

HAVANT BOROUGH COUNCIL

Town & Country Planning Act 1990

Consultation on Planning Application

MEMORANDUM

From:	Environmental Health	To:	Development Control
Our Ref:	CONS/17/00343	Your Ref:	APP/15/01425
EH Case Officer Extn:	44 6677	Date:	17 March 2017
DC Case Officer:	Simon Kennedy		
DC Case Officer Extn:	44 6138		
Application Number:	APP/15/01425		
Site Address:	Wessex, 8 New Lane, Havant, PO9 2JH		
Proposed Development:	Proposed residential development comprising 41 one and two bed apartments with associated car parking, cycle and refuse storage, following demolition of existing buildings (Approved 07.07.16). Request to Discharge Condition 9 (11.01.17)		

Observations / Comments:

I have reviewed the Omnia Environmental Consulting Phase 2-3 Geo-Environmental Site Assessment for Wessex Yard, Ref: A10708, submitted in support of this application.

I note that neither the covering letter, nor the report makes clear what elements of condition 9 the application is aiming to address. I do not consider the report adequate to justify the discharge of c9 in full, as the report does not present either a detailed risk assessment or a detailed scheme of remediation / risk mitigation.

General Comments

A piling risk assessment is proposed in order to assess the risk of mobilising contaminants from the site to the underlying aquifer. Given that the depth of fill identified on site exceeds 5 metres below ground level, it is likely that piled foundations will be necessary, and that the required depth will be significant. whilst it is not considered likely that piles will terminate in the chalk (SPZ1c), an impact upon the principal aquifer is possible, and assessment is agreed to be prudent.

The report makes several references to the need for further assessment in respect of specific contaminants (e.g. where generic screening values exceeded), but does not present any further consideration of results as they relate to the preliminary conceptual site model, e.g. as they relate to the character of the strata type, the spatial extent, or association with an identified landuse / feature. Instead, results are treated as being representative of only the location sampled, and no extrapolation is attempted as to the likely nature, scale, or distribution of contamination across areas of the site not sampled.

Relatively few samples were analysed relative to the number collected, and the risk represented by this site. Whilst a rationale for the location of the trail hole is presented (and is reasonable), the rationale for the selection of samples to schedule for analysis is less clear (i.e.

from within the depth profile of that trial hole). Certainly, the samples scheduled present a fragmented conceptual picture, and do not lend themselves to the characterisation of the contamination identified at the site in terms of the units within which it is i) present, ii) capable of migrating, and iii) absent / incapable of breaching, or in terms of the origin and likely lateral extent of that contamination (e.g. as multiple isolated sources, or representing a contiguous plume of contamination with local variability). For example, some trial holes tested 'clean', as only natural clays were scheduled for analysis, where visually impacted soils were noted to be present, but were not subject to chemical testing.

Multiple contaminants have been identified at the site, and the conceptual model presented is weak in terms of identifying the provenance of the substances present, for example offering no particular comment on the presence of visual & olfactory evidence of hydrocarbon contamination, and Arsenic, Cyanide, TPH fractions & PAH16 members in the northern portion of the site, despite this area falling outside the curtilage of the former gas works site, and being up-hydraulic gradient of the identified on & off site sources with reference to the interpolated groundwater flow direction.

Groundwater

I note that no time-series / sequential groundwater surface plots are presented over the 6 monitoring visits, and consequently it has not been demonstrated that the indicated groundwater flow direction is consistent, nor that the inferred discontinuity of groundwater bodies is necessarily correct. In addition, the assertion that the clay strata represents a functional aquitard would appear to be contradicted by the visual & olfactory evidence noted within the available logs (noting staining & hydrocarbon odour associated with sands underlying the clay, and some staining & odour associated with clay itself). This indicates that contaminants are at least in places capable of vertical migration through the clay layers, and that there may be continuity between groundwater bodies identified as being physically separate.

Conclusions drawn with respect to the origin of contaminants identified within the underlying groundwater (i.e. associated with natural granular strata, at depths of around 7m BGL at the time of the OMNIA investigation) are consequently considered to be insufficiently supported by the presented data. The OMNIA report concludes that these are likely to be associated with filled land adjacent to the site, and not from made ground and contamination present within the subject site - however, in line with the above comment, the assumption that the clay functions as an effective aquitard is not been robustly justified, and it is notable that all identified contaminants identified within the underlying groundwater are present within made ground at the site (As, Cr, Pb, Zn, CN, PAH & TPH), meaning the local origin is at least possible, if not likely.

I also note that all gas & groundwater level monitoring visits were undertaken during summer conditions (July/August/early September), and as a result inferences as regards the hydraulic connectivity of various units under the full range of normal conditions has not been established. As a consequence, the conceptual site model has not been sufficiently well developed to permit robust conclusions to be drawn with respect to risks to controlled waters or off-site human receptors.

