

Re: 16/00060 - 36, 38 and 40 Station Road and 1 West Lane, Hayling Island

Driver, Jonathan

Fri 22/12/2017 14:39

To: sarah@lake-environmental.co.uk [REDACTED]

Cc: McMurray, Rachael <Rachael.McMurray@havant.gov.uk>; [REDACTED]

Sarah,

Many thanks for getting that over so quickly. I agree that the knotweed removal works have materially affected our ability to rely upon the site investigation information from Geo-Environmental to underpin a conceptual site model that applies to the current conditions at the site. Some sample results may remain relevant, but inclusion in any future assessment must have regard to the depth & extent of subsequent works.

It is understood that site works have included the grubbing up of founds/slabs, the removal of below ground services, stripping of a significant depth of made-ground / topsoil overburden across much of the site, and the spreading of demolition material across the site to provide improved working surface. It is understood that current site conditions are variable.

In terms of the previous assessments - it is considered that a reasonable interpretation of the soil conditions documented in the Geo-Environmental report permits room for both on-site & off-site sources to represent contributory factors, and that the preliminary work was insufficiently detailed to allow confident discernment between different potential origins for the identified contaminants. This has hampered formulation of a robust conceptual site model.

It is considered that the knotweed removal work subsequently undertaken (specifically made ground / topsoil stripping) may have completely removed local, near-surface contamination that present within in the treated areas. In the event that the contaminants identified in the Geo-Environmental ground investigation report were representative of sporadic contamination originating from within the curtilage of the site (and not an off-site source), there may (therefore) be no need for any risk mitigation or remedial measures at all, other than demonstrating the suitability of imported soils.

As we've discussed, in light of the above, a purely precautionary remediation approach may involve unnecessary expense to the developer and will prolong the process of dealing with the contamination related conditions (c.3 & c.4). In accepting a precautionary approach, the Council would have no choice but to apply verification standards that are as robust as it would be for any site known be impacted by significant VOC contamination - this could result in uncertain costs and potential problems with- / delays in- the discharge of c.4, which has a prior to occupation clause (i.e. could hold up sales / commencement of tenancy). The contamination condition (c.3) requires that remedial action have due regard to sustainability, and the unnecessary over-specification of a building / building elements (or unnecessary disposal of materials / soils etc.) is considered to be incompatible with this requirement. It is always preferred to take rational remediation and risk management decisions based upon robust empirical data - ensuring that any future purchasers or tenants of land or property at the site can be confident of the level of residual risks, unencumbered by the need to accommodate assumed risks (e.g. during installation of new services or equipment etc.).

It is considered important to understand the risks at the site, but as the opportunity to investigate the site prior to disturbance of soils has been lost, it would appear that there is limited value in requiring that any further assessment work be completed & agreed prior to commencement of any further construction work. I would emphasise however that the progression of construction work is at your clients own risk, and that works undertaken ahead of agreement on the implications of soils results (etc.) which prejudice the implementation of necessary remedial measures could result in the need for remedial construction work (e.g. retrofitting barriers, re-laying or re-routing of services). In this regard I would of course strongly recommend that the implicit sequential schedule outlined in your email below is observed, to enable decisions to be taken in a timely manner which facilitates the smooth progression of the construction schedule. I am happy to informally discuss results / conclusions at incremental stages, as required. I note (from emails stored on the planning file) that the applicant has had trouble contacting the 'environmental department' (I assume this is in reference

to Environmental Health). I have found no records at all of any attempt being made to contact Environmental Health, and can only reassure you that had I received a message / request, I would have made every effort to respond. Please feel free to pass on my contact details to in the interests of avoiding any future perception of our being inaccessible.

It is understood that commencement of construction works is the most pertinent issue to your client. In line with above, I do not see that restriction on commencement is necessary, other than to manage the risk that construction works will outpace data gathering and assessment works required to underpin construction decisions. It is understood that your client now better understands the drivers for this work, and that this risk is to be managed in line with your proposals. It appears that the 17-10-17 application to discharge c.3 has not been determined at this time, and this should (therefore) remain an opportunity for the Council to formally agree the proposals included in your email of 21st December (below), and approve commencement of construction works in accordance with those proposals. I have CC'd the planning case officer, who should be able to provide authoritative advice on the procedure in this regard.

