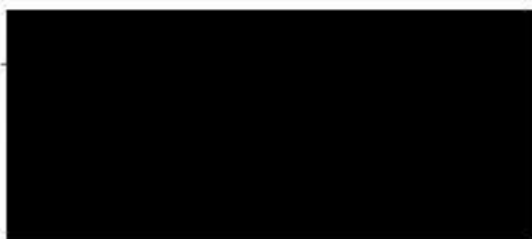


MATERIALS MANAGEMENT PLAN (MMP)
for the land at
WOODCROFT FARM PHASES 2B & 3,
WOODCROFT LANE, LOVEDEAN,
HAMPSHIRE, PO8 9QA
on behalf of
VISTRY HOMES

Report:	MATERIALS MANAGEMENT PLAN
Site:	WOODCROFT FARM PHASES 2B & 3, WOODCROFT LANE, LOVEDEAN, HAMPSHIRE, PO8 9QA
Client:	VISTRY HOMES
Date:	22/12/2020
Reference:	GE18761-MMP-DEC20
Version:	3.0
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Appendix 1a	Decision Notice, ref APP/13/00804 from Havant Borough Council, dated 3 rd September 2013
Appendix 1b	Consultee Response from Environmental Health dated 19 th November 2013
Appendix 1c	Consultee Response from Environment Agency dated 27 th September 2013
Appendix 1d	Consultee Response from Natural England dated 29 th October 2013
Appendix 1e	Decision Notice, ref APP/20/00115 from Havant Borough Council, dated 11 th February 2020
Appendix 1f	Email consultee response from Environmental Health dated 29 th April 2020
Appendix 1g	EA consultation response dated 3 rd December 2020



Appendix 1h Portsmouth Water consultation response dated 22nd October 2020

Desk Study and Investigation

- Appendix 2a Geoenvironmental and Geotechnical Ground Investigation Report, undertaken by Peter Brett Associates LLP on behalf of Grainger PLC, Project ref: 21834/030, Doc ref: R02/rev01, Dated July 2013.
- Appendix 2b Intrusive Site Investigation Letter Report ref: GE16662/FG02/170929 undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Linden Homes South, Dated 29th September 2017
- Appendix 2c Geotechnical Interpretative Report for the site at Phase 2 Area, Woodcroft Farm, Lovedean, Hampshire, PO8 9QA, by Geo-Environmental Services Limited on behalf of Grainger PLC, dated 3rd August 2018
- Appendix 2d Detailed Quantitative Gas Risk Assessment for the site at Woodcroft Farm, Waterloooville, undertaken by The Environmental Protection Group on behalf of Grainger PLC. Ref: EPG/8938/2018/DQGRA/V1 dated October 2018
- Appendix 2e Technical Note – Discharge of Condition 11, further investigation, risk assessment, remediation method and verification reporting, written by Geo-Environmental Services Ltd on behalf of Linden Homes South ref: GE16943-FG-TN-191205, dated 5th December 2019
- Appendix 2f Leachate Testing Letter Report for Woodcroft Farm (Phase 2B), Woodcroft Lane, Lovedean undertaken by Geo-Environmental Services Limited on behalf of Linden Homes South (trading as Vistry Homes Southern) ref: GE18761/FG02/200304, dated 4th March 2020
- Appendix 2g Remediation Strategy and Verification Plan for Chalk Pit and Landfill Area (CP), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-CP-V6.0-DEC20 version 6.0, dated December 2020
- Appendix 2h Remediation Strategy and Verification Plan for Farmyard (FY), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-FY-V6.0-DEC20 version 6.0, dated December 2020
- Appendix 2i Remediation Strategy and Verification Plan for Horse Arena (HA), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-HA-V5.0-DEC20 version 5.0, dated December 2020
- Appendix 2j Asbestos Management Plan, Woodcroft Farm Phase 2b & 3, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Ltd on behalf of Vistry Homes ref: GE18761/AMP/AUG20, dated August 2020

Tracking and Validation

Appendix 3 Example Tracking Forms.

AMENDMENT RECORD

Revision ref.	Date	Reasons for amendment	Prepared by	Reviewed by	Approved by
1.0	28/08/2020	Initial issue (report only)	FG	LL	GE
2.0	12/11/2020	Issue following consultee responses	FG	LL	GE
3.0	22/12/2020	Updated to reflect amended proposed development level	FG	LL	LL



1.0 INTRODUCTION

1.1 General

Geo-Environmental Services Limited (Geo-Environmental) was instructed by Vistry Homes Southern (Linden Homes South) to produce a Materials Management Plan for the re-use of materials on the site of origin for the development and re-landscaping on land at Phases 2B & 3 Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA (the site). The site's location is presented in Figure 1 with the phasing plan presented in Figure 4.

1.2 Site Context

The site comprises an area of land that forms part of Woodcroft Farm, located adjacent to the western fringes of Horndean, near Waterloooville. The site is irregular in shape with overall plan dimensions of about 650 m along the southern boundary by up to 300m along the western boundary and occupies an area of some 10 hectares. The ground level falls from the highest point located in the northeast part of the site at about 72.50m OD to a minor valley feature at the southwest part of the site at about 55.50m OD along the western site boundary.

The wider site's previous uses included use as a farm with associated barns and buildings, scrapyard, horse arena and a former chalk pit which was infilled as an inert landfill.

During the August 2017 intrusive investigation, the farm complex area, shown in Figure 5, comprised a farm house located in the south east of the complex area, with private gardens to the front and rear of the property. To the north and west of the farm house were a number of stable blocks that at the time of the site investigation works were occupied by a number of horses. The stable blocks were constructed on hard standing, generally concrete, and comprised a mixture of wooden stables and stables constructed within breeze block barns. These barns were noted to have corrugated roofs that have the potential to contain asbestos.

In the central area and west of the farm complex was an area utilised for parking, and the storage of scrap type items. This included engines, vehicles (in varying states of repair), a skip of metal, and other assorted metal items. There was also evidence of recent burning activities being undertaken within this area, piles of ash and blackened patches were noted. A manure heap was also located with the central northern part of this area.

This farmyard area was subsequently demolished with all buildings and areas of hardstanding being removed.

Four distinct depressions were present within the investigation area and these correlated with Sinkholes 1 – 4 as identified in previous phases of investigation, Figure 6. The investigation area comprised fallow grassed fields which had formerly been used for horse grazing, but which had been vacated such that the grass had grown to an uncropped height. Numerous mature deciduous trees including oaks were located around the site's perimeter.

The investigation area was accessed from Woodcroft Lane and the former farmyard located to the immediate south.



The site was bounded to the north by a line of trees with fields beyond; to the east by a field which formed part of the wider development area; to the south by the former farmyard and farmhouse and continuation of the fields, with an existing housing development to the south; and a line of trees with a field to the west.

The land beyond the western boundary comprised a shallow valley plunging at a relatively shallow gradient towards the south-west (approx.). Several depressions were observed on the northern flank of the valley. In addition, the land to the north of the site was observed to include several other depressions and areas of undulating ground.

Site Investigations:

Geoenvironmental and Geotechnical Ground Investigation Report, PBA, July 2013

The PBA 2013 report combined investigation comprising a detailed site walkover, a review of historical boreholes, summary of expected ground conditions and exploratory investigation which comprised a total of 11No. window sampler boreholes, 4No. deep cable percussive boreholes, 15No. machine excavated trial pits and 10No. dynamic probing holes. Combined groundwater and gas monitoring wells were installed to allow monitoring of ground gas and groundwater levels.

On completion of the fieldwork, a programme of laboratory soils testing was carried out to verify the visual identification and classification, and to determine the physical properties of selected samples of the materials encountered. Samples of soil for laboratory testing were taken from the exploratory holes and selected to be representative of the materials encountered.