In order to adequately support groundwater conclusions (i.e. that the origin of dissolved phase contaminants is a source external to the site), it is considered necessary to better characterise the groundwater regime, to more clearly demonstrate the discontinuity of water bodies, and to directly assess the off-site groundwater quality up-hydraulic-gradient of the subject site.

Similarly, in order to appropriately consider the risks to off-site human receptors (via a groundwater vector), it is considered prudent to improve the groundwater environment characterisation (particularly the seasonal vertical range), as well as to consider additional migration pathways e.g. contaminants associated with suspended solids (indicated as being

likely), free product associated with the groundwater surface, or flow of DNAPL products with the surface topography of low permeability strata underlying granular material. There are reasons to expect that all of these migration modes are likely to be active to some degree.

The Soils Ltd. Phase 2 intrusive assessment may provide important additional context, however this has not been submitted to the Council previously, or with this application. I have located an intrusive site investigation from Mann Environmental (unfortunately incomplete) dating from 2007.. This report identifies significant concentrations of B(a)P, Ethylbenzene, Arsenic, Toluene and Petroleum Hydrocarbons; at concentrations of up to two orders of magnitude (1000%) greater than the screening criteria presented.

Sufficiency of remedial, risk mitigation and verification proposals

The OMNIA report proposes no contamination source removal or soil treatment, nor any works to improve the quality of groundwater or measure to prevent the off-site migration of contamination present at the site. The general proposals presented consider only the future residents of the consented scheme within the consented buildings, and rely upon the remainder of the site being covered by impermeable surfacing.

The consent provides for soft landscaping areas, and the consented scheme is directly referenced & depicted within the report - representing an inherent contradiction. In line with the recommendations of the submitted report, further refinement of the conceptual site model is therefore required, and further consideration of remedial measures should be undertaken.

Recommendations in respect of the contamination watching brief are similarly confusing - requiring that any evidence of contamination identified during development be further assessed to determine appropriate actions. Given the presence of >5m thickness of anthropogenic fill (full depth unproven), hydrocarbon staining & odour, and probable presence of free product at the site; the discovery / disturbance of contamination during groundworks is considered to be inevitable. In this way, the operation of an effective & meaningful watching brief without direct supervision of a suitably qualified environmental professional is likely to be unworkable in practical terms.

The remedial proposals that have been put forward are not fully developed, containing no structural schematics or technical detail (e.g. void height / volume, ventilation provision [area], vent location, or relative orientation [cross ventilation], membrane installation detailing, service penetration sealing etc.). Similarly, verification proposals for the proposed barrier membrane are generic, and do not indicate the verification procedures to be followed or the level of evidence required to adequately evidence the efficacy of the implemented measures (the content of the verification report).

No remedial or risk mitigation proposals are offered with respect to outdoor spaces, and no means of lateral containment is considered, either to prevent off-site contamination impacting the site further (if indeed this is the case) or to prevent contamination at the site from migrating over time to such an extent as to be likely to reach a contamination sensitive receptor.

As regards the exposure of future residents, no proposals have been put forward with respect to soils within areas of soft landscaping - there is a possibility, if not a likelihood that some soils would be classified as hazardous waste. and it is clear that soils are highly unlikely to be suitable for a residential landuse, and will need to be replaced. Imported topsoil criteria should form part of the remedial / risk mitigation proposals.

I do not consider that the remedial proposals put forward represent any material environmental betterment, and I note that the proposals are contrary to the conclusions of at

least one previous report (which recommended some form of removal, with pre-treatment prior to disposal). Acceptance of the proposals as-is would result in clearly mobile contaminants leaching from the site and impacting soils & groundwater of & beneath adjacent land, and would risk unacceptable exposure of future residents of the site in outdoor spaces, or via services (e.g. via penetration of the potable water supply pipework).

Conclusions

I do not consider that any further desk based assessment is likely to be beneficial. In this regard, I can recommend the discharge of part 1 of condition 9.

Considering the sum total of information contained within the 3 no. intrusive investigations of which I am aware, it is possible that sufficient site investigation has been undertaken to date upon which an appropriate assessment can be based. I would stress however that Havant Borough Council only hold partial results from the *Mann* Report, and whilst the results of the *Soils Ltd.* report are referenced within the *OMNIA assessment*, this report has not been previously submitted for appraisal. It remains possible that further investigation will prove to be necessary, and so it is not appropriate to discharge part 2 at this time.

The remedial proposals are not considered to be adequately supported by the presented data at this stage, and so it would not be appropriate to discharge part 3.

In the absence of an agreed remedial / risk mitigation scheme (and notwithstanding the lack of detailed proposals with respect to verification), it is not considered appropriate to discharge part 4 of condition 9.

I also consider that whilst there is uncertainty with respect to the need for further sampling, or monitoring of existing wells (e.g. to determine the range of groundwater surface gradient, and vertical range of groundwater movement), permitting commencement of development is not desirable. I would be open to the demolition & clearance of above ground structures to permit access, but commencement of groundworks should only follow the agreement of a remedial / risk mitigation scheme.

Mr. Jonathan Driver
Environmental Control Officer