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Project Number NL12-870

KEY FINDINGS PHASE I ENVIRONMENTAL REVIEW, H.J.E. Wenckenbachweg 144-148, Amsterdam, the Netherlands



KEY FINDINGS H.J.E. WENCKENBACHWEG 144-148, AMSTERDAM, THE NETHERLANDS

 Project No.
 NL12-870

 Issue No.
 01

 Date
 10/07/2017

 Made by
 MS

 Checked by
 JH

 Approved by
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Checked/Approved by: MW

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Version Control Log

Revision	Date	Made by	Checked by	Approved by	Description
01	10/07/2017	MS	JH	MW	Draft to client

1. Add	dress and Site Details				
Address:	H.J. E. Wenckenbachweg 144-148, Amsterdam, the Netherlands (land registry: Municipality of Ouder-Amstel, section B, plots no. 4150).				
Coor- dinates:	X=123819; Y=483254 NAM (Nieuw Amersfoortse coordinaten)Surface Area:~ 5,475 m² of land 4,900 m² building footprints52°336'33" N; 4°929'71"E4,900 m² building footprints				
Site use:	An irregular shaped site is developed with an office complex with three building towers of pre-fabricated construction. One tower has eight storeys, one has six storeys and one has four storeys, a ground floor connects the three buildings to each other and a basement under the building has approximately 130 parking spaces. There is a small pond to the west of the buildings.				
Setting:	The site is located in the Amstel Business Park, which is located approximately 5 km southeast of Amsterdam city centre. The surrounding area is the business park which is occupied by office buildings (for example, Delta Lloyd, ABN-AMRO, Philips etc). The southern portion of the Amstel Business Park lies within the Municipality of Ouder-Amstel which is located south of Amsterdam city.				
Date:	The site was developed with an office complex in 2000 in a larger commercial area Amstel Business Park that has been used for industrial purposes since the 1920's.				

2. Review Purpose and Objectives

Ramboll Environ was commissioned by APF International on behalf of a confidential client ('the Client') to carry out a Phase I Environmental Review of H. J. E. Wenckebachweg 144-148, Amsterdam, the Netherlands (the "Site"). The review is required in connection with the Client's potential purchase of freehold interest in the property.

The objectives of the review were to assess the potential for soil or groundwater contamination, (both at and in the vicinity of the site) and the presence of potentially deleterious materials (asbestos, ozone depleting substances and polychlorinated biphenyls), and assess their significance in terms of risks to site occupants and potential liabilities to the site owner. As potentially the subject site would be redeveloped, Client has requested to highlight the constraints posed by soil and groundwater quality.

3. Assessment Basis

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\boxtimes	Site Inspection		Geological and Hydrogeological Review			
\boxtimes	Map/Aerial Photos History		VDR Review and Q&A session			
	Environmental Database Review (limited to on-line websites)		Review of Previous Reports			

4. Site Inspection

The following information was derived from a site inspection undertaken on 03 July, 2017 by Ms. M. van der Straaten of Ramboll Environ, accompanied by Mr. B. Dreves of Totalklima B.V., the company contracted for the maintenance of the installations at the property.

Site Layout and Activities

The leased area of the site covers 14,560 m². The building was constructed in 2000. The irregular shaped site is developed with an office complex with three building towers of pre-fabricated construction. One tower has eight storeys, one has six storeys and one has four storeys, a ground floor connects the three buildings to each other and a basement under the building has approximately 130 parking spaces. There is a small pond to the west of the buildings.

A site location map is provided in Figure 1. The subject building is currently vacant, apart from two tenants (reportedly start-up companies) that occupy a small portion of the ground floor rooms and

the storage rooms located in the basement parking. A site layout map of the buildings was not available. Whilst vacant, the subject building is guarded by the company *Vastgoedbeschermer*.

Surrounding Uses

The site is located in the Amstel Business Park, which is located approximately 5 km southeast of Amsterdam city centre. The northern portion of the Amstel Business Park is part of Amsterdam municipality, the southern portion is governed by the Municipality of Ouder-Amstel. The surrounding area is the business park which is occupied by office buildings (for example, Delta Lloyd, ABN-AMRO, Philips etc).

- North: H.J.E. Wenckenbachweg and beyond this lie office buildings of Verizon Business, the Dutch offices of one of the largest US telecommunication companies;
- East: a multi-tenant building housing several smaller enterprises such as Roeigoed;
- South: a landscaped area and adjacent a roundabout in the H.J.E. Wenckenbachweg;
- West: a small pond, beyond is the H.J.E. Wenckenbachweg with additional office buildings.