The encountered ground conditions comprised, a thickness variable of Topsoil or Made Ground overlying superficial Head Deposits with clays of the Lambeth Group and Tarrant Chalk Member encountered at depth. The Head Deposits encountered appeared more extensive and thicker in the central and southwest parts of the site than anticipated based on the geological mapping. In many places the Head Deposits directly overlie the Chalk, while the Lambeth Group is absent. It is likely that periglacial weathering has resulted in removal of the Lambeth Group deposits along the valley feature footprint and resulted in the accumulation of the Head Deposits. Made Ground was locally encountered overlying the natural soils in the infilled pit and within the farmyard.

Made Ground was encountered at all the locations investigated at the infilled pit where landfill materials were placed during the 1970s. The Made Ground (Landfill) was found to be variable in composition and comprised brown grey and black clay with variable proportions of sand and gravel. Some timber and organic matter were encountered within the Made Ground. Some of the clay materials within the landfill were noted to have organic odour. The Made Ground within the infilled pit locally contained fragments of concrete and brick sections up to 1.20m long and 0.20m thick. The Made Ground was encountered to between 0.6 m (TP04) to a maximum depth of 5.80m below ground level (WS02) in the infilled pit. A fragment of cement bound tile suspected to contain asbestos that was detected in TP02 within the infilled pit.

Made Ground was encountered at both locations investigated at the dismantling and repair yard. The Made Ground was found to be variable in composition and comprised brown and black clayey gravel and brown sandy gravelly clay. The gravel size fractions were typically composed of flint, brick, and concrete. A layer about 0.10m thick of off white chalk fragments was encountered at the base of the Made Ground in WS03. The Made Ground



was between 0.50m and 0.60m thick. The surface at the dismantling and repair yard that was noted to be stained by oils and possibly other hydrocarbons. Slight hydrocarbon odour and grey staining was noted within the Made Ground in WS03.

The Head Deposits typically comprise brown, orange and yellow clay with variable proportions of silt, sand and gravel. Locally pockets of sand and/or gravel were present with some clay.

The Lambeth Group was encountered in the exploratory holes located at the southern and eastern parts of the site at the surface or below a veneer of Head Deposits. The Lambeth Group was found to comprise multicoloured clay with some silt and sand partings and locally lenses of silt and sand.

The Upper Chalk was encountered at a number locations across the site. The Chalk was generally white with occasional black specks and orange staining and was recovered as gravelly sandy chalk silt and silty chalk gravel and cobbles.

Groundwater was not encountered during the intrusive investigation.

Representative environmental soil testing was carried out based on the land use assessment for the site. The results of the assessment of the contamination tests did not identify any contamination above the adopted Tier 1 SAC values within either the Topsoil or the natural strata.

One elevated result for Lead was identified within the Made Ground. Asbestos screening identified detectable asbestos fibres within the Made Ground from one location. Asbestos fibres were identified within the Made Ground in the landfill area and the horse arena. It was also considered likely that asbestos would be identified within the Made Ground in the vicinity of the farm buildings.

Based on this assessment, it was recommended that prior to development, additional investigation in the vicinity of the farm buildings is undertaken. This should be done post demolition to minimise access constraints. Further delineation works may be required to provide more information on existing contamination.

In addition, based upon information gained from the three gas monitoring visits and the previous PBA investigation report, an Amber 2 gas scenario was identified in the vicinity of the former landfill, therefore gas protection measures were likely to be required in this area. A Green classification was identified for the remainder of the site. Further gas assessment was recommended and a detailed gas risk assessment to inform design of gas protection measures. This geo-environmental and geotechnical investigation report is presented in Appendix 2a.

Intrusive Site Investigation Letter Report, GE16662/FG02/170929, Geo-Environmental, September 2017

This supplementary geotechnical and geo-environmental investigation was undertaken by Geo-Environmental Services Limited in August 2017 to provide a soil contamination and ground gas risk assessment for the site. The intrusive investigation works comprised 39No. trial pits, 3No. cable percussive boreholes, and 7No. window sampler boreholes.

Encountered ground conditions were found to comprise a mantle of Topsoil and/or Made Ground overlying, clay, gravelly clay and sandy clay, with bands of flint cobbles and bands of sandy clay in certain locations. Chalk was



encountered within boreholes BH301 and BH303 at depths of 12.90m bgl and 1.90m bgl respectively. Made Ground was encountered within all the trial pits located within the farmyard complex area and was also encountered in TP211, TP213 and TP214. The Made Ground was found to comprise bricks, brick fragments, chalk of cobble and gravel size, ashy deposits, plastic, wood, possible asbestos (tiles and sheets), concrete, tarmac, and charcoal. Made Ground was encountered to a maximum depth of 2.30m bgl, although TP225 was terminated within the Made Ground at 0.60m bgl so the full depth of Made Ground in this location was not established. Due to the use of the farm buildings as stables, and horses being present at the time of the investigation, it was not possible to investigate beneath these existing farm/stable buildings. It was thought likely that Made Ground will be present beneath these buildings given it has been encountered in all areas of the farm complex investigated to date.

The Topsoil and/or Made Ground was underlain by firm to stiff clay and sandy clay of the Lambeth Group in the majority of locations. In some isolated locations mainly in the north of the site the Topsoil and/or Made Ground was underlain by gravelly clay, very sandy clay and clayey sand of the Lambeth Group. The clay and sand of the Lambeth Group were encountered to depths of up to 25.0m bgl. BH301 and BH303 found Chalk to underlie the Lambeth Group, the chalk was encountered at 12.90m bgl and 1.90m bgl respectively.

Groundwater was not encountered within any of the investigation locations and is anticipated to be present at depths in excess of 25.0m bgl.

Representative environmental soil testing was carried out based on the land use assessment for the site and comprised, 30No. brownfield contamination suites (including speciated PAH), 30No. total organic carbon, 3No. asbestos quantification tests and 3No. WAC tests. The assessment of the contamination test results for the entire site, was based on a residential end use scenario.

Elevated levels of Arsenic, Beryllium and Dibenzo(a,h)anthracene were identified within isolated areas of the site. In addition, previous investigations by third parties identified elevated concentrations of PAH, Lead and Zinc at locations within the farmyard complex area.

The soil samples were also submitted for asbestos screening and where asbestos was identified quantification testing was carried out. Asbestos was identified within 3No. locations within the farmyard area. Given the age of the buildings still present on site at the time of the intrusive investigation works it was considered that there was the potential for asbestos to be present within the building fabric. Previous investigations undertaken by third parties also identified the presence of asbestos within soils in the farmyard complex area.

It was considered that remedial action would be warranted to protect end users of a residential development, within isolated areas of the site in relation to the asbestos, PAH, Lead and Zinc identified within the shallow soils (Made Ground).

Due to the restriction in access to some areas of the farmyard complex during the initial investigation works, it was recommended that following demolition of the buildings on site, further intrusive investigations were carried out to identify and delineate the location of asbestos within the Made Ground within the farmyard area.

This Intrusive Site Investigation Letter Report is presented in Appendix 2b.

Supplementary Intrusive Investigation Works

Subsequent investigations undertaken by Geo-Environmental in May 2018, June 2018 and February 2020 were to carry out additional targeted investigation works within specific areas of the site including, but not exclusive to, the farmyard area (following demolition of the buildings), the chalk pit/ landfill area and the horse arena. The encountered conditions, results and assessments were reported under several separate covers including, Geotechnical Interpretative Report, Detailed Quantitative Gas Risk Assessment, Technical Note for the discharge of condition 11, Leachate Testing Letter Report and Remediation Strategy and Verification Reports. Copies of the relevant reports and technical notes are presented within Appendices 2c-2i.

