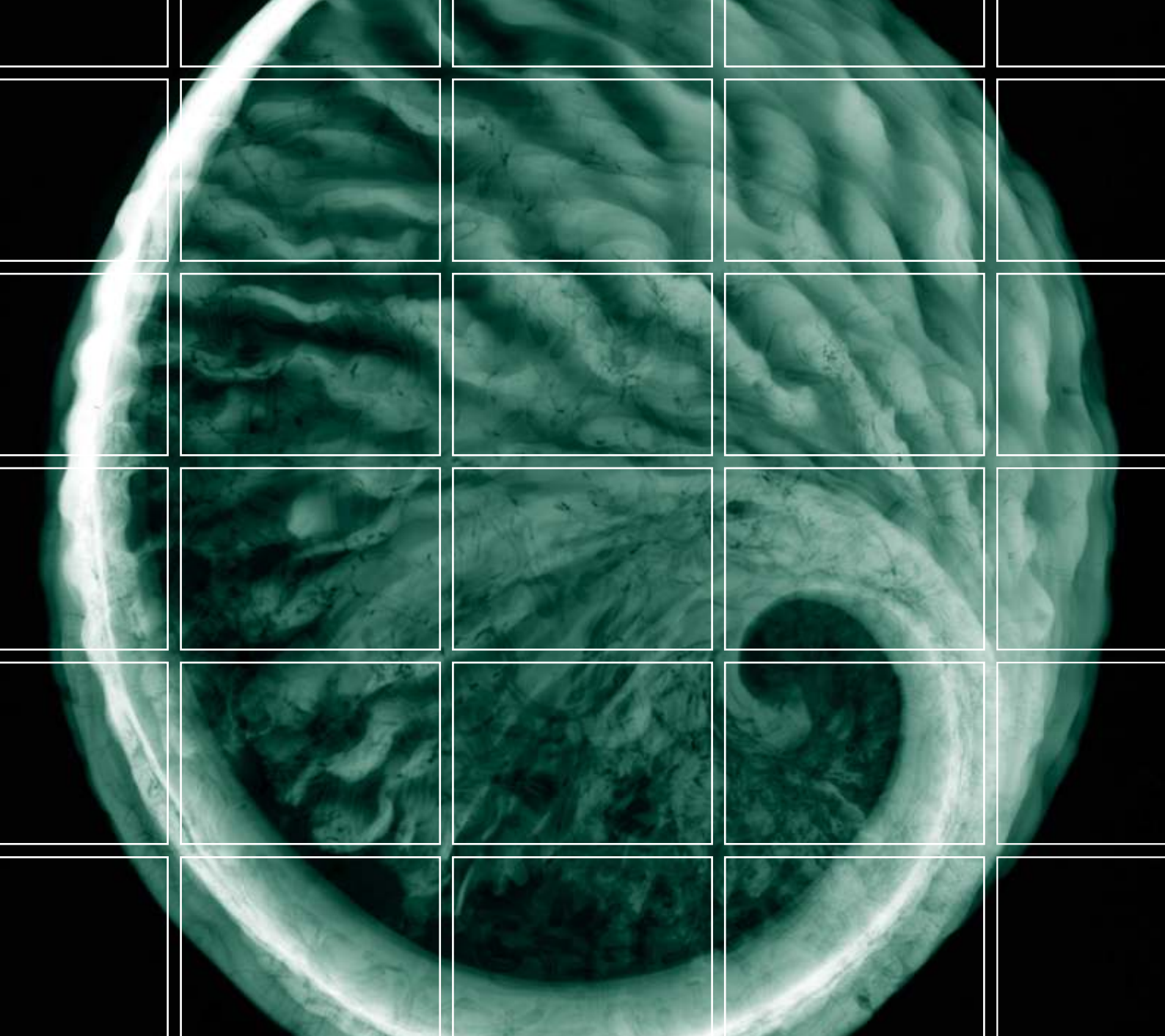




Warrick Farm Printing Project Environmental Planning and Assessment - Soil

Independent Print Media Group

August 2008

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Environmental Resources Management Australia Pty Ltd Quality System