Based on the publically available website on protected areas in the Netherlands (www.synbiosys.alterra.nl/) the site is not located in or within a 3 km radius of a 'National Landscape', Natura 2000 or National Ecological Network area. Based on maps published online by the Province (http://maps.noord-holland.nl/), the site is not located in or within a 3 km radius of a groundwater protection area or (former) landfill.

Approximately 150m north of the site location is a so-called sensitive receptor. 'Inforza', an organization for long term intensive care in the fields of psychiatry and reclassification, operates one of their two facilities here. Approximately 260m to the northwest of the subject site, a former jail building has been redeveloped into an asylum centre.

Fuel and Chemical Storage

The buildings/towers are fitted with a centralised heating plant located at roofs level, which was reportedly installed during buildings construction thus estimated to be seventeen years old. No current above ground or underground storage tanks are known to be present. Therefore no contamination risk associated with the current office potential use of hazardous materials at the site has been identified.

Based on publicly available website of *Omgevingsdienst Noordzeekanaal*, no above ground or underground storage tanks are present at the site. Therefore no historic contamination risk associated with the office use of the site in relationship to potential bulk storage has been identified.

Water and Wastewater

It is assumed the subject site is connected to the municipal mains and the municipal sewerage network, however there is no further information available regarding water drainage and wastewater.

Waste Management

At the time of the site inspection, the premises were virtually vacant, no waste was observed. It is assumed the building is serviced by the municipal waste service and wastewater is assumed to be discharged via the municipal sewer system, however there is no further information available regarding waste management.

Air Emissions

Although a topic unrelated to potential real property liability, note was made of installed equipment that are potentially regulated for air emissions.

The site visit included three reports of the first inspection ('EBI or eerste bijzondere inspectie) of the central heating system installed in each building tower, dated August 22 and 23 respectively, 2016.

The highest building tower has five gas-fired heaters installed in cascade set-up. The middle tower has five gas-fired heaters in cascade set-up. The lowest tower has four gas-fired heaters in cascade set-up. Inspections were performed by certified contractor Totalklima BV and indicate the heaters and the boiler rooms are found to be in good working order and next inspection is due in August 2020.

Ramboll Environ's scope did not include environmental compliance assessment of off-gas emission the installed heating installations and/or of fuel supply pipelines. However we observe that there are environmental regulations that potentially pertain depending on the heating installation capacities.

Ozone Depleting Substances

Although a topic unrelated to potential real property liability, note was made of installed equipment that are potentially regulated for ozone depleting substance emission.

Based on the site visit, there are six small condensers on site which have R22 refrigerant, two units serving each tower. R22 is an ozone depleting substance. It is important to note that the manufacture and re-cycling of ozone depleting substances used in air conditioning and cooling equipment has been banned since 2015, under EU Regulation EC 2037/2000 and 1804/2003. The use of equipment with R22 coolant is currently not prohibited, however in the event of equipment breakdown it cannot be refilled and replacement would be required.

Asbestos Containing Materials (ACMs)

This building was constructed in 2000, which post-dates the ban on use of asbestos within new building materials. Whilst it is not unknown for ACM to be found in post-1993 buildings, it is very uncommon. In summary, the potential for a significant asbestos issue is considered low given the age of the building.

Polychlorinated Biphenyls (PCBs)

There was no information available regarding the potential presence of PCBs (e.g. PCB holding oil in transformers) on site. Given the age of the building, the presence of PCB holding oil in transformers is considered highly unlikely.

5. Historical Information

The Site

The site was developed for use as an office complex in 2000. According to the historic topographic maps of www.topotijdreis.nl the site was used for agricultural purposes till approximately the early 1970s when the larger area was developed into a commercial area. It was located south of and adjacent to the milk factory located south of the *Weespertrekvaart* currently named *Duivendrechtsekade*. Based on the historic maps, the subject plot seems to be vacant till the current building was constructed in 2000.

According to the map with historic information on fill layers published on the website https://www.amsterdam.nl/wonen-leefomgeving/bouwen-verbouwen/nota-

bodembeheer/bodemkaart-dempingen the subject site has had a fill layer applied between approximately 1945 and 1959. The website states that fill layers from 1945 onwards may have asbestos containing material incorporated.