The ground conditions encountered during these subsequent investigations were in line with previously encountered conditions, a thickness of Topsoil and/or Made Ground overlying Head Deposits and /or soils of the Lambeth Group which in turn in some locations overlay the Tarrant Chalk.

It was difficult to differentiate between Head Deposits and weathered Lambeth Group in several exploratory holes and Head Deposits were observed to vary in composition, with depth and laterally within individual trial pits and trenches. In addition, strata encountered in some exploratory holes appeared to include frost shattered gravel and these were considered likely to comprise Head Deposits derived from highly weathered Lambeth Group.

The ground conditions were observed to vary over relatively short distances, i.e. within the extent of some of the trial pits/trenches excavated. In addition, the depth to the Chalk was observed to vary significantly such that whilst Chalk was encountered at relatively shallow depth in some of the exploratory holes, it was not encountered in others.

Representative environmental soil testing was carried out based on the land use assessment for the site. It was considered that remedial action would be warranted in specific areas of the site; the farmyard, the chalk pit/ former land and the horse arena. Remedial action was not considered necessary for the majority of the site.

In addition, the findings of the various phases of investigation and monitoring were assessed in detail by EPG as part of completion of a Detailed Quantitative Gas Risk Assessment, which concluded that no ground gas protection measures were required for the proposed residential development on the chalk pit area.

Remediation Strategies

Remediation strategies have been written for each separate area of the site where it has been identified that remediation is a requirement, the farmyard, the chalk pit/ former land and the horse arena and are included within Appendices 2g-2i.

Farmyard

It is understood that a reduced dig would be required in identified specific rear garden areas within the former farmyard area, to allow for the installation of a soil cover system, so as to be protective for proposed end users. The plots requiring a reduced dig and the depth of reduced dig required are based on the current and proposed site levels and have been identified within Figures 12 - 19.



It is proposed to retain impacted soils within proposed garden areas where levels require raising either within the Farmyard area or within the Chalk Pit area where impacted material have already been identified, and hence a requirement of the volume of excavated soil being generated from the reduced dig. Following the completion of the reduced dig, installation of a soil cover system is required within all garden areas located in the former farmyard area. The soil cover system is to comprise; where the reduced dig does not remove all of the Made Ground and hence the cover system is to be laid over Made Ground, it shall incorporate a 150mm thick break layer formed of stone or crushed concrete with a geotextile membrane laid above and beneath, and overlain by a deterrent dig geofabric to act as a visible deterrent overlain by a minimum 300mm thickness of subsoil and a minimum of 300mm of Topsoil; where the reduced dig removes all Made Ground and exposes uncontaminated natural strata, the soil cover system shall comprise clean subsoil and a minimum 300mm of suitable Topsoil, the thickness of subsoil in this scenario will be defined by the difference between the finished garden level (minus 300mm Topsoil) and the reduced dig level.

It is proposed to re-use materials excavated as part of the reduced dig for raising site levels beneath proposed garden areas within the farmyard and chalk pit beneath the required soil cover system. It should be noted that whilst existing soils could remain in place beneath houses the deposition of soils impacted with asbestos beneath house footprints as part of any reprofiling works on this site would not be deemed suitable.

Topsoil from across the whole site has been identified as not being impacted by contaminants and therefore it is proposed to reuse this Topsoil across the site within areas of proposed private gardens and soft landscaping areas, so as to reduce or removed the need to import Topsoil material from external sources.

Chalk Pit/ Former Landfill

It is understood that a reduced dig would be required in identified specific rear garden areas within the chalk pit/ former landfill area, to allow for the installation of a soil cover system, so as to be protective for proposed end users. The plots requiring a reduced dig and the depth of reduced dig required are based on the current and proposed site levels and have been identified within Figures 12 - 19.

It is proposed to retain impacted soils within proposed garden areas where levels require raising either within the Farmyard area or within the Chalk Pit area where impacted material have already been identified, and hence a requirement of the volume of excavated soil being generated from the reduced dig. Following the completion of the reduced dig, installation of a soil cover system is required within all garden areas located in the chalk pit/ former landfill area. The soil cover system is to comprise; where the reduced dig does not remove all of the Made Ground and hence the cover system is to be laid over Made Ground, it shall incorporate a 150mm thick break layer formed of stone or crushed concrete with a geotextile membrane laid above and beneath, and overlain by a deterrent dig geofabric to act as a visible deterrent overlain by a minimum 300mm thickness of subsoil and a minimum of 300mm of Topsoil; where the reduced dig removes all Made Ground and exposes uncontaminated natural strata, the soil cover system shall comprise clean subsoil and a minimum 300mm of suitable Topsoil, the thickness of subsoil in this scenario will be defined by the difference between the finished garden level (minus 300mm Topsoil) and the reduced dig level.

It is proposed to re-use materials excavated as part of the reduced dig for raising site levels beneath proposed garden areas within the farmyard and chalk pit beneath the required soil cover system. It should be noted that



whilst existing soils could remain in place beneath houses the deposition of soils impacted with asbestos beneath house footprints as part of any reprofiling works on this site would not be deemed suitable.

Topsoil from across the whole site has been identified as not being impacted by contaminants and therefore it is proposed to reuse this Topsoil across the site within areas of proposed private gardens and soft landscaping areas, so as to reduce or removed the need to import Topsoil material from external sources.

Horse Arena

It is understood that a surface strip of the sand dressing surface would be undertaken across the whole of the horse arena area, followed by a surface strip of the Topsoil within this area. The Topsoil within this area has not been identified as being impacted by contaminants, so would be suitable for re-use within private gardens and areas of soft landscaping elsewhere across the site.

Given the increase in ground levels indicated by the Levels Strategy drawing, there is no requirement to undertake a reduced dig to accommodate the soil cover system in gardens. The soil cover system is to comprise; a minimum of 450mm in thickness to include a minimum of 300mm of Topsoil.

It is proposed to reuse Topsoil, which has been demonstrated as not been impacted by contaminants, within private garden areas and areas of soft landscaping both within the Horse Arena area and other areas across the site.

Topsoil from across the whole site has been identified as not being impacted by contaminants and therefore it is proposed to reuse this Topsoil across the site within areas of proposed private gardens and soft landscaping areas, so as to reduce or removed the need to import Topsoil material from external sources.

1.3 Planning Conditions

It is understood that a planning application has been approved for the site by Havant Borough Council under Planning Reference APP/13/00804. A number of ground investigations, including a Phase I desk study and Phase II site investigation, have been undertaken for the site, and were submitted in support of the planning application (a copy of which is provided in Appendix 2a-2f). The following pre-commencement planning conditions have been attached to the application which relate to the remediation and validation of land contamination on the site:

11. Prior to the commencement of construction within any specified phase or defined area the development approved by this Planning Permission (as may be agreed in writing by the Local Planning Authority), a scheme to deal with the risks associated with contamination of the site shall be submitted to and approved in writing by the Local Planning Authority. That scheme shall include all of the following elements unless specifically excluded in writing by the Local Planning Authority.

1. *A scheme of further investigation, based on the previously submitted GeoEnvironmental & Geotechnical report. The scope of the investigation shall be sufficient to:*
 - *confirm the preliminary assessment of the nature and extent of contamination at the site,*
 - *inform an appropriate assessment of the risks to all receptors that may be affected, including controlled waters, and;*
 - *enable the appropriate design of remediation and/or risk mitigation measures (if required).*



2. *The results of the further investigation and risk assessment (1) and if appropriate, a method statement based on these results giving full details of the remediation and/or risk mitigation measures required, and how they are to be undertaken.*
3. *A verification report or statement (as appropriate) upon completion of the works set out in (2) [if any], confirming that measures undertaken have been implemented in accordance with the method statement, and have achieved the required performance standards. The verification report / statement shall provide details of any measures necessary for maintenance, further monitoring and reporting.*

All elements shall be adhered to unless agreed in writing by the Local Planning Authority.