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Warwick Farm Printing
Project
*Environmental Planning and
Assessment – Soil*

August 2008

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EXECUTIVE SUMMARY

Environmental Resources Management Pty Ltd (ERM) was commissioned by Independent Print Media Group (IPMG) to undertake an assessment of the potential salinity, contamination and acid sulphate soil impacts of their proposed redevelopment at 23 Scrivener Street, Warwick Farm, NSW

The specific aspects of the redevelopment that could potentially impact on soil are the following intrusive works:

- the excavation of a drainage basin to approximately 1.7m below current ground level and new stormwater pipe to a maximum of 3.2m bgl adjacent to the Scrivener Street entrance in the east of the site;*
- the excavation of bored piers to approximately 2m below current ground level to provide foundations for the proposed new 4000m² warehouse; and*
- the excavation of bored piers to approximately 3m below current ground level (bgl) to provide foundations for the area where the roof will be raised to between 12 and 14 metres.*

Fieldwork

An intrusive investigation was used to assess both salinity and acid sulphate soils issues at the site. A total of 12 boreholes were advanced to a maximum target depth of 5m bgl. The lithology encountered could be described as follows:

- silty and sandy clays to a depths of between 1.6m and 4m bgl underlain by sand to a maximum depth of 5m bgl in the southwest of the site (BH9-12);*
- interbedded Sands, clays and silty clays to a maximum depth of 5m bgl adjacent to the scrivener street entrance in southeast of the site (BH5-BH8);*
- interbedded silty clays, clayey Silts and Sands to a maximum depth of 3m bgl in the northeast of the site (BH1-4);*
- borehole BH5 was terminated at 0.5m bgl due to refusal on a subsurface obstruction no samples were collected from this borehole;*
- no hard pans or significant plant root system were noted in any of the boreholes; and*
- no consistent groundwater body was encountered in any of the boreholes advanced across the site. A water strike was noted at 2.3m bgl in BH10 though water was not observed to be resting in the borehole. The water strike in BH10 is likely to be associated with perched water in the relatively permeable sand layer from 1.6m to 2.4m bgl.*

Salinity

Calculated E_{Ce} values provide an indication of the ability of saline soils to inhibit plant growth. In general E_{Ce} values in the top 0.5m of the soil profile were found to be either “non-saline” or “slightly saline” (Richards, 1954) which would only affect the growth of very sensitive plant species. One sample collected from BH11 at 0.3m bgl was found to be “moderately saline” which would be considered to affect the growth of many plant species. However, the material collected from BH11 at 0.3m was considered to be fill material and consequently may be anomalous with the shallow soil conditions across the remainder of the site.

Sulphate results were compared with the “Exposure classification for concrete piles” in Australian Standard 2159: Piling – Design and Installation (AS 2159). All results were found to be below the threshold concentration of 0.2% expressed as SO₃. Therefore, from the preliminary assessment, the soil conditions beneath the site are considered to be non-aggressive to concrete piles.

Chloride and pH results were compared with the “Exposure classification for steel piles” in Australian Standard 2159: Piling – Design and Installation (AS 2159). All results were found to be above the minimum pH threshold of 4 and below the threshold of 0.5% for Chloride. Therefore, from the preliminary assessment, the soil conditions beneath the site are considered to be non-aggressive to steel piles. It should be noted that although chloride levels are below the AS 2159 threshold it is expected that it will pose some corrosive risk to unprotected steel structures.

Contamination

A summary of the previous investigations conducted on the site found that:

All soil samples analysed for metals were below the National Environment Protection Measure (NEPM) Health Investigation Level (HIL) “F” assessment criteria for commercial and industrial sites. All soil total TPH concentrations were below the NSW EPA (1994) sensitive land-use assessment criteria.