The Surrounds

According to an exploratory soil investigation at the north portion 'kop' of the former *Weespertrekvaart* executed by Tauw, 31 July 2012 (ref. plannummer 579.40) the historic information about the area of the Amstel Business Park can be summarised as follows:

Based on research of historic topographic maps this report draws up a view of the historic land use of the larger area surrounding the former *Weespertrekvaart*. The historic topographic map of the polder *Watergraafsmeer* from 1719 (collection of the University of Amsterdam), shows a country

house with a docking port towards the *Weespertrekvaart* used to be located at the northern portion of the *Weespertrekvaart* (the current location would be roughly near H.J.E. Wenckenbachweg 13). On historic topographic maps from 1830 and 1874 these buildings are no longer present, nor is the associated docking port. On the historic topographic map of Amsterdam of 1900 several buildings are pictured. These concerns a wood trading company with an adjacent docking port and buildings of an asphalt factory. Reportedly, an old environmental permit from 1904 of the asphalt factory *'Vesuvius'* used to be located at Duivendrechtsekade 29-31, which was solely used for the production of roofing materials and roof tar. Later-on the activities reportedly also included the production of anhydrous coal tar. The coal tar was a rest product of the gas factories *'Zuidergasfabriek'* located west of the metro and train track corridor (offsite from subject site) and was stored in underground coal tar pits.

6. Environmental Database Information

There following information is available in the publicly available database of contaminated sites in the Netherlands, Bodemloket (www.bodemloket.nl):

• Exploratory soil investigation 'Milieurapportage betreffende bodemonderzoek te Amsterdam aan de Duivendrechtsekade (Kroonstate)', 1998, by IJsselmeerbeton Funderingstechnologie.

The findings of this exploratory soil investigation are further described in section 8 below. The bodemloket website lists the subject site as investigated and no further investigation necessary.

Publicly available data via the GIS-tool of the website of Omgevingsdienst Noordzeekanaal has been viewed by Ramboll Environ. The maps produced with this GIS tool are based on environmental database information (Nazca IT Solutions), the findings can be summarised as follows:

- No registered underground storage tanks (USTs) are located at project site;
- Two underground storage tanks (USTs) are located within the vicinity of the site, one at approximately 60m eastern project boundary (east of the site) and one at approximately 90m from the eastern project boundary (northeast of the site);
- One registered aboveground storage tanks (AST) is located approximately 100m distance to the site located at Duivendrechtsekade 55 (north of the site).

With respect to the adjacent plots to the north of the subject site as registered under the address *Duivendrechtsekade 53-61*, these are covered in numerous soil and groundwater investigations carried out between 1983 and 1997, including a soil remediation reports of 1997. Underground storage tanks are listed to have been present here. None of the listed reports were available for review. The Bodemloket website lists the area *Duivendrechtsekade* 53-61 as sufficiently remediated.

7. Regulatory Authority Information

The following environment-related document was reviewed by Ramboll Environ as part of this assessment:

• Zoning plan (*Bestemmingsplan*) for 'Duivendrecht', Municipality of Ouder-Amstel, August 28, 2013.

In the zoning plan the permitted land use is 'offices'. As the plot was formerly used by the educational organization Hogeschool van Amsterdam, initially under a temporary exception and later-on a permanent amendment for the land use for educational purposes 'ruimtelijke onderbouwing' was applied for and granted May 10, 2011. The zoning plan further states the maximum building height is 30m. Thirdly, within the area zoned for 'industry' it is not permitted to construct new residential housing or other noise sensitive functions, where the noise levels at the building facade of the noise sensitive buildings are not higher than the stated threshold for noise.

8. Environmental Setting

Geology/Hydrogeology

The site surface lies at approximately 0.8 m below NAP (*Normaal Amsterdams Peil*, Dutch altimetric level approximately equalling sea level). Based on the publically available *Dinoloket* website (a database with subsurface soil and groundwater data of the Netherlands) the local geology can be summarised as follows:

- From surface level to approximately 9.2 m bgl, there is an anthropogenic fill layer comprising sand, clay and potentially 'debris'. The fill material is underlain by sands of the Boxtel Formation to a depth of approximately 14.75 m below NAP. This is in turn underlain by clay deposits of the Eem Formation to a depth of approximately 19.75 m below NAP. These deposits together form the cover layer.
- The cover layer is underlain by approximately 25 metres of sands belonging to the Eem Formations. These deposits have a moderate to high transmissivity (10 <KD <1000 m²/day) and form an aquifer.
- The aquifer is underlain by approximately 15 metres of clay deposits belonging to the Drenthe Formation, which form an aquitard (i.e. a layer/zone that restricts the flow of groundwater from one aquifer to another).