Reason: To prevent future occupants of proposed residential properties being exposed to unacceptable risks from identified contamination & soil gas associated with automotive repair and landfill activity previously undertaken at the site, and to ensure that the site does not pose an unacceptable risk to the groundwater Source Protection Zone 1; having due regard to policies and proposals E1 of the Hampshire County Structure plan 1996-2011 (Review), and DM10 of the Havant Borough Adopted Core Strategy (2011), and DM17 of the Draft Local Plan (Allocations) 2012.

12. Prior to the commencement of construction of any part of the development approved by this Planning Permission, a protocol for the identification & assessment of any unforeseen ground conditions shall be submitted to and approved in writing by the Local Planning Authority. The provisions of the approved protocol shall be observed throughout the undertaking of all relevant construction activities.

Reason: For the protection of workers and the general public during the development of potentially contaminated land, and to prevent future occupants of proposed residential properties being exposed to unacceptable risks from unidentified &/or unexpected contamination that may be associated with previous activities undertaken at the site; having due regard to policies and proposals E1 of the Hampshire County Structure plan 1996-2011 (Review), and DM10 of the Havant Borough Adopted Core Strategy (2011), and DM17 of the Draft Local Plan (Allocations) 2012.

13. If, during development, contamination not previously identified at the site is found to be present, then no further development (unless otherwise agreed in writing with the Local Planning Authority) shall be carried out until the developer has submitted, and obtained written approval from the Local Planning Authority for an addendum to the Method Statement required under Condition 1, (2). This addendum shall detail how this unexpected contamination shall be dealt with, and the development shall not be carried out other than in accordance with the approved details.

Reason: For the protection of workers and the general public during the development of potentially contaminated land, and to prevent future occupants of proposed residential properties being exposed to unacceptable risks from unidentified &/or unexpected contamination that may be associated with previous activities undertaken at the site; having due regard to policies and proposals E1 of the Hampshire County Structure plan 1996-2011 (Review), and DM10 of the Havant Borough Adopted Core Strategy (2011), and DM17 of the Draft Local Plan (Allocations) 2012.



2.0 MATERIALS MANAGEMENT

2.1 Definition of Waste: Development Industry Code of Practice

The Code of Practice (CoP) is seen as best practice for the development of land. It allows for a site specific determination of whether excavated materials are considered to be waste, or not, when it is proposed to use those excavated materials either directly or following successful treatment.

The process for the redevelopment of land not affected by contamination via the CoP involves:

- Adequate characterisation of the site and the materials to be excavated;
- Development of a Design Statement and/or Remediation Strategy and Verification Plan (RSVP);
- Production of a Materials Management Plan to show that the “four factors” have been adequately addressed and includes a Verification Plan;
- Review of the MMP and supporting information by an independent Qualified Person;
- Agreement of the RSVP and re-use in principal with the Environment Agency;
- Completion and submission of a Declaration by the Qualified Person, if content with the information provided, to the Environment Agency and copied to the person commissioning the Qualified Person;
- Implementation of the MMP;
- Production of a Verification Report.

The MMP has to include details relating to the assessment of the development site, e.g. desk study and/or site investigation information to demonstrate that the material is suitable for the intended use.

The CoP requires that the following “four factors” are demonstrated:

- Pollution of the environment and harm to human health is prevented and not increased in reusing the excavated materials and the risk from re-use is not increased from the baseline assessment of the site;
- The materials are suitable for use both geotechnically and geochemically (without any further processing);
- There is certainty of use; and
- The quantity that is absolutely necessary (and no more) is used.

Suitable for use criteria have been established underpinned by several intrusive ground investigations undertaken on the site (Appendix 2a, 2b, 2c, 2g, 2h and 2i) and site survey plans, levels strategy plans and development levels plans forming the design statement for the site (Figures 3, 4, and 8 to 19).

It has been identified that in order to achieve the required development levels across the farmyard and chalk pit areas of the site, including levels required to construct proposed residential dwellings and associated garden areas the following volume of material is needed c.558m³ (this figure does not include the required suitably clean materials for the proposed soil cover systems). The excavation of the required reduced dig within specific plots located in the farmyard area and the chalk pit/ former landfill area and foundation arising will generate c.312m³. Therefore, it is proposed to re-use this excavated material within garden areas, beneath the soil cover system within the farmyard and chalk pits areas where impacted materials have already been identified, where plots have also been identified as requiring levels to be raised to achieve final development levels, and remove the need to import material to the site. In addition, Topsoil from across the entire site has been identified as not being impacted by contaminants therefore it is proposed to reuse this site won Topsoil within proposed private gardens areas and proposed areas of soft landscaping to remove the need to import Topsoil material to site.

2.2 Materials Management Plan form

This form should be completed once the lines of evidence have been marshalled in relation to suitability for use, certainty of use and quantity required.

The answers to the questions posed within this form together with the supporting information will constitute the MMP and must be provided to the Qualified Person.

A Qualified Person may comment on draft versions of this MMP, but will not complete the Declaration until all the relevant documents, demonstrating lines of evidence have been provided for each site.

The person / organisation who will pay the Declaration fee should confirm that they have read and understand the Terms and Conditions relating to the payment of the Declaration fee to CL:AIRE. Details are available on the CL:AIRE website.

The person / organisation agreeing to pay the Declaration Fee - Name, organisation and contact details inc. email address -	Declaration Fee: Stephen Clark Linden Homes South, 1A Guildford Business Park, Guildford, Surrey, GU2 8XG Email: Stephen.Clark@LindenHomes.co.uk Mobile: 07483 341072
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X I confirm I have read and understood the Terms & Conditions.

1. Specify the scenario to which this MMP relates, as described in the Definition of Waste: Development Industry Code of Practice (DoW CoP) (1, 2, 3 or 4):

- ☒ 1. Reuse on the Site of Origin
☐ 2. Direct Transfer of clean naturally occurring soil / mineral materials
☐ 3. Cluster Project
☐ 4. Combination of any of the above

In the case of a combination of reuse scenarios, please describe it below (e.g. (i) Reuse on Site of Origin and Direct Transfer of clean naturally occurring unpolluted soils, (ii) Reuse on the Site of Origin with Direct Transfer of clean naturally occurring soil to x number of development sites etc:

(NB: A Declaration is required for reuse on the Site of Origin and for any 2 site arrangement i.e. there is no facility for a combination Declaration)

2. Organisation and name of person preparing this MMP	Fiona Goode Senior Consultant Engineer Geo-Environmental Services Limited Unit 7, Danworth Farm, Cuckfield Road, Hurstpierpoint West Sussex BN6 9GL
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Document Control

Date issued	28 th August 2020 (re-use on site of Origin) – initial report only
Revision Date/Summary of revision 1	12 th November 2020 (re-use on site of Origin) – complete report Report updated to include consultation responses from EA and Portsmouth Water
Revision Date/Summary of revision 2	22 nd December 2020 (re-use on site of Origin) – complete report Report updated to include updated consultation response from EA and to reflect the updated proposed development levels on site

Insert additional lines to the document control table above for any subsequent revisions.

Note - revisions to the MMP do not trigger an additional Declaration by a Qualified Person, unless an additional site is added to the project.