Groundwater samples were assessed against the ANZECC 95% Freshwater Trigger Values for metals. The 95% Trigger Value is a conservative measure used for the protection of sensitive aquatic environments; however in the absence of more appropriate criteria for industrial facilities in non-sensitive areas this criteria is applied. Three of the groundwater samples from MW01, MW02 and MW04 exceeded the ANZECC 95% Trigger Value of 0.0014µg/L for copper. Groundwater samples from all four monitoring wells (MW01-MW04) exceeded the ANZECC 95% Trigger Values of 0.011µg/L for Nickel and 0.008µg/L for Zinc.

As the exceedances of the assessment criteria are generally consistent across the site these concentrations are considered to be representative of background concentrations rather than the result of contamination from site activities.

In conclusion there is not considered to be any significant soil or groundwater impact resulting from Kimberly Clark site activities that would impact on the use of the site as a commercial/industrial facility.

A follow up of the previous investigations conducted for the current site owners IPMG in January 2008 concluded that:

“no evidence of new staining or potential contamination sources was observed during the site walkover, which are considered likely to alter the overall findings of ERM Report 59739L01. “

Acid Sulphate Soils

In summary:

- *groundwater will not be affected by the redevelopment;*
- *field testing indicated that actual acid sulphate soils may be present, and that there was limited possibility that PASS is present;*
- *there was limited anecdotal evidence of red to brown iron mottling in the borehole logs;*
- *the net percentage of oxidisable sulphur (s-Net Acidity) exceeded the action criteria of in four out of the six samples analysed;*
- *the net acidity of the “acid trail” (a-Net Acidity) exceeded the action criteria in four out of the six samples analysed;*
- *the acidity present in the soil appears to be in relation to actual rather than potential acid sulphate soils. This indicates that this material has been oxidised at some time in the past; and*
- *while the soil profiles analysed are above the groundwater table, flooding of the site in the past may have contributed to the oxidation of this material.*
- *the action criteria for both the “sulphur trail” and “acid trail” were exceeded and results indicate that Actual Acid Sulphate Soils are present at the site, therefore an Acid Sulphate Soil Management Plan must be developed to manage the potential harm to the environment as outlined in the Acid Sulphate Soil Manual.*

An assessment of the aggressivity of subsurface conditions (including pH) was conducted previously in Section 2. The soils that were tested beneath the site were below the “non-aggressive” threshold values for concrete and steel piles outlined in AS2159.

INTRODUCTION

Environmental Resources Management Pty Ltd (ERM) was commissioned by Independent Print Media Group (IPMG) to undertake an assessment of the potential salinity, contamination and acid sulphate soil impacts of their proposed redevelopment at 23 Scrivener Street, Warwick Farm, NSW (the Site). The site location is presented in *Figure 1* in *Annex A*.

1.1

OBJECTIVES

The proposed development is a Major Project to which Part 3A of the *Environmental Planning and Assessment Act 1979* (the Act) applies. The Department of Planning as the consent authority has outlined the Director General's Requirements (DGRs) for Environmental Assessment. Among the key issues to be addressed in the DGRs is:

"consideration of the potential salinity, contamination and acid sulphate soil impacts of the project".

The objective of this report is to assess the potential salinity, contamination and acid sulphate soil impacts of the proposed redevelopment.

1.2

BACKGROUND

The site is currently occupied by Kimberly Clark and is operated as a paper product manufacturing facility. IPMG proposes to modify, refurbish and extend the current manufacturing plant and roadway so that the site may be operated as a rotogravure printing plant.