With specific reference to the proposed mitigation measures;

- It is agreed that there is no potential source of contamination that poses risks that cannot be effectively managed through construction measures
- It is agreed that boreholes on the western boundary which are constructed to target groundwater within sandy / gravelly horizons of the river terrace deposits, liberatable vapours, and soil gas, should provide informative and information to determine the level of external contaminants migrating to the site from potential sources of contamination located to the West of the site; sufficient to make an appropriate risk assessment and inform the need for related remedial measures. Six rounds of soil gas & indicative vapour monitoring is considered sufficient to be illustrative of general site conditions,
- It is agreed that exposed formation samples will be informative of any residual within-curtilage risks. Six samples is considered to be adequate, but I would prefer to see a portion of these targeting areas beneath the building footprint - perhaps in the region of the previously identified hotspot at WS5, to inform assessment of impact of on-site sources on natural strata. Samples within garden areas will help determine the need for-, and if necessary the specification of-, any geo-textiles or barriers to separate clean imported soils from natural ground, as well as informing decisions on vapour protection and protection of potable supplies. Samples within building footprint areas will inform the need for (and the specification of) enhanced vapour protection in buildings, as well as decisions on the protection of potable supplies. For risk assessment purposes (in the event of adverse results), it is noted that some areas described as 'soft landscaping' are de-facto private garden areas (being fenced & gated, with direct access from accommodation) - the area to the rear of the enhanced accessibility flat in particular, but also the gated front garden areas where growing for consumption and play, is not inconceivable.
- Six samples of 'as placed' soils alongside documented randomised confirmation of placement depth within garden areas is considered a robust confirmation.
- Proposed sample suites to include TPH CWG, PAH(USEAP16) and VOC/SVOC are considered to be comprehensive & robust.
- The 'in the event of adverse results' mitigation options are broadly agreed. It is assumed that the adequacy of a heavy gauge DPM (and the need to upgrade to metallic core product) will be informed by soil PAH/PTH & VOC sampling, and vapour monitoring at Western Boundary boreholes. It is expected that Portsmouth Water will be consulted on soils / groundwater / vapour results - and in the event of no response, WRAS guidelines for laying of potable supply pipes in contamination impacted soils will be referred to in order to inform installation details.

I can confirm that the incremental assessment process, the level of sampling, and the implicit scheduling of investigation works to inform construction decisions and implementation of risk mitigation measures, will be sufficient to fully discharge c.3 (& c.4). In the event that significant / gross contamination is found to be present beyond the parameters currently anticipated, it may in principle be necessary to take steps additional to those outlined in your email of the 21st December. For clarity, the Council would only expect the developer to address risks insofar as they affect- or originate from- the development site. It would not be expected that the developer be made responsible for remediation of contamination originating from outside the curtilage of the development site which does not materially affect future users of the site.

Best Wishes for the Christmas Season,

Jonathan Driver
Environmental Control Officer

Havant Borough Council Environmental Health

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From: Sarah Haines [REDACTED]

Sent: 21 December 2017 15:49

To: Driver, Jonathan [REDACTED]

Subject: 16/00060 - 36, 38 and 40 Station Road and 1 West Lane, Hayling Island

Dear Jon,

Further to our telephone conversation this morning, I can confirm that I visited the above site yesterday, and that demolition and slab removal is complete. In addition, the developer has removed a large volume of made ground from the site (details are presented below). As such, it is evident that your recommendations presented to the Planning Service on the 15th November (your reference CONS/17/02118) in terms of demolition works being limited to above ground structures only can no longer be applied. It is my considered opinion that the progression of works by the developer was not intentionally contrary to your recommendations, but rather represents a lack of understanding of the implications.

In order to enable works to continue, it is clear that an alternative approach to the mitigation of any potential contamination issues must be agreed with Havant Borough Council. It is the intent of this email to present mitigation proposals for your consideration.

Completed works - north:

Japanese Knotweed stands were identified within the north of the site. After the demolition of existing structures and removal of the floor slab, Japanese Knotweed Limited were engaged to remove the stands and associated potentially rhizome-containing soils within 7m of the plants. Soils were removed to a depth of 0.6m below existing ground levels, and Cutex copper composite root barrier placed across the exposed formation. The root barrier has subsequently been covered with imported crushed demolition material. The extent of the soil removal, root barrier placement and cover is illustrated below, together with photographs of the works in progress.

[...]

Completed works – south

Structures across the remainder of the site have been demolished, and the slab lifted. Between 400mm and 600mm of made ground (including the slab where present) has been removed across this area, and site-won crushed demolition materials spread across the site to approximately 300mm thickness in order to create a level working surface. At the time of my visit today, these works were nearly completed, with a small stockpile of made ground awaiting removal from site, and a stockpile of crush material awaiting placement. This is illustrated in the photographs below, together with the residual made ground left around the perimeter of the site.

