

Birchall Garden Suburb
 Responses to questions raised by Tim Croot – EHO, Welwyn Hatfield Borough Council
 8 August 2017

This response is intended for the sole purpose of addressing the questions below and is not proposed as a formal planning document. All the information proposed below shall be set out within the relevant sections of the planning application in due course.

Question 1	Tarmac's master plan differs from the Environment Agency in showing the extent of the historic land fill site – Why?- What evidence have you relied upon?
Response	<p>The historic landfill dataset from the Environment Agency's "What's in your backyard" system was based on information gathered from various regulators and operators prior to the formation of the Environment Agency in 1995. The sources of information may include planning application boundaries and waste management licence (WML) boundaries, and since the planning/WML boundaries cover areas larger than the landfill area (e.g. for ancillary operations such as weighbridges) this should therefore not be relied upon to accurately define the previous landfill boundaries.</p> <p>Tarmac 's assessment of the landfill extent is based on a comprehensive suite of data which consists of over 330 boreholes and trial pits; a full archaeological trenching programme; aerial photos; historic Ordnance Survey maps; waste disposal licence boundary plan; and archive site plans and surveys.</p>

Question 2	Gas monitoring characteristics situation 2 found increased flow rates for CO2 in CGBH 11 and then stated "Additional monitoring to be undertaken" – has this been done and if so at what locations?
Response	Additional gas monitoring has and continues to be undertaken across the site. The regime up to 01 August 2017 was as follows:

Locations	Total	Frequency	Suite
Landfill Gas			
HC01A, HC01B, HC01C, HC02A, HC02B, HC02C, COL_01, 02, 03. PV01 to PV16, PVC, PVD.	5	Monthly	Methane (%v/v), Carbon Dioxide (%v/v), Oxygen (%v/v) Atmospheric pressure (mb), Differential Pressure (Pa).
	18	Monthly	Methane (%v/v), Carbon Dioxide (%v/v), Oxygen (%v/v) Atmospheric pressure (mb)
BH1, BH2, BH3, BH4 CGBH2, CGBH3, CGBH4, CGBH5, CGBH6, CGBH7, CGBH9, CGBH10, CGBH12, CGBH13, CGBH14, CGHB15, CGBH18, CGBH20, CGBH22, CGBH23, BFBH01, BFBH02, BFBH03, BFBH04, BFBH05	25	Quarterly Jan/Apr/Jul/Oct	Methane (%v/v), Carbon Dioxide (%v/v), Oxygen (%v/v) Atmospheric pressure (mb),

In addition, since 01 August 2017 continuous gas monitoring installations have been placed on CGBH11, BFBH01 & CGBH18.

Question 3	Has the master planning now considered the presence of Asbestos, Benzopyrene, and surface water contamination when considering end users?
Response	<p>Yes, additional risk assessment has been undertaken. Further to the outcome of this assessment an outline mitigation design has been developed for a small number of locations where the baseline risk has been revised to account for the proposed change in land use.</p> <p>It should also be noted that at the Local Plan Allocation and Outline Planning Application stage that this proposal is at it is not usual to undertake detailed design work including the layout of areas such as the Parkland. The assessments referred to above have confirmed that there is no reason for the land to be used as generally indicated in the illustrative masterplan.</p>

Question 4	Has further monitoring been undertaken at the two surface waters with respect to PCOC?
Response	Tarmac has voluntarily monitored and managed the landfill for over 30 years. Surface water is monitored at various locations in the River Lea, River Mimram and the associated tributaries, for various PCOC. Nine locations are monitored monthly and a further 28 locations on a quarterly basis. In addition, RHDV has independently undertaken two additional rounds of monitoring since the 2014 report.

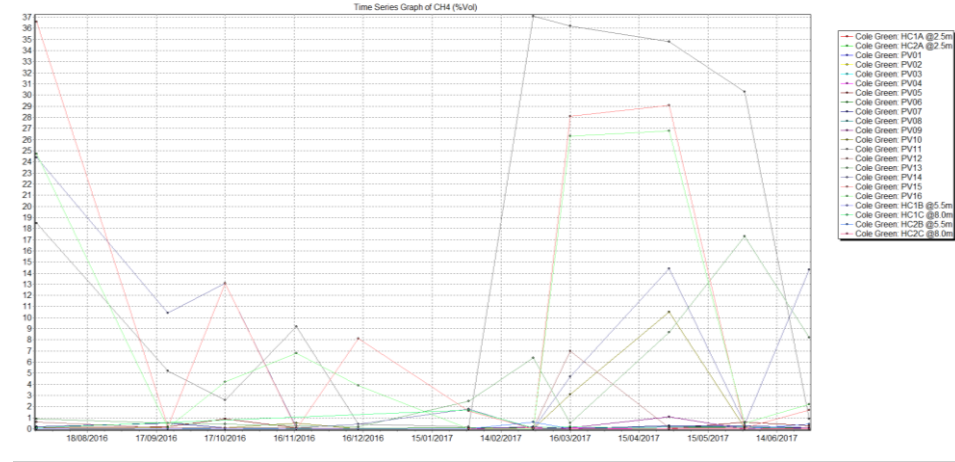
Question 5	How have you concluded that any exposure to PCOC at surface waters is likely to be minimal?
Response	Further Risk Assessment has been undertaken with regard to impact on surface waters including the preparation of an outline mitigation strategy where the exposure risk has been revised to account for the change in land use.