The conceptual design for the site involves:

- refurbishing and fitting out the existing 35,230m² building to incorporate a press room and bindery;
- raising part of the existing roof from 8 to between 12 and 14 metres;
- constructing an extension of 4000m² in total for a future warehouse;
- installing a vapour recovery and ink supply system;
- constructing a 630m² waste paper collection area;
- the installation of five rainwater tanks and relocating fire service tanks and pumps;
- extending the internal road system to create a circular truck access route;

- installing three rotary printing presses; and
- excavation of a drainage basin and new stormwater infrastructure;

The specific aspects of the redevelopment that could potentially impact on soil are the following intrusive works:

- the excavation of a drainage basin to approximately 1.7m below current ground level and new stormwater pipe to a maximum of 3.2m bgl adjacent to the Scrivener Street entrance in the east of the site;
- the excavation of bored piers to approximately 2m below current ground level to provide foundations for the proposed new 4000m² warehouse; and
- the excavation of bored piers to approximately 3m below current ground level (bgl) to provide foundations for the area where the roof will be raised to between 12 and 14 metres.

1.3 SCOPE OF WORKS

As outlined in ERM proposal P14496 (May, 2008) the scope of the project was developed to assess the potential issues relating to salinity, contamination and the potential for presence of acid sulphate soil beneath the site.

It was considered necessary to conduct an intrusive investigation to collect soil samples using a drill rig. The sampling concentrated on the three areas where excavations for foundations and drainage works may potentially impact on soil.

The results of the salinity, contamination and acid sulphate soils investigations are combined as a consolidated “soil” report.

1.3.1 Salinity

The site is mapped as having moderate salinity potential. A salinity investigation is required by Liverpool City Council if excavation works to a depth of greater than 500mm are proposed. It has been confirmed that excavation works below 500mm will be required, therefore the salinity investigation will be undertaken in accordance with *Western Salinity Code of Practice* (2003).

The scope of works includes:

- investigate a maximum of twelve locations across the site through the advancement of push tube boreholes;
- to collect samples from each soil horizon to a maximum depth of three metres below ground level (bgl) or refusal;

- collect one sample from each soil horizon to be submitted for analysis of soil pH and electrical conductivity (EC). If the results of these tests indicate that there is potential salinity schedule for chloride and sulphate analysis;
- prepare a brief description of the investigation, interpretation and presentation of results and recommendations for suitable management options to deal with any issues identified.

1.3.2 *Contamination*

The scope of works included:

- summarising the previous works conducted on the site for IPMG; and
- prepare a brief description of the interpretation and presentation of results and recommendations for suitable management options to deal with any issues identified.

1.3.3 *Acid Sulphate Soils*

Excavations to a maximum depth of 3.2m bgl will be required to install the stormwater pipe beneath the drainage basin. Therefore the acid sulphate investigation is required to extend to at least 4.2m bgl in this area and to 1m below the deepest excavation in all other areas.

The scope of works included:

- investigating a minimum of ten soil sampling sites across the site by advancing push tube boreholes;
- collect samples every 0.5m throughout the soil profile to be tested for pH_{FOX} and peroxide field tests;
- where screening indicates potential for acid sulphate soils to be present it is recommended to undertake Suspension Peroxide Oxidation Combined Acidity and Sulphate (SPOCAS) on a select number of samples; and
- prepare a brief description of the investigation, interpretation and presentation of results and recommendations for suitable management options to deal with any issues identified.

2.1 IMPACT

The site is mapped as having moderate salinity potential on the *DIPNR Salinity Risk Map 2003*. As a result a salinity investigation is required where excavation works to a depth of greater than 500mm are proposed.

As outlined in Section 1 excavation works will be conducted to a maximum of 3.2m bgl and therefore a salinity investigation is required. The locations of boreholes as part of the salinity investigation are presented in *Figure 2* in *Annex A*.

2.1.1 Salinity Investigation Methodology

The salinity investigation was undertaken in accordance with the *Western Sydney Salinity Code of Practice 2003* and the *DIPNR Site Investigations for Urban Salinity* booklet.

Phase 1: Initial Site Investigation;

Prior to conducting an intrusive investigation an assessment of the following broad scale resources was undertaken:

- climate data (rainfall and evaporation);
- landuse and vegetation history;
- geological maps;
- soil landscape maps; and
- groundwater databases.