Groundwater levels in Amsterdam are intensively monitored by *Waternet*, the regional water supply company (https://maps.waternet.nl/kaarten/peilbuizen.html). The freatic groundwater level at H.J.E. Wenckenbachweg 144, in front of the subject site, was last monitored on 9 February 2001 and was 2.14 m below NAP. The groundwater level is also mentioned for the fill layer, this was recorded as 0.4m bgl according to the *Waternet* website. Information about the flow direction of the shallow groundwater is not available in the information currently available for this review.

Hydrology

The nearest major surface water body is the former *Weespertrekvaart* currently named *Duivendrechtsekade*, located at a distance of approximately 260 m north of the site.

Nature Protection

Based on publically available information for protected areas in the Netherlands (www.synbiosys.alterra), the site is not located in or within a 3 km radius of a 'National Landscape', National park or Nature 2000 area.

Overall Assessment

Based on the geological sequence and the depth of the shallowest aquifer it is assessed that the site is situated in an environmental setting of low groundwater sensitivity. The potential for migration of surface contaminants into the first aquifer (19.75 m bgl) is limited by the presence of low permeability clay and peat sediments.

Radon

There have been no systematic measurements of radon concentrations in the Netherlands and data on radon concentrations are not publicly available. However given the nature of the geology at the site, it is concluded that radon concentrations are not an issue of concern in the vicinity of Amsterdam.

Radon measurements, prior to the development of buildings, are not required by Dutch regulations and therefore not carried out as standard.

Flooding

According to the website providing information on flood risk in the Netherlands (www.risicokaart.nl), the site is located in an area with a low ("kleine kans") risk of flooding (i.e. very unlikely to occur during a lifetime or 1 in 100 years equivalent). Most of the Netherlands falls into this category.

9. Soil and Groundwater Contamination

In the Netherlands, soil investigations are usually performed in several phases, starting with an exploratory or baseline investigation which is followed by a delineation investigation and risk assessment if severe or potentially severe contamination of soils and/or groundwater is identified.

During these phases of investigation, the analytical sampling results are compared with the following defined reference values, based on the Soil Protection Act:

• Background Value [Achtergrondwaarde (AW)] and Target Value

[Streefwaarde (S-)]: The Background and Target Value for soil and groundwater respectively identify values or concentrations for sustainable soil quality, i.e. as clean-up values target values represent the concentrations which must be reached to fully restore the functional uses for human –beings, animal or plant. In brief, the Background and Target Values are used to denote the multifunctional land use of a property.

- Intermediate Value [Tussenwaarde (T-)]: Represents impacts with potential risks to human health or the environment and suggests the need for further investigation. The mean value is the arithmetic mean between the Target and Intervention values, or half the Intervention Value, if no Target Value has been defined.
- Intervention Value [Interventiewaarde (I-)]: Indicates a level of severe contamination and is associated with a soil and/or groundwater impact that may pose significant risks to human health or the environment. The Intervention Value is used to express a level (concentration) at which the functional use of soil (or groundwater) is in threat of being or has been severely diminished. A competent authority may declare contamination severe at its discretion however guidance levels used in practice are as follows. If 25 m³ of unsaturated soil or 100 m³ of saturated media (e.g. groundwater) is found to be impacted with constituent concentrations higher than the applicable Intervention Value, this impact is said to be "severe".

Previous Investigations

In November 1998, IJsselmeerbeton Funderingstechnologie BV was commissioned to undertake a site investigation on the site prior to the offices development. The report was not available for review, however a summary of the results of the investigation was included in Ramboll Environ report, 14 September 2006 (ref. no. 64-C10500). The analytical results indicated that soil exhibited concentrations above the Dutch Target value for lead and mercury. Groundwater also exhibited concentrations above the Dutch Target value for heavy metals, aromatic hydrocarbons and tetrachloroethene. The Dutch intervention values were not exceeded. IJsselmeerbeton stated that the concentrations detected in soil and groundwater did not pose a hindrance to the development of the site. Therefore, no further investigation or remediation was deemed necessary prior to site development by IJsselmeerbeton.

On-Site Potential Sources of Contamination

See Section 6 above for lists of investigation reports that are listed on regulatory websites and within environmental databases.

Ramboll Environ also assessed the 'Soil Quality Map' (SQM) from the Municipality of Ouder-Amstel. Although the site has long been used for commercial/residential activities, the SQM formally indicates that the soil quality in the southern portion of the Amsterdam Business Park (therefore not only the site) meets the quality standards for industrial land use. The SQM and explanatory text includes a restriction with regard to the reuse and transport of shallow soil due to elevated levels of arsenic, cadmium, copper, mercury, lead, nickel, zinc and polycyclic aromatic hydrocarbons (PAH). This is a typical restriction for soil at sites with an industrial background however would need to be taken in to account in the event of any future planned redevelopment works.