Site Details

3. Site / Project name(s)	Woodcroft Farm Phase 2B and 3, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA
Reuse / receiving site name :	Re-use on Site of Origin - Woodcroft Farm Phase 2B and 3, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA
Donor site name (if Direct Transfer)	n/a

Landowners

4a. Name of Landowner(s) (full address and contact details) – where excavated materials are to be reused	Landowner/Developer: Stephen Clark Linden Homes South, 1A Guildford Business Park,
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	Guildford, Surrey, GU2 8XG Email: Stephen.Clark@LindenHomes.co.uk Mobile: 07483 341072
4b. Name of Landowner(s) (full address and contact details) – where excavated materials are arising from	Stephen Clark Linden Homes South, 1A Guildford Business Park, Guildford, Surrey, GU2 8XG Email: Stephen.Clark@LindenHomes.co.uk Mobile: 07483 341072

Summary and objectives

5a. Provide a brief description of the planned project and how excavated materials are to be reused within it.	Phases 2B and 3 of the Woodcroft Farm development site comprises a development of up to 288No. homes with, new access road from Eagle Avenue, internal access roads, associated car parking, open space and landscaping. In order to achieve the required final site levels and accommodate recommended soil cover systems for the proposed residential dwellings and the associated garden areas some cut and fill earthworks is required. Remediation is required within specific areas of the site, the farmyard, the chalk pit and the horse arena. It has been identified that within the rear garden areas of specific plots with the farmyard area and the chalk pit/ former landfill area a reduced dig is required. All other remedial measures are to incorporate a soil cover system specific to the area of remediation. In addition, Topsoil located across the entire site has been identified as not being impacted by contaminants and therefore has been deemed as being suitable for use within proposed private garden areas and areas of soft landscaping. As such it is proposed to reuse the materials excavated from the specific plots, where a reduced dig is required, for use within the required fill aspect of proposed garden areas, beneath the soil cover system, of residential plots within the farmyard and chalk pits areas where impacted material have already been identified, achieving the development levels within the development parcels. It is also proposed to reuse site won Topsoil for landscaping purposes including re-using within garden areas in order to balance the requirement for materials on the wider site.
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	It is proposed to reuse 146m³ of the Made Ground excavated as part of the plot specific reduced dig. These materials have been identified as being impacted by contaminants so would not be suitable for re-use within the soil cover systems of private garden areas or within areas of soft landscaping but would be suitable for reuse beneath these propose soil cover systems, where impacted materials have already been identified. In addition, in-line with NHBC requirements this material would also not be suitable for re-use beneath proposed buildings. As such it is proposed to reuse this material with garden areas of plots were levels need to be raised within the farmyard and chalk pit areas of the site, beneath proposed soil cover systems. All Topsoil materials proposed for re-use are naturally occurring materials, in addition a site investigation undertaken on the site did not identify any contaminants above a residential end use screening criteria. Where materials are to be excavated they will be segregated into the material types identified and separately stockpiled on the site prior to use where required. Following the works each section will be validated with respect to the placement of material on the site. Importation of any additional subsoil/Topsoil onto the site, from an off-site source, would be subject to amendments of the MMP and subsequent declarations as required.
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General Plans and Schematics

6. Attach a location plan for the site(s) and a plan of the site(s) which identifies where different materials are to be excavated from, stockpile locations (if applicable), where materials are to be treated (if applicable) and where materials are to be reused.	Plan Document Reference(s): Figure 1 Site Location Plan ref: 1924-A-1000-A, drawn April 2013, issued for planning Figure 2 Concept Masterplan ref: 1924-SK-1106-C, drawn 22/01/2014, issued for planning Figure 3 2DEE Survey Woodcroft Farm (levels based on Leda GPS), drawn 11/09/2011, issued for planning Figure 4 Site Survey Plan, drawn June 2020 Figure 5 Phasing Plan ref: 2668-C-1007B, revision B, drawn Feb 2018, issued for planning Figure 6 Soil Remediation Areas Plan by Plot (Geo-Environmental), drawn March 2020 Figure 7 Sinkhole Area Plan (Geo-Environmental), drawn 28/06/2018
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	Figure 8 Levels Strategy Sheet 1 ref: 192932/001, drawn June 2020, Figure 9 External Levels, Contours and Kerbing Sheet 3 ref: 192931-073, drawn November 2020 Figure 10 External Levels, Contours and Kerbing Sheet 4 ref: 192931-074, drawn November 2020 Figure 11 External Levels, Contours and Kerbing Sheet 5 ref: 192931-075, drawn November 2020 Figure 12 Development Levels Plan – Phase 2B Farmyard (Geo-Environmental), 17/12/2020 Figure 13 Development Levels Plan – Phase 3 Farmyard and Chalk Pit (Geo-Environmental), 17/12/2020 Figure 14 Development Levels Plan – Phase 3 Farmyard (Geo-Environmental), 17/12/2020 Figure 15 Development Levels Plan – Phase 3 Horse Arena, Chalk Pit and Farmyard (Geo-Environmental), 17/12/2020 Figure 16 Remediation Strategy Plan – Phase 2B Farmyard Volumes (Geo-Environmental), 17/12/2020 Figure 17 Remediation Strategy Plan – Phase 3 Farmyard and Chalk Pit Volumes (Geo-Environmental), 17/12/2020 Figure 18 Remediation Strategy Plan – Phase 3 Farmyard Volumes (Geo-Environmental), 17/12/2020 Figure 19 Remediation Strategy Plan – Phase 3 Horse Arena, Chalk Pit and Farmyard Volumes (Geo-Environmental), 17/12/2020
7. Attach a schematic of proposed materials movement. Where there is only one source area and one placement area briefly describe it. For all other projects a schematic is required.	Description & Schematic Document Reference: Phases 2B and 3 of the Woodcroft Farm development site comprises a development of up to 288No. homes with, new access road from Eagle Avenue, internal access roads, associated car parking, open space and landscaping. In order to achieve the required final site levels and incorporation soil cover systems for the proposed residential dwellings and the associated garden areas some cut and fill is required. Given the need for a cut and fill exercise associated with the construction of proposed development to achieve required development levels, and the remediation requirements of specific areas within the development, material required for landscaping purposes and the need for Topsoil within gardens and areas of soft landscaping, it is proposed to re-use material on the site of origin under the CL:AIRE Definition of Waste Code of Practice, to include the underlying naturally occurring Topsoil and Made Ground.

	Total volume of reuse on site of origin (Made Ground)– 146m³ References: Figure 8 Levels Strategy Sheet 1 ref: 192932/001, drawn June 2020, Figure 9 External Levels, Contours and Kerbing Sheet 3 ref: 192931-073, drawn November 2020 Figure 10 External Levels, Contours and Kerbing Sheet 4 ref: 192931-074, drawn November 2020 Figure 11 External Levels, Contours and Kerbing Sheet 5 ref: 192931-075, drawn November 2020 Figure 12 Development Levels Plan – Phase 2B Farmyard (Geo-Environmental), 17/12/2020 Figure 13 Development Levels Plan – Phase 3 Farmyard and Chalk Pit (Geo-Environmental), 17/12/2020 Figure 14 Development Levels Plan – Phase 3 Farmyard (Geo-Environmental), 17/12/2020 Figure 15 Development Levels Plan – Phase 3 Horse Arena, Chalk Pit and Farmyard (Geo-Environmental), 17/12/2020 Figure 16 Remediation Strategy Plan – Phase 2B Farmyard Volumes (Geo-Environmental), 17/12/2020 Figure 17 Remediation Strategy Plan – Phase 3 Farmyard and Chalk Pit Volumes (Geo-Environmental), 17/12/2020 Figure 18 Remediation Strategy Plan – Phase 3 Farmyard Volumes (Geo-Environmental), 17/12/2020 Figure 19 Remediation Strategy Plan – Phase 3 Horse Arena, Chalk Pit and Farmyard Volumes (Geo-Environmental), 17/12/2020
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Parties Involved and Consultation – if more than one party please provide additional details for them and identify the location that they will be working e.g. where a site is zoned