Phase 2: Detailed Site Investigation

As part of the detailed site investigation a total of 12 boreholes were advanced to a maximum depth of 5m bgl. The borehole locations are presented in *Figure 2* in *Annex A*. From the site works a detailed landscape description was prepared incorporating;

- topography;
- lithology from boreholes;
- site condition; and
- hydrology.

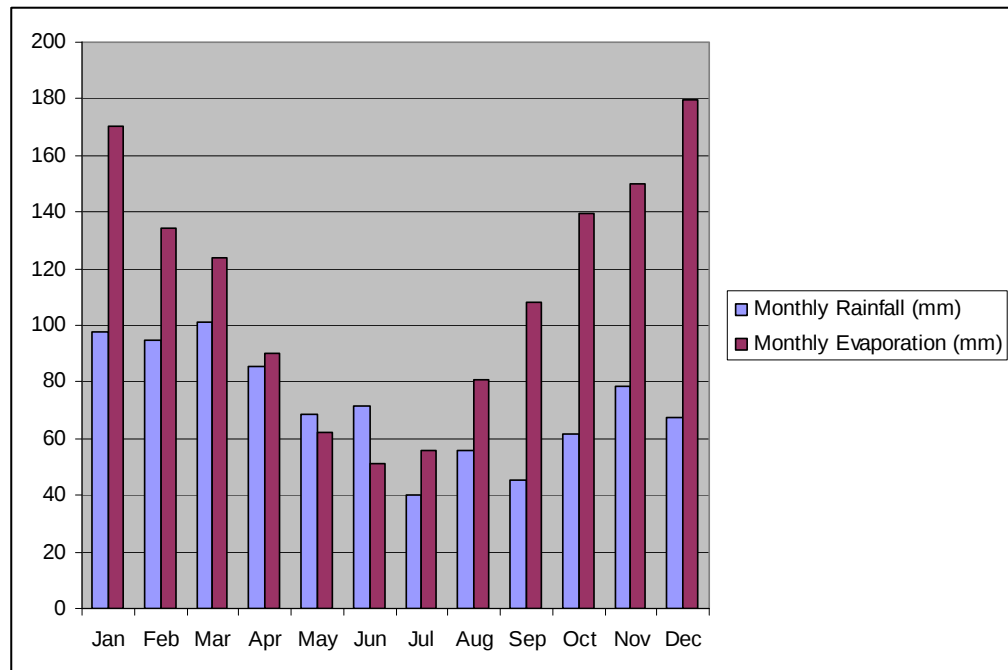
Samples collected throughout the soil profile were initially submitted for laboratory analysis of pH and electrical conductivity (EC). Those that were indicative of potentially saline conditions ($EC > 0.25 \text{ ds/cm}$) were subsequently scheduled for analysis of chloride (Cl^-) and sulphate (SO_4^{2-}) to determine their corrosive potential. Cl^- and SO_4^{2-} results were compared to exposure classifications for steel and concrete piles in *Australian Standard 2159: Piling - Design and Installation*.

2.1.2 Phase 1- Initial Site Investigation

Broadscale Resources

An assessment of the rainfall and evaporation data from the Prospect Reservoir (67019) Bureau of Meteorology Stations presented in *Figure 3* below revealed that site experiences a water deficit in most months with the exception of May and June.

Figure 2.1 *Monthly Rainfall and Evaporation Data, Prospect Reservoir (67019)*



An assessment of historical aerial photographs indicates that the site was unoccupied and covered in vegetation up until 1970 when the original Warwick Farm Mill was built. This premises was expanded over the past 38 years and was completed in its current configuration in 2005 (ERM, 2006).