Off-Site Potential Sources of Contamination

No potential off-site sources of contamination (surrounding land uses and historical ground condition) that could represent a risk to the site were identified in close proximity to the site (i.e. within 200 m). A number of bulk storage tanks and industrial land uses are listed in on-line databases for the site surroundings however based on the summary information that there is no required action, Ramboll Environ conclude low risk of a significant issue for the property. The elevated contaminant concentrations reported in soil in the wider area (Source: Publicly available data via the GIS-tool of the website of Omgevingsdienst Noordzeekanaal) are not considered to represent a potential liability risk to the site.

Summary

Based on a review of available documents including the Municipalities' Soil Quality Map, it is considered by Ramboll Environ that the potential for site wide contamination of soil and potentially

groundwater is high due to the presence of a 'fill' layer and based on the previous site survey confirming elevated values for lead and mercury in soil and elevated values for heavy metals, aromatic hydrocarbons and tetrachloroethene in groundwater. However, this can also be applied to a large part of the surrounding commercial area and generally does not restrict commercial land use provided exposure routes for human health or ecology have been mitigated. As such, no issue was identified with the continuation of the property's current land use as built. There were no incidents or issues identified for the property of severe contamination requiring immediate or urgent action.

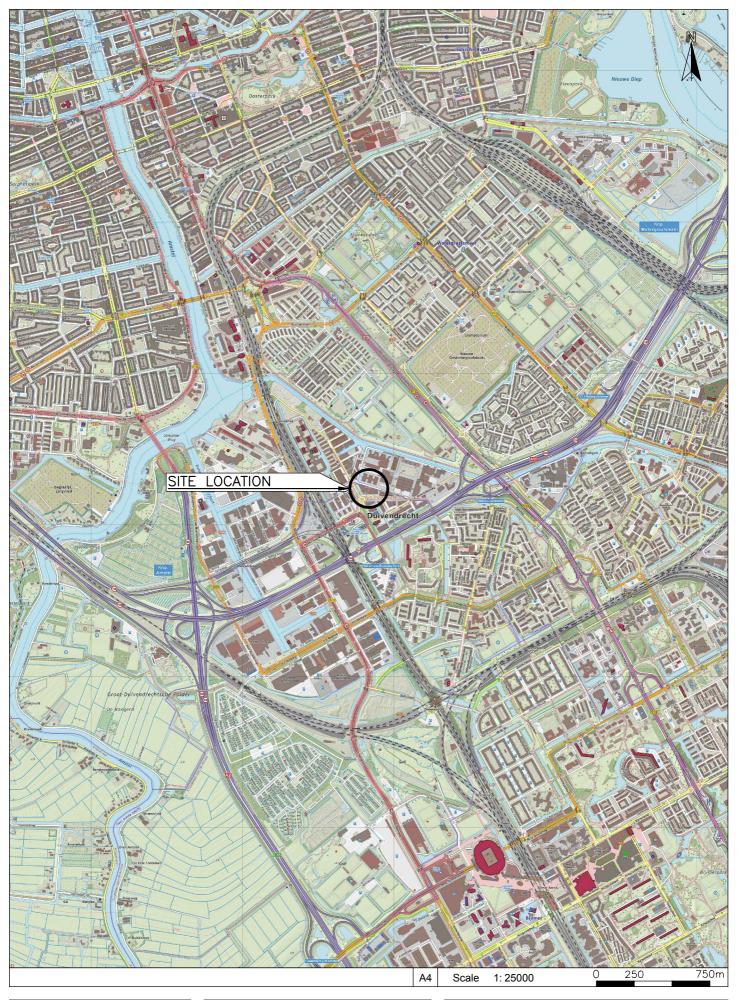
10. Assessment and Conclusions

- The cooling equipment at site contains R22 coolant (six items), the manufacture and re-cycling of ozone depleting substances used in air conditioning and cooling equipment has been banned since 2015, under EU Regulation EC 2037/2000 and 1804/2003. The use of equipment with R22 coolant is currently not prohibited, however in the event of equipment breakdown it cannot be refilled and replacement of the cooling equipment would be required thus requiring an investment.
- Given the age of the building, asbestos containing buildings materials are highly unlikely to be present.
- Given the age of the building, the presence of PCB holding oil in transformers is considered highly unlikely.
- Based on the historic maps, the subject site has had a fill layer applied between 1945 and 1959. Fill layers applied from 1945 onwards may have asbestos containing materials incorporated, in addition to other materials requiring specific handling requirements in the event of digging and excavation works. Additional requirements can potentially trigger the need for additional expenditure in the event the fill layer is disturbed.
- Publicly available data via the GIS-tool of the website of Omgevingsdienst Noordzeekanaal showed no registered underground storage tanks (USTs) are listed for the subject site, two USTs are located within 100m radius from the site. An aboveground storage tanks (AST) is located approximately 100m distance to the site located at *Duivendrechtsekade* 55 (north of the site).