[...]

Current ground conditions:

Based on the above, the ground conditions across the site are currently variable. The area to the north has been cleared to natural formation level by removal of 600mm made ground/natural soils, and a root barrier placed prior to covering with imported crushed material. A narrow strip of made ground remains around the perimeter, where removal would have potentially undermined existing fencing or walls at the boundary. Varied thickness of made ground has been removed across the remainder of the site, and site won crushed demolition material placed to thickness of around 300mm. Residual made ground reportedly remains in situ in some areas.

Contamination:

I have reviewed two reports relating to the site, as follows:

1. *Phase 1: environmental risk assessment*. Construction Evaluation Limited, January 2016, reference 15.8909; and
2. *Ground investigation report*. GESL, October 2017, reference GE16698-GIR-OCT17.

In summary, no direct potential source of contamination was identified within the phase 1 report, however it did identify that the site has undergone at least one phase of redevelopment prior to the current works, and that it has been used for commercial purposes for many years. The results of the site investigation presented in the ground investigation report identified elevated concentrations of lead within shallow made ground in a number of locations.

In addition, standpipes were installed in three boreholes, and a single round of gas monitoring undertaken, during which marginally elevated concentrations of carbon dioxide were recorded in one of the three locations.

Proposed development:

The proposed development comprises 18 new build flats and 3 shop units, with associated bin store, cycle store, parking and landscaping.

Proposed mitigation:

It is considered that, with the exception of the proximity of the site to the historic gas works to the west, no potential source of contamination has been identified that cannot be rectified with precautionary mitigation measures. However, given the highly contaminative nature of gas works, it is considered that additional investigation works should be undertaken on the western boundary of the site in order to identify whether a migratory plume of mobile contamination could be impacting the site from this direction.

Based on all of the above, it is proposed that the remedial strategy for the development should comprise the following:

1. The excavation of three window sample boreholes on the western boundary, and the installation of standpipes in each. The boreholes should extend to at least 0.5m below the level at which groundwater is encountered, and the response zone of the standpipes should be located partially within and partially above encountered groundwater level to enable groundwater, gas and vapour monitoring.
2. Two sets of groundwater sampling from all three standpipes, with samples to be analysed for speciated PAHs, pH, VOCs/SVOCs and phenols;
3. Six rounds of gas and VOC monitoring;
4. After removal of the recently placed cover layer, six soil samples to be taken from exposed formation in areas of soft landscaping, prior to placement of clean imported soils, to be analysed for metals, speciated PAHs, VOCs/SVOCs, TPH and asbestos;
5. Should the results of the soil analysis identify unacceptable concentrations of contaminants, the placement of an appropriate marker geogrid across areas of soft landscaping prior to placement of between 300mm and 600mm of clean imported soils (300mm in areas of communal soft landscaping, extended to 600mm where required to enable deeper planting. 600mm in areas of private gardens).
6. Imported soils to be inspected after placement, including localised randomly selected excavation in three locations to demonstrate an appropriate thickness has been placed.
7. Six samples of in-place imported soils to be analysed for metals, speciated PAHs, VOCs/SVOCs, TPH and asbestos to demonstrate fitness for purpose.
8. The use of appropriate pipe work for potable water, based on recommendations by Portsmouth Water; and
9. Should gas/vapour monitoring results identify they are required, the inclusion of basic gas protection measures to the buildings. Shallow strip foundations with block and beam floor over a ventilated void

are proposed. The ventilated void represents one level of basic gas protection, which will be supplemented by the inclusion of a 2000-gauge sealed DPM across all ground floors if necessary.

Validation:

On completion of development works, validation information will be presented to the Local Planning Authority, in the form of:

- Documentary proof of removal of made ground from site as waste;
- The results of groundwater analysis;
- The results of gas/vapour monitoring;
- Analytical results relating to imported soils for areas of soft landscaping, together with inspection report by an appropriately experienced engineer;
- Copies of correspondence with Portsmouth water, and confirmation that appropriate potable water pipes have been used; and
- If required, photographs of installed 2000-gauge sealed DPM, together with inspection report by an appropriately experienced engineer.

Please advise whether the above information is sufficient to enable you to recommend full discharge of condition 3. I look forward to hearing from you at your earliest convenience.

Best regards, and season's greetings,

Sarah Haines
Lake Environmental

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