8a. Main earthworks contractor(s) (full address and contact details) – Where excavated materials are to be reused	TBC
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Materials Management Plan

8b. Main earthworks contractor(s) (full address and contact details) - Where excavated materials are arising from	TBC
9. Treatment contractor(s) (full address and contact details) – for treatment on site of origin, or at a Hub site within a fixed STF / Cluster Project	No on-site treatment proposed.
10. Where wastes and materials are to be transported between sites, provide details of the transport contractor(s) (full address, contact details and waste carriers registration details (if applicable))	No transportation of material to other site proposed. Proposals are to re-use site won materials on site.
11. Provide Local Authority contact details (full address and named contacts) where excavated materials are to be reused	Jonathan Driver Environmental Control Officer Havant Borough Council Environmental Health Email: jonathan.driver@havant.gov.uk Telephone: 023 9244 6677
12a. For the site where materials are to be reused and for Hub Site locations provide Environment Agency contact details (full address and named contacts):	Vic Jennings - Senior Environment Officer EPR Waste – West Solent & South Downs Area 20 Manners View, Dodnor, Newport, Isle of Wight. PO30 5FA Tom Wickens

	Technical Specialist - (Groundwater Quality and Contaminated Land) Solent and South Downs Romsey Office, Canal Walk, Romsey, Hampshire, SO51 8DU
For all Cluster Projects: 12b. Attach any relevant documentation from the EA relating to the excavation and reuse of the materials to demonstrate no objection to the proposals (see 3.37 of DoW CoP)	EA references: N/A Not a cluster project.
If the EA has not been consulted please explain why (see paragraph 3.39 of the DoW CoP).	N/A Not a cluster project.

Lines of Evidence

There is no one single factor that can be used to decide that a substance or object is waste, or when it is, at what point it ceases to be waste; as complete a picture as possible has to be created.

The following sections require completion to ensure the correct decision is made.

If a requested item is not relevant it is important to clearly state why this is so (e.g. no planning permission required because permitted development status exists).

Suitable for use criteria

13. Please describe or provide copies of the required specification(s) for the materials to be reused on each site.	The proposals include a reduced dig of Made Ground material to be undertaken within specific areas of the site and at specific plots excavation and placement of natural ground for use as a cover system on the site for human health. The contamination testing has identified several hotspots of contamination and the presence of low levels of asbestos within the Made Ground soils. The RSVP's present the specification for subsoil and Topsoil to be installed as part of the cover system on the site. Document Reference(s):
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	Appendix 2g	Remediation Strategy and Verification Plan for Chalk Pit and Landfill Area (CP), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-CP-V6.0-DEC20 version 6.0, dated December 2020
	Appendix 2h	Remediation Strategy and Verification Plan for Farmyard (FY), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-FY-V6.0-DEC20 version 6.0, dated December 2020
	Appendix 2i	Remediation Strategy and Verification Plan for Horse Arena (HA), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-HA-V5.0-DEC20 version 5.0, dated December 2020
	Appendix 2j	Asbestos Management Plan, Woodcroft Farm Phase 2b & 3, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Ltd on behalf of Vistry Homes ref: GE18761/AMP/AUG20, dated August 2020
	Figure 8	Levels Strategy Sheet 1 ref: 192932/001, drawn June 2020,
	Figure 9	External Levels, Contours and Kerbing Sheet 3 ref: 192931-073, drawn November 2020
	Figure 10	External Levels, Contours and Kerbing Sheet 4 ref: 192931-074, drawn November 2020
	Figure 11	External Levels, Contours and Kerbing Sheet 5 ref: 192931-075, drawn November 2020
	Figure 12	Development Levels Plan – Phase 2B Farmyard (Geo-Environmental), 17/12/2020
	Figure 13	Development Levels Plan – Phase 3 Farmyard and Chalk Pit (Geo-Environmental), 17/12/2020
	Figure 14	Development Levels Plan – Phase 3 Farmyard (Geo-Environmental), 17/12/2020
	Figure 15	Development Levels Plan – Phase 3 Horse Arena, Chalk Pit and Farmyard (Geo-Environmental), 17/12/2020
	Figure 16	Remediation Strategy Plan – Phase 2B Farmyard Volumes (Geo-Environmental), 17/12/2020
	Figure 17	Remediation Strategy Plan – Phase 3 Farmyard and Chalk Pit Volumes (Geo-Environmental), 17/12/2020
	Figure 18	Remediation Strategy Plan – Phase 3 Farmyard Volumes (Geo-Environmental), 17/12/2020

	Figure 19	Remediation Strategy Plan – Phase 3 Horse Arena, Chalk Pit and Farmyard Volumes (Geo-Environmental), 17/12/2020
Where contamination is suspected or known to be present 14a. Please provide copies of or relevant extracts from the risk assessment(s) that has been used to determine the specification for use on the site. This must relate to the place where materials are to be used. This must be in terms of (i) human health (ii) controlled waters and (iii) any other relevant receptors. If a risk assessment is not relevant for a particular receptor given the site setting please explain why below:	For Made Ground	Document Reference(s) Appendix 2a Geoenvironmental and Geotechnical Ground Investigation Report, undertaken by Peter Brett Associates LLP on behalf of Grainger PLC, Project ref: 21834/030, Doc ref: R02/rev01, Dated July 2013. Appendix 2b Intrusive Site Investigation Letter Report ref: GE16662/FG02/170929 undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Linden Homes South, Dated 29th September 2017 Appendix 2c Geotechnical Interpretative Report for the site at Phase 2 Area, Woodcroft Farm, Lovedean, Hampshire, PO8 9QA, by Geo-Environmental Services Limited on behalf of Grainger PLC, dated 3rd August 2018 Appendix 2g Remediation Strategy and Verification Plan for Chalk Pit and Landfill Area (CP), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-CP-V6.0-DEC20 version 6.0, dated December 2020 Appendix 2h Remediation Strategy and Verification Plan for Farmyard (FY), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-FY-V6.0-DEC20 version 6.0, dated December 2020 Appendix 2i Remediation Strategy and Verification Plan for Horse Arena (HA), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-HA-V5.0-DEC20 version 5.0, dated December 2020

	Appendix 2j Asbestos Management Plan, Woodcroft Farm Phase 2b & 3, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Ltd on behalf of Vistry Homes ref: GE18761/AMP/AUG20, dated August 2020
14b. Please attach any relevant documentation from the LA relating to the excavation and reuse of the materials to demonstrate no objection (see 3.37 of the CoP)	LA Document references: Use of DoWCoP and re-use on site of Made Ground soils is presented within the RSVP's (Appendix 2g-2i) for the site. Correspondence with the Local Authority pertaining to site and remediation works are presented in Appendix 1f.
14c. Please attach any relevant documentation from the EA relating to the excavation and reuse of the materials to demonstrate no objection (see 3.37 and Table 2 of the CoP)	EA Document references: Use of DoWCoP and re-use on site of Made Ground soils is presented within the RSVP's (Appendix 2g-2i) for site. Correspondence with the Environment Agency pertaining to site and remediation works are presented in Appendix 1g.
14d. Please attach any relevant documentation from any other regulators (if relevant) relating to the excavation and reuse of the materials to demonstrate no objection (see 3.37 of the CoP)	Portsmouth Water Document references: Use of DoWCoP and re-use on site of Made Ground soils is presented within the RSVP's (Appendix 2g-2i) for site. Correspondence with Portsmouth Water pertaining to site and remediation works are presented in Appendix 1h.
Where contamination is not suspected	For Topsoil Document Reference(s)