- In November1998, IIsselmeerbeton Funderingstechnologie by was commissioned to undertake a soil and groundwater quality investigation on the site. The report was not available for review, however a summary of the results of the investigation was included in Ramboll Environ report, 14 September 2006 (ref. no. 64-C10500). The analytical results indicated that soil exhibited concentrations above the Dutch Target value for lead and mercury. Groundwater also exhibited concentrations above the Dutch Target value for heavy metals, aromatic hydrocarbons and tetrachloroethene. The Dutch intervention values were not exceeded and no further investigation or remediation was necessary prior to site development.
- Based on the review of publicly available documents, it is apparent that a 'fill' layer has been applied to the site in the past and based on the Municipalities' Soil Quality Map (SQM), concentrations of copper, lead, zinc and polycyclic aromatic hydrocarbons (PAHs) are commonly elevated in soil in the area. Based on the findings of this review, Ramboll Environ concludes the potential for significant contamination of soil (and possibly shallow groundwater), resulting from past activities (i.e. application of the fill layer), is high. However, this can also be applied to a large part of the surrounding commercial area and generally does not restrict commercial land use provided exposure routes for human health or ecology have been mitigated. As such, no issue was identified with the continuation of the property's current land use as built. There were no incidents or issues identified for the property of severe contamination requiring immediate or urgent action.

The conclusions presented in this report represent Ramboll Environ's best professional judgment based upon the information available and conditions existing as of the date of this report. In performing its assignment, Ramboll Environ must rely upon publicly available information, information provided by the Client and information provided by third parties. Accordingly, the conclusions in this report are valid only to the extent that the information provided to Ramboll Environ was accurate and complete. This review is not intended as legal advice, nor is it an exhaustive review of site conditions or facility compliance. Ramboll Environ makes no representations or warranties, expressed or implied, about the conditions of the site.

Ramboll Environ's scope of work for this assignment did not include collecting samples of any environmental media. As such, this review cannot rule out the existence of latent conditions including contamination not identified and defined by the data and information available for Ramboll Environ's review; however, this report is intended, consistent with normal standards of practice and care, to assist the Client in identifying the risks of such latent conditions. H.J.E. Wenckenbachweg 144-148, Amsterdam, the Netherlands KEY FINDINGS