According to the *1: 250 000 Geological Survey of NSW (Penrith) Sheet 9030 (Ed 1) 1991* the site is underlain by Quaternary Alluvium comprising gravel, sand, silt and clay. The alluvial deposits are in turn underlain by the Triassic Bringelly Shale comprising shale with some sandstone beds. According to the *1:100 000 Penrith Soil Landscape Series Sheet 9030 (Ed 1) 1989* the soils underlying the site generally consist of Blacktown soils of the Residual Soil Landscape grouping. Blacktown soils are characterised by shallow to moderately deep hardsetting mottled texture contrast soils, red and brown podzolic soils on crests grading to yellow podzolic soils on lower slopes and in drainage lines. Limitations of Blacktown soils include moderately reactive highly plastic subsoil, low soil fertility and poor soil drainage.

Information obtained from the Department of Natural Resources (DNR) in indicated that there were 36 registered groundwater bores situated within a 3.0km radius of the site. Review of the bore logs indicated that these bores were used for the following purposes: waste disposal (3), testing (1), groundwater exploration (1), recreation (groundwater) (6), monitoring (24) and industrial (1). No registered groundwater bores were identified on site.

The two closest registered groundwater bores were found to be located approximately 300m south of the site. Bore GW058698 is identified as being used for the purpose of groundwater exploration and bore GW058697 is identified as being used for the purpose of testing. These bores are both located on the opposite side of the Georges River to the site.

According to the drillers log the profile of bore GW058698 generally consisted of:

- 0.00-11.50 m below ground level (bgl): clay black grey;
- 11.50-12.00 m bgl: clay coarse sandy gravel;
- 12.00-19.00 m bgl: clay grey sandy; and
- 19.00-19.50 m bgl: shale.

Standing water levels and water bearing zone details were not listed for this bore.

According to the drillers log the profile of bore GW058697 generally consisted of:

- 0.00-5.00 m bgl: clay stiff;
- 5.00-6.00 m bgl: sand soft silty;

- 6.00-8.00 m bgl: sandy coarse silty and wood charcoal;
- 8.00-14.00 m bgl: sand, grey silty coarse water supply;
- 14.00-16.00 m bgl: clay grey silty and some coarse sand;
- 16.00-18.30 m bgl: clay grey silty; and
- 18.30-19.20 m bgl: slate clayey.

Standing water levels were recorded at 8.50 m bgl and water bearing zones between 8.50 and 14.00 m bgl.

Information obtained from a geotechnical investigation conducted on site in 2000 on behalf of Kimberly-Clark indicated that the soil profile underlying the site is as follows:

- Filling- generally stiff clay to between 0.2m and 1.8m.
- Clay- stiff to very stiff clay approximately 0.75 m thick.
- Sand- medium dense or dense sand or sandy silt approximately 0.75m thick.
- Silty Clay- very stiff to hard silty clay at approximately 1.4m to 4m depth.

The geotechnical investigation was confined to a 40m x 25m area to the south of the warehouse. It was reported that groundwater was not encountered at any of the test locations, and penetration was terminated at a depth of 5.0m. However a hole collapse at one test location at a depth of 1.4m indicated that there may have been perched water present.

Defining Landforms

The site is located on the Georges River Floodplain and is relatively flat with a general fall from the west to east. Parts of the site would be inundated by a 1:100 year flood. However, the floor levels of the warehouses have generally been raised 0.4m above the 1:100 year flood levels.

Site Walkover

A site walkover was conducted to investigate if any indicators of salinity outbreaks were apparent. The following observations were made:

- no bare soil patches devoid of grass cover were observed;
- no salt crystals were observed at the soil surface;
- no black staining was noted on any soils across the site;
- there were no salt tolerant vegetation species noted to be growing on the site;

- there was no die back of trees noted to be occurring at the site; and
- none of the building foundations were observed to be stained, marked or exhibited signs of rising damp.

Hydrology

As mentioned previously the fall of the site is to the east towards Scrivener Street. As a result floodwaters from the Georges River will enter the site from the east. There is limited run on to the site in the west from the railway line.

