunity to inspect the site of the project and that it is fully aware of the character of the subsurface materials and conditions to be encountered on the project.

- From a contractor's perspective, this clause is bad and serves to shift risk from the owner to the contractor.

Disclaimer and Excalpatory Clauses:

- Look for a clause in the contract that says something to the effect that the owner and consultant are providing a geotechnical report for information purposes only and the owner and consultant do no guarantee or assume any responsibility for the accuracy of the geotechnical report.

- From the contractor's perspective, this clause is bad and serves to shift the risk of adverse subsurface conditions from the owner to the contractor.

Waiver Clause:

- Look for a clause in the contract that says something to the effect that the owner shall not be liable for any damages or costs incurred by the contractor if the actual subsurface conditions are different from those assumed by the contractor. Such a clause might also be worded to the effect that the contractor expressly waives any right to make a claim against the owner if actual subsurface conditions are different from what is represented in the contract documents.

- From a contractor's perspective, these types of clauses are bad. They limit the ability of the contractor to make a claim against the owner for costs associated with unexpected adverse subsurface conditions.

Notice Provisions:

- Look for clauses that stipulate that something to the effect that the contractor must make a claim for extras in writing within five working days of encountering unexpected adverse site conditions. Failure to do so constitutes a deemed waiver of claim on the part of the contractor.

- From a contractor's perspective, these types of clauses are generally unfavourable. Obviously, all things considered, longer notice periods are better than shorter periods. From a practical standpoint, it is often not reasonable to comply with such notice periods because circumstances tend to evolve and the full extent of the problem may not be known within the stipulated notice period. Also, frankly, contractors tend to have more pressing things to do than keeping track of short deadlines for possible claims. At the end of the day, these clauses are inserted to benefit the owner and serve to provide the owner with further potential grounds to deny otherwise valid claims.

Compounding Risks

The physical risk of adverse conditions combined with the contractual risk of being held responsible for them can lead to further consequences, such as:

Project delay

- Extended time to address conditions
- Liquidated damages
- Work pushed into winter season or next season
- Extra mobilization and demobilisation costs
- Delay claims (by owner)

- Additional equipment, fuel, labour, overhead and general conditions costs
- Additional material costs (may have to obtain and haul from further away)
- Obligations to subcontractors (standby charges, time and material costs, etc.)

Price the Risk or Risk the Price

All project risks relating to the potential for adverse subsurface conditions, including physical risk, contractual risk and compounding risk, need to be assessed.

All things being equal, a price premium at the time of tender should be allocated to account for risk.

Where the risk seems to be too great, it may not be worth bidding at all.

Project has Started and Adverse Subsurface Conditions are Encountered

Do's and Dont's.

DO NOT:

- Ignore the problem
- Wait
- Deplete cash reserves
- Let pride trump business sense

DO:

- Record, document, track and photograph everything
- Immediately raise the issue the consultant and/or owner
- Look at the contract for technical notice and claim provisions
- Consider engaging your own construction consultant
- Seek a formal change order
- Consider consulting an experienced construction lawyer

Problem becomes Serious

Where it is clear that there is a big problem and there is a dispute:

- Consult professional advice
- Consider interim dispute resolution in the contract
- Consider a prompt payment claim
- Consider proceeding with the work under written protest
- Consider suspending the work
- Consider terminating the contract for cause

Cautionary Tale

True story of how things can go seriously wrong.

True Story

- Experienced contractor was the successful bidder on a large remote civil earth works project

- Project required significant amounts of clay to be obtained from local borrow pits

- Tender documents included bore hole samples indicating sufficient clay was available from local borrow pits

- Consultant on the project was also the professional who prepared the bore hole sample report

- Early on, the contractor was not able to extract the quantities of clay that were expected from the borrow pits

- Consultant refused to accept responsibility and accused contractor of incompetence

- For reasons of pride, the contractor refused to quit, even though it was losing tens of thousands of dollars per day

- Even though a settlement was reached mid-project, it was too little too late

- Three months after settlement, contractor defaulted on contract and went bankrupt

Good News Tale

A true story that turned out well for the contractor.

Also A True Story

- Contractor was the successful bidder to build a remote haul road between two mines
- Consultant determined the route of the haul road based upon a number of sources of information, including a terrain mapping report
- The terrain mapping report was not included in the tender documents
- The contractor did not conduct a site visit prior to tendering and doing so was not realistically possible
- The contract included a disclaimer and waiver clause
- Based on tender information, contractor expected sandy soil conditions but in fact encountered granular, bouldery till

- The contractor completed the project but the unexpected subsurface conditions increased his expenses significantly
- Contractor did not initially advance a claim because he thought that the contract prevented him from doing so
- Contractor did not even notify the consultant as soon as it started encountering adverse site conditions
- However, contractor eventually consulted a lawyer and sued the consultant and the owner
- Contractor settled with the owner but the case against the consultant went to trial
- The judge found in favour of the contractor and determined that the consultant was negligent in failing to disclose the terrain mapping report in the tender documents

Legal Responsibility

A contractor may still have a valid claim despite onerous contractual provisions

Both owners and contractors have a responsibility to act honestly and in good faith

Material misrepresentations as to site conditions can give rise to liability

Failure to disclose all material information regarding site conditions to contractor can result in liability

Site conditions different from normal can give rise to liability

Consultants can be held liable for negligence

Owner-consultant agreements can limit liability to contractors

Key Takeaways

- Subsurface conditions are inherently uncertain
- Greater uncertainty equals higher risk
- Assess the risks and bid accordingly
- Some projects are not worth bidding
- Proactively ask for information and raise issues
- Know the contractual notice and claim provisions
- Consult professional advice and do it early
- Record, track, photograph and document everything
- Seek formal change orders
- Even where the contract is harsh, there may still be a claim
- Walk softly but be prepared for war

Advice for Industry

Owners and consultants (and sometimes their lawyers) often think that shifting risk to the contractor for the consequences of adverse subsurface conditions is good thing.

There are multiple problems with this strategy:

- Experienced and sophisticated contractors simply increase their bid price to account for the risk. When the risk does not materialize, average bid prices have in effect been artificially inflated and owners (particularly governments) pay more in the long run;
- Contractors who do not price the risk (or underprice the risk) may not be able to sustain the additional costs of adverse site conditions and may default on the contract. This will inevitably cause delay and likely cause escalated contract costs.

- The likelihood of disputes, including full-blown litigation, increases substantially. This is not in anyone's interest unless you feel charitable towards lawyers.
- Risk should be allocated to the party who is in the best position to absorb it. Particularly in government contracts, the owner is in a better position to absorb subsurface risk than contractors.

In 1926, the US Federal Government recognized this problem. As a result, the Differing Site Clause was developed. As discussed above, such a clause shifts the risk of adverse subsurface conditions away from the contractor and on to the owner.

In the opinion of Holloway Thliveris LLP, this strategy should be adopted for projects in which there exists a real risk due to unexpected adverse site conditions.

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