APPENDIX 1 FIGURES

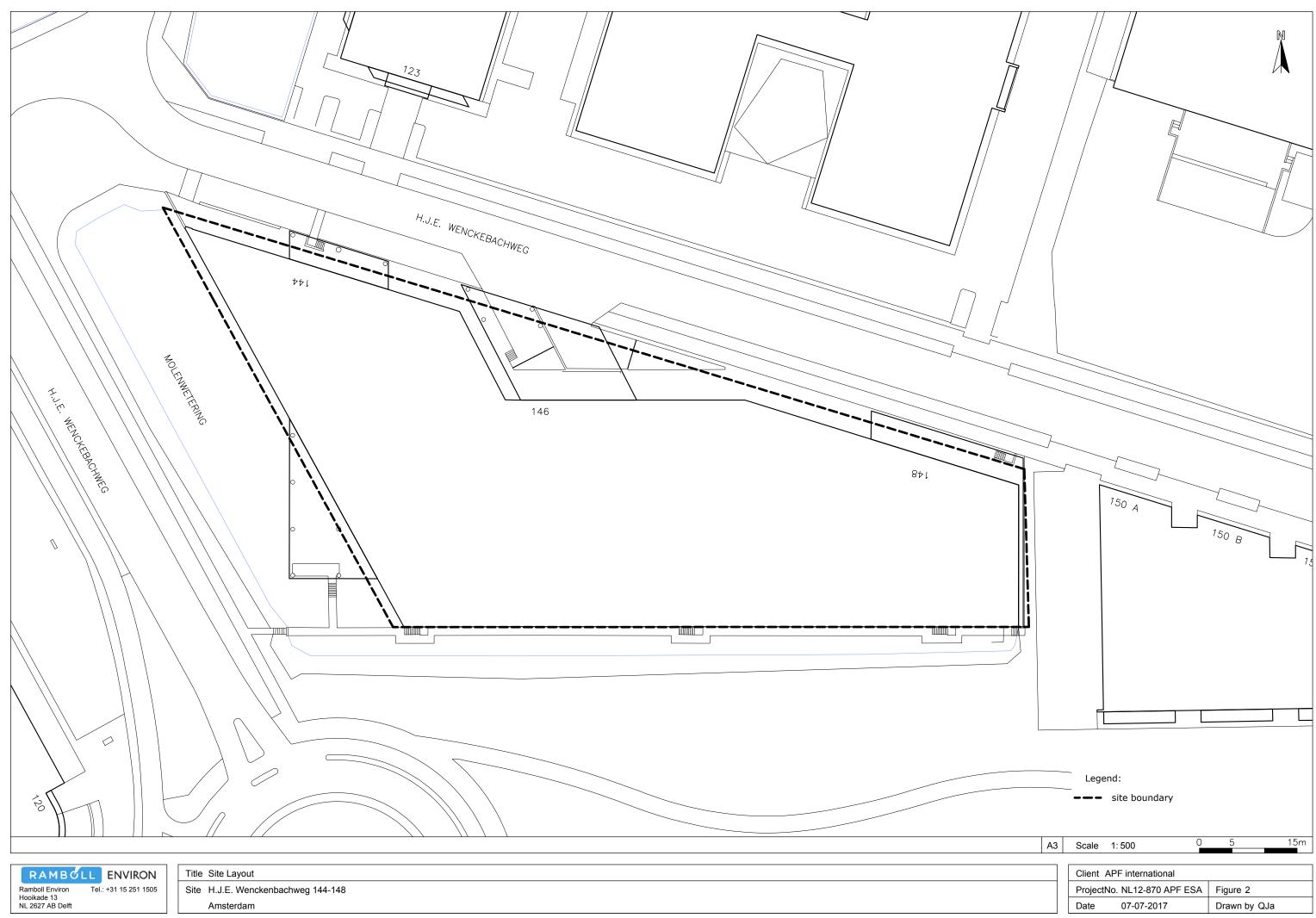


RAMBOLL ENVIRON Ramboll Environ Hooikade 13 NL 2627 AB Defft
 Title
 Site Location

 Site
 H.J.E. Wenckenbachweg 144-148

 Amsterdam

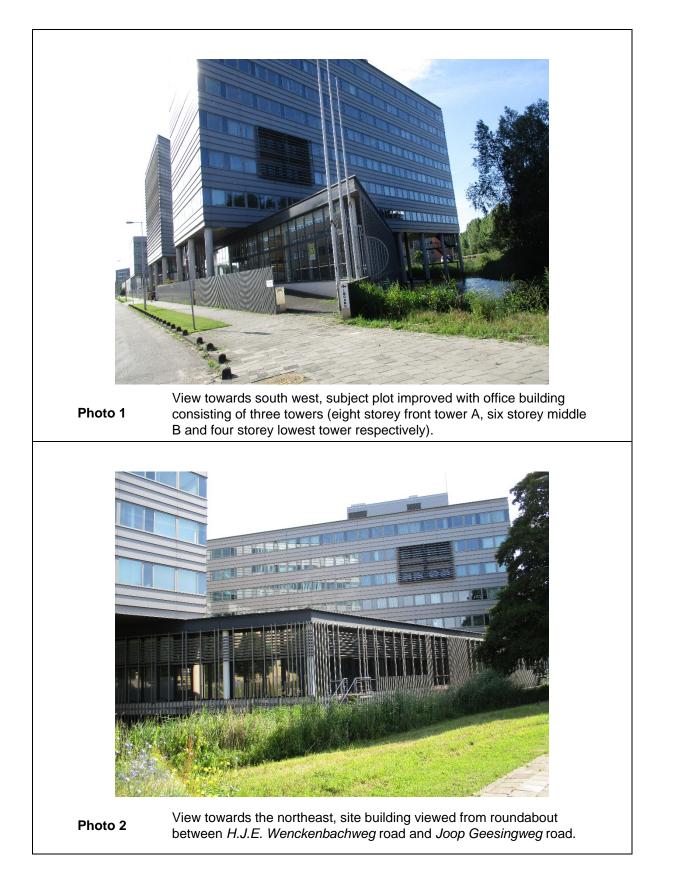
Client APF international					
ProjectNo	. NL12-870 APF ESA	Figure 1			
Date	07-07-2017	Drawn by QJa			