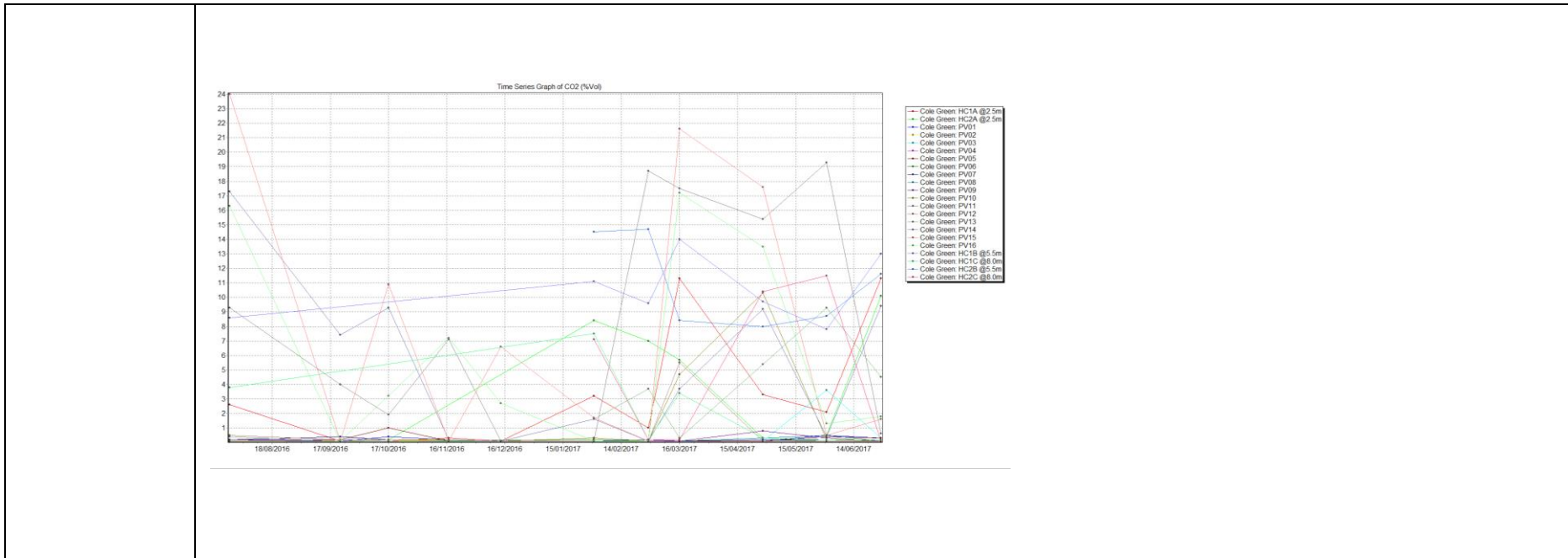
Question 6	Has the recommendations given on page 54 been implemented in full?
Response	Tarmac can confirm that the recommendations given on page 54 have been implemented in full.

Question 7	How did you identify the full and complete extent of the landfill when your maps differ from that of the Environment Agencies?
Response	Refer to Answer to Question 1.

Question 8	How did you conclude that only sampling 1m deep hand Auger exploratory holes was sufficient?
Response	<p>The purpose of the sampling on the landfill is only to assess the exposure source and pathways for receptors using the public open space (i.e. receptors undertaking non motorised leisure type activities).The proposed construction works within the landfill area shall be limited to the construction of utilities and road infrastructure and therefore the relatively shallow investigations are considered to be more than adequate. Post construction it is considered that people will only be in contact with the ground surface and therefore not exposed to anything at depth.</p> <p>The purpose of this investigation was not to identify the source term when considering the landfill and its impact upon the surrounding hydrological and hydrogeological environment. The heterogeneous nature of a site which has accepted waste over decades means that the level of investigation required to fully determine the source term would be so great as to be likely to cause unacceptable risk to the Environment due to the risk of creating new pathways.</p> <p>The risk posed by the landfill is best determined by considering the trends in the surrounding environment, as have been monitored over the preceding 30 years as part of Tarmac’s ongoing responsible stewardship of the site.</p>

Question 9	How did you concluded that asbestos could be successfully contained by constructing engineered footpaths and preventing the site being used by activities such as football and other sporting activities?
Response	<p>Since original survey further investigation work and lab testing has determined that there is very little such material on filled parts of the site or elsewhere. However, it appears some was historically brought in to provide surface to the track across the site, and this will be removed and dealt with.</p> <p>Across the open space at the centre of the scheme, some very low readings - just 0.001% or less (by weight) – were taken with just one above this level. The concentrations are significantly lower than the threshold between the definition of inert and hazardous waste of 0.1% for asbestos containing substances. Based on the results and the site context (soil type, site condition, site use) we consider that asbestos is unlikely to represent a significant risk to site users.</p>

Question 10	In respect to methane monitoring and CO2 please provide the most up to date data for the bore holes HC01 - HC02 and PV1 - PV16?
Response	<p data-bbox="414 643 2004 746">Monitoring data for the last year is presented below for the requested locations. It should be noted that methane and carbon dioxide levels in isolation in in-waste vents are not indicative of a risk to receptors if there is an absence of gas flow and/or preferential pathways. A full assessment of landfill gas risk will be provided in the application documents.</p> 



Question 11	Has the recommendations given on page 37 been implemented in full?
Response	Yes, with the exception of the "Health & Safety briefings for construction workers", which is not currently required at this time