15a. Please attach copies or relevant extracts from the Desk Top Study that demonstrates that there is no suspicion of contamination.	Appendix 2a Geoenvironmental and Geotechnical Ground Investigation Report, undertaken by Peter Brett Associates LLP on behalf of Grainger PLC, Project ref: 21834/030, Doc ref: R02/rev01, Dated July 2013.
15b. Please attach copies of or relevant extracts from the site investigation/testing reports that adequately characterise the clean materials to be used (if appropriate).	For Topsoil Document Reference(s) Appendix 2a Geoenvironmental and Geotechnical Ground Investigation Report, undertaken by Peter Brett Associates LLP on behalf of Grainger PLC, Project ref: 21834/030, Doc ref: R02/rev01, Dated July 2013. Appendix 2b Intrusive Site Investigation Letter Report ref: GE16662/FG02/170929 undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Linden Homes South, Dated 29th September 2017 Appendix 2g Remediation Strategy and Verification Plan for Chalk Pit and Landfill Area (CP), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-CP-V6.0-DEC20 version 6.0, dated December 2020 Appendix 2h Remediation Strategy and Verification Plan for Farmyard (FY), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-FY-V6.0-DEC20 version 6.0, dated December 2020 Appendix 2i Remediation Strategy and Verification Plan for Horse Arena (HA), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-HA-V5.0-DEC20 version 5.0, dated December 2020
15c. Please attach copies of any other relevant information (if available) confirming that land contamination is not an issue.	Areas of the site not impacted by contamination Document Reference(s) Appendix 2a Geoenvironmental and Geotechnical Ground Investigation Report, undertaken by Peter Brett Associates LLP on behalf of Grainger PLC, Project ref: 21834/030, Doc ref: R02/rev01, Dated July 2013.

	Appendix 2b Intrusive Site Investigation Letter Report ref: GE16662/FG02/170929 undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Linden Homes South, Dated 29 th September 2017
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NB: It is your responsibility to assess the nature of the material to be used and that it fits within the limitations of the scenario under which it is to be used

Certainty of use

Various lines of evidence are required to demonstrate that the materials are certain to be used. This includes:

- The production of this MMP
- An appropriate planning permission (or conditions that link with the reuse of the said materials)
- An agreed Remediation Strategy(ies)
- An agreed Design Statement(s)
- Details of the contractual arrangements

Please identify in the following sections what lines of evidence relate to the site(s) **where the materials are to be used**.

16a. Planning Permission(s) relating to the site where materials are to be reused Please provide a copy of the relevant planning permission	Document Reference: Appendix 1a Decision Notice, ref APP/13/00804 from Havant Borough Council, dated 3rd September 2013 Appendix 1b Consultee Response from Environmental Health dated 19th November 2013 Appendix 1c Consultee Response from Environment Agency dated 27th September 2013 Appendix 1d Consultee Response from Natural England dated 29th October 2013 Appendix 1e Decision Notice, ref APP/20/00115 from Havant Borough Council, dated 11th February 2020
16b. Explain how the reuse of the excavated materials fits within the planning permission(s) for each site.	Phases 2B and 3 of the Woodcroft Farm development site comprises a development of up to 288No. homes with, new access road from Eagle Avenue, internal access roads, associated car parking, open space and landscaping. In order to achieve the required final site levels and accommodate recommended soil cover systems for the proposed residential dwellings and the associated garden areas some cut and fill is required. Remediation is required within specific areas of the site, the farmyard, the chalk pit and the horse arena. It has been identified that within the rear garden areas of specific plots with the farmyard area and the chalk pit/ former landfill area a reduced dig is required. All other remedial measures are to incorporate a soil cover system specific to the area of remediation. In addition, Topsoil located across the entire site has been identified as not being impacted by contaminants and therefore has been deemed as being suitable for use within proposed private garden areas and areas of soft landscaping. As such it is proposed to reuse the materials excavated from the specific plots, where a reduced dig is required, for use within the required fill aspect of proposed garden areas, beneath the soil cover system, of residential plots within the farmyard and chalk pits areas where impacted material have already been identified, achieving the development levels within the development parcels. It is also proposed to reuse site won Topsoil for landscaping purposes including re-using within garden areas in order to balance the requirement for materials on the wider site.

16c. If planning permission is not required for any one site please explain why below e.g. permitted development, clean up of a chemical spill, surrender of an Environmental Permit, re-contouring within the existing permission.	N/A
<i>Where contamination is suspected or is known to be present</i> 17. Please provide a copy of any Remediation Strategy (ies) that have been agreed with relevant regulators.	The majority of the materials to be re-used on site comprise clean naturally occurring materials (Topsoil). However, it is proposed to re-use a limited volume of Made Ground from isolated areas of the site to enable the construction of development levels using on site materials. Remediation Strategies and Verification Plans have been developed for each of these specific areas (Farmyard, Chalk Pit and Horse Arena). Document Reference (s): Appendix 2g Remediation Strategy and Verification Plan for Chalk Pit and Landfill Area (CP), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-CP-V6.0-DEC20 version 6.0, dated December 2020 Appendix 2h Remediation Strategy and Verification Plan for Farmyard (FY), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-FY-V6.0-DEC20 version 6.0, dated December 2020 Appendix 2i Remediation Strategy and Verification Plan for Horse Arena (HA), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-HA-V5.0-DEC20 version 5.0, dated December 2020

Where contamination is not suspected 18. Please provide a copy of any Design Statement(s) that have been agreed (e.g. with the planning authority or in the case of permitted developments the client).	N/A
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Quantity of Use

19. Please provide a breakdown of the excavated materials for each site and how much will be placed at each site or sub area of each site. Where this is not specific to a single readily identifiable source refer to an annotated plan, schematic or attach a tabulated summary.	Document Reference(s): Figure 8 Levels Strategy Sheet 1 ref: 192932/001, drawn June 2020, Figure 9 External Levels, Contours and Kerbing Sheet 3 ref: 192931-073, drawn November 2020 Figure 10 External Levels, Contours and Kerbing Sheet 4 ref: 192931-074, drawn November 2020 Figure 11 External Levels, Contours and Kerbing Sheet 5 ref: 192931-075, drawn November 2020 Figure 12 Development Levels Plan – Phase 2B Farmyard (Geo-Environmental), 17/12/2020 Figure 13 Development Levels Plan – Phase 3 Farmyard and Chalk Pit (Geo-Environmental), 17/12/2020 Figure 14 Development Levels Plan – Phase 3 Farmyard (Geo-Environmental), 17/12/2020 Figure 15 Development Levels Plan – Phase 3 Horse Arena, Chalk Pit and Farmyard (Geo-Environmental), 17/12/2020 Figure 16 Remediation Strategy Plan – Phase 2B Farmyard Volumes (Geo-Environmental), 17/12/2020 Figure 17 Remediation Strategy Plan – Phase 3 Farmyard and Chalk Pit Volumes (Geo-Environmental), 17/12/2020 Figure 18 Remediation Strategy Plan – Phase 3 Farmyard Volumes (Geo-Environmental), 17/12/2020 Figure 19 Remediation Strategy Plan – Phase 3 Horse Arena, Chalk Pit and Farmyard Volumes (Geo-Environmental), 17/12/2020
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	Figures 12-15 present the overall depth of Made Ground reduced dig required within each identified Plot within the Farmyard area and chalk pit/ former landfill area of the site. Re-use on site of Origin – 146m³ Made Ground.
20a. How has consolidation/compaction been considered in the above mass balance calculations?	Assumed 1:1 ratio. Material to be compacted and therefore negligible net bulking assumed.
20b. How has loss due to treatment being considered in the above mass balance calculations (if applicable)?	No treatment proposed.
20c. How has the addition of treatment materials being considered in the above mass balance calculations (if applicable)? Note - An exact figure is not required but one that is reasonable in the circumstances and can be justified if challenged.	Treatment is not proposed.