RAMBOLL	ENVIRON	Title Site Layout
Ramboll Environ Tel.: +31 15 251 1505 Hooikade 13	l.: +31 15 251 1505	Site H.J.E. Wenckenbachweg 144-148
NL 2627 AB Delft		Amsterdam

H.J.E. Wenckenbachweg 144-148, Amsterdam, the Netherlands KEY FINDINGS

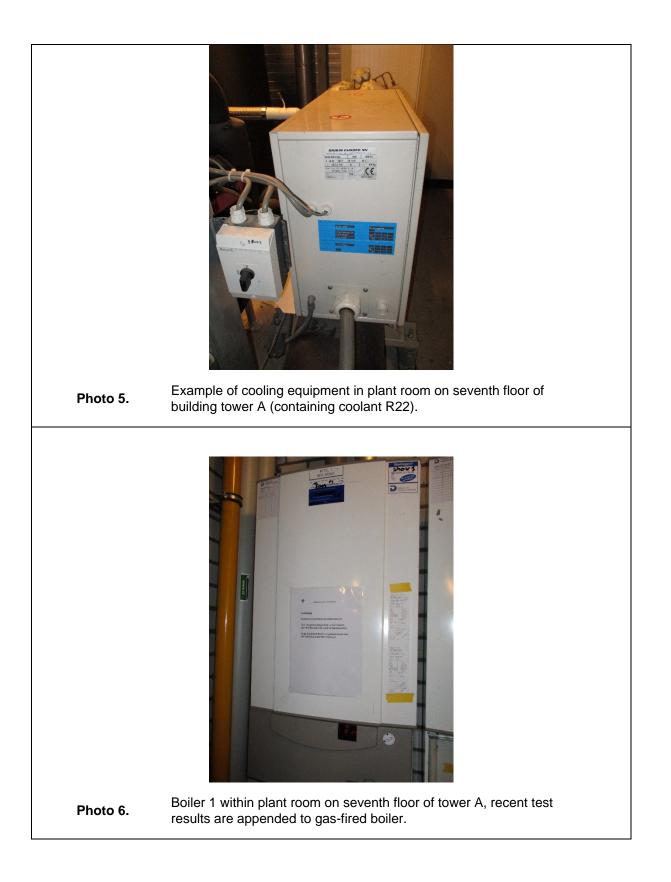
APPENDIX 2 SITE PHOTOGRAPHS



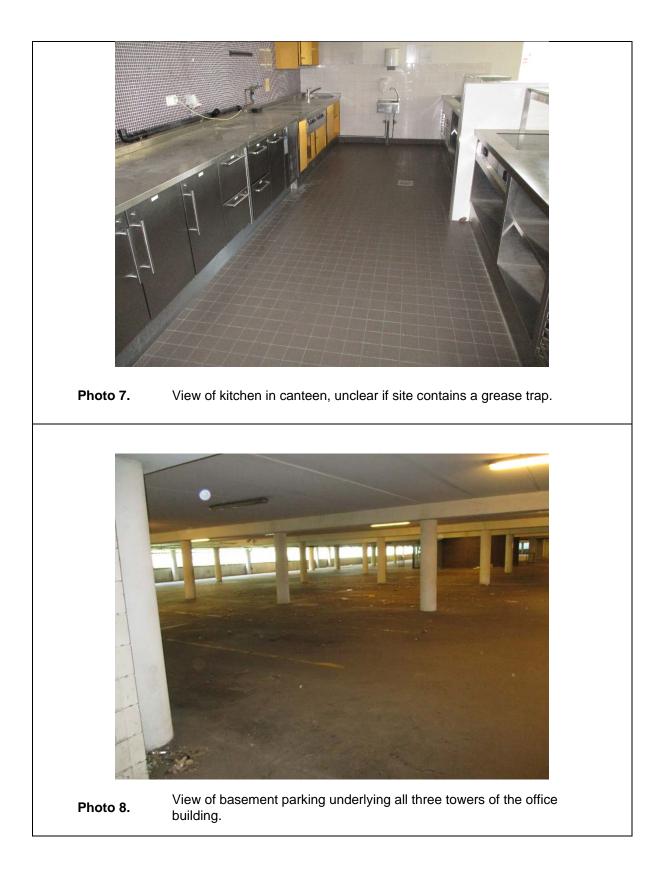
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