Contingency arrangements

Explain what is to happen in the following situations and identify the appropriate clauses in the contract(s) (Such clauses must be provided to the Qualified Person, preferably as a summary document): or

21a. What is to happen to, and who is to pay for out of specification materials?	Reference: Materials to be re-used will be assessed from the site investigation data and earthworks phase acceptability testing. The materials will be visually inspected upon excavation. Any 'out of specification materials' e.g. potential mobile contaminants will be set aside. The earthworks specifications include for provision of wetting/drying of site won soils to meet fill specification acceptability and any soils in this category would not be considered to be 'out of specification' but potentially requiring commonplace civil engineering treatment prior to placement. The Site Manager will review any 'out of specification' materials and arrange for the material to be further assessed or to be taken off site to an appropriately authorised facility, under the appropriate duty of care. This will either be at the cost of the developer Vistry Homes Southern or contracted to the ground works contractor.
21b. What is to happen to, and who is to pay for any excess materials?	Reference: Should excess materials be identified throughout the development, the remaining works will be re-assessed to determine if the level of further excavation works, or level of imported materials can be reduced accounting for the excess volumes encountered. Where it cannot be demonstrated that there is a specific requirement or need for these materials on site, excess materials will be taken to an appropriately licensed facility. Where materials are required to be disposed of this will either be at the cost of the developer or contracted to the ground works contractor as part of their appointment on site.
21c. What happens if the project programme slips in relation to excavated materials or materials under -going treatment?	Reference: The works are to be undertaken on a phased basis moving round the site, whilst the preferred option is to complete all earthworks of each phase prior to starting formal development works on site, there is typically limited scope in the programme to account for time delays. It is recommended that the earthworks are limited during wetter months to reduce softening of materials laid. There may be a requirement for stockpiling excavated materials in the interim prior to placement subject to plant and weather conditions.
21d. Other identified risk scenarios for the project (relating to excavated materials)?	Reference: None identified at this time.

The Tracking System

22a. For all sites please describe the tracking system to be employed to monitor materials movements.	- See example tracking forms in Appendix 3. - Material placement will be recorded on an annotated plan. - Visual inspection of materials upon excavation and placement (name of individual, date and time)
<i>Where contamination is suspected or known to be present, state the procedures put in place to:</i> 22b. Prevent contaminants not suitable for the treatment process being accepted	Contamination has been identified within the materials proposed for re-use. Movement of materials containing asbestos will be controlled under an asbestos management plan. In addition, a watching brief will be undertaken during excavation and placement of the material. Should any potentially mobile contamination (e.g. hydrocarbon impacted soils) be identified this will be separated for further assessment. This tracking process is required in order to ensure that the materials re-used do not result in additional post-development risks not already quantified with respect to controlled water, human health or the environment. Based on the development works proposed in line with the RMS and the proposed end use of the material, the risk to Human Health has been assessed and mitigated through the inclusion of a clean soil cover system in the deposition area.
<i>Where contamination is suspected or known to be present, state the procedures put in place to:</i> 22c. Prevent cross contamination of materials not in need of treatment, wastes awaiting treatment and treated materials	The previous site investigations have identified hotspots of Arsenic, Beryllium and Dibenzo(a,h)anthracene along with the presence of asbestos fibres and ACMs on site. No treatment of these materials is required as part of the works proposed. No specific treatment of materials is proposed, Made Ground and natural soils on site have been assessed via several phases of intrusive investigation works on the site and an Asbestos Management Plan has been developed for the site. Made Ground and natural materials will be stockpiled separately to prevent cross contamination, with polythene sheeting used to place Made Ground materials on top of to prevent contamination with the surface or soils beneath. Where stockpiling of materials for re-use is proposed for period greater than 1 year then the Environment Agency will be consulted to confirm the ongoing certainty of use of this material.

Where contamination is suspected or known to be present, state the procedures put in place to: 22d. Demonstrate that materials that do not require treatment and successfully treated materials reach their specific destination	Made Ground and natural materials will be stockpiled separately to prevent cross contamination, with polythene sheeting used to place Made Ground materials on top of to prevent contamination with the surface or soils beneath. Plans of where Made Ground materials can be reused (without treatment) will be present on site and the ground workers/ earthworks contractor will be aware and in charge of material movements. Treatment of material is not proposed on the site. Material movements on site will be tracked and recorded by the ground workers during the course of the works. Example tracking forms are presented in Appendix 3.
Where contamination is suspected or known to be present, state the procedures put in place to: 22e. Ensure that waste for off-site disposal or treatment is properly characterised and goes to the correct facility	Where materials are to be disposed of from site, they will be subject to WAC testing if not already classified as part of the original soil investigation undertaken and the appropriate duty of care undertaken. Records of materials disposed of from together with their description and end locations will be required as part of the works and kept in the site office and later Vistry Home Southern Offices.
23. Please attach a copy of the tracking forms / control sheets that are to be used to monitor materials movements. To include transfer of loads on site into stockpiles prior to treatment (if applicable), stockpiled after treatment (if applicable), stockpiled awaiting use (as appropriate) and final placement.	Document reference(s) - See example tracking forms in Appendix 3 - Material placement will be recorded on an annotated plan. - Visual inspection of materials upon excavation and placement (name of individual, date and time)
For Hub Sites within Cluster Projects & where materials need treatment before reuse 24. Please attach a copy of the Environmental Permit covering the treatment process.	Permit reference / EA letter reference: N/A – not a cluster site.

**Materials Management Plan**

Alternatively if the treatment is covered by a Mobile Plant Permit and associated Deployment Form, attach a copy of the EA agreement to the Deployment Form.	
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Records

25. Where, and in what form, are records to be kept? Note – records e.g. transfer notes, delivery tickets, Desk Top Study, Site Investigation, Risk Assessment(s), Verification Report(s) need to be kept for at least 2 years after the completion of the works and production of the Verification Report	1) Will be kept on site during the earthwork and development site works and then at Vistry offices. 2) The records will be kept for a minimum of two years in paper and electronic form.
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Verification Plan

26. Provide or explain the Verification Plan which sets out how you will record the placement of materials and prove that excavated materials have been reused in the correct location and in the correct quantities within the development works (see 3.4 of the DoW CoP).	Document Reference The Verification Report shall include the following minimum details: General - Appropriate site plans – including surveys and photos of placed materials - Experience and qualifications of the person preparing the report. - Description of the project. - Description of how the use of materials links with the objectives of re-use at the site. Site Specific - Reference to site investigation data. - Reference to site risk assessments. - Reference to the MMP and associated tracking systems, including alterations made and why. - Details of any amendments required to the MMP and why.
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	- Laboratory Analysis undertaken to demonstrate/verify suitability where required of the use as part of validation works (moisture content testing). - Post earthworks topographical survey. - Reference to any contingency arrangement (s) that had to be implemented. - Record of the quantity of materials used. - Copy of Declaration (s) by Qualified Person(s). <u>Development Dates:</u> Earliest material movement date is November 2020 Latest completion date is January 2022 Estimated Verification Report date – February 2022 Verification Report to be compiled with input from Groundwork Contractor, Vistry Homes and Geo-Environmental. Point of contact at this time for verification report is: Fiona Goode, Senior Consultant Engineer, Geo-Environmental Services Limited, Unit 7 Danworth Farm, Hurstpierpoint, West Sussex BN6 9GL. Tel: 01273 832972 Email: Fiona.goode@gesl.net
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