A previous Phase II investigation on the site encountered groundwater at depths of between 5m and 7.6m bgl, with a flow direction to the south/southeast.

2.1.3 Phase 2- Detailed Site Investigation

A total of 12 boreholes were advanced to a maximum target depth of 5m bgl. Figure 2 in Annex A presents the locations of boreholes across the site. Detailed borehole logs are included in Annex B The lithology encountered is summarised below:

- silty and sandy clays to a depths of between 1.6m and 4m bgl underlain by sand to a maximum depth of 5m bgl in the southwest of the site (BH9-12);
- interbedded sands, clays and silty clays to a maximum depth of 5m bgl adjacent to the scrivener street entrance in southeast of the site (BH5-BH8);
- interbedded silty clays, clayey silts and sands to a maximum depth of 3m bgl in the northeast of the site (BH1-4);
- borehole BH5 was terminated at 0.5m bgl due to refusal on a subsurface obstruction no samples were collected from this borehole;
- no hard pans or significant plant root system were noted in any of the boreholes; and
- no consistent groundwater body was encountered in any of the boreholes advanced across the site. A water strike was noted at 2.3m bgl in BH10 though water was not observed to be resting in the borehole. The water strike in BH10 is likely to be associated with perched water in the relatively permeable sand layer from 1.6m to 2.4m bgl.

Laboratory Analysis

Samples were collected from each soil horizon for preliminary testing of soil pH and electrical conductivity (EC). Soil pH and EC results are presented in *Table 1* in *Annex C*. All samples where the EC values were elevated above 0.25ds/cm were subsequently scheduled for analysis of chloride (Cl⁻) and sulphate (SO₄²⁻). Chloride and sulphate results are presented in *Table 2* in *Annex C*.

The laboratory results can be summarised as follows:

- pH ranged from 4.17 in BH04 at 2.75m bgl to 6.99 in BH06 at 0.5m bgl;
- EC ranged from 0.03ds/cm in BH03 at 0.3m bgl to 1.15ds/cm in BH12 at 1.2m bgl;
- the E_{Ce} calculated by applying a multiplication factor based on the texture of the soil ranged from 0.45ds/cm in BH03 at 0.3m bgl to 17.25ds/cm in BH12 at 1.2m bgl;
- the chloride content of the 1:5 soil/water extract analysed ranged from 250mgCl/kg in BH04 at 0.75m bgl to 1790 mgCl/kg in BH12 at 1.2m bgl; and
- the sulphate content of the 1:5 soil/water extract analysed ranged from 40mg SO₄/kg in BH12 at 4.7m bgl to 320mg SO₄/kg in BH04 at 1.5m bgl.

2.2

DISCUSSION

The interbedded clays, silts and sands beneath the site did not exhibit obvious signs of saline conditions such as subsurface hard pans or the presence of salt crystals in the soil profile. No groundwater was encountered during the investigation but was previously found at depths of between 5m and 7.6m bgl, with a flow direction to the south/southeast.

Laboratory results indicated that 17 of the 54 samples exhibited elevated levels of soil electrical conductivity. The samples that exhibited elevated salinity were generally at depths greater than 0.5m bgl which indicates that salts are not accumulating at the surface across the site.

Calculated E_{Ce} values provide an indication of the ability of saline soils to inhibit plant growth. In general E_{Ce} values in the top 0.5m of the soil profile were found to be either “non-saline” or “slightly saline” (Richards, 1954) which would only affect the growth of very sensitive plant species. One sample collected from BH11 at 0.3m bgl was found to be “moderately saline” which would be considered to affect the growth of many plant species. However, the material collected from BH11 at 0.3m was considered to be fill material and consequently may be anomalous with the shallow soil conditions across the remainder of the site.

Sulphate results were compared with the “Exposure classification for concrete piles” in *Australian Standard 2159: Piling – Design and Installation (AS 2159)*. All results were found to be below the threshold concentration of 0.2% expressed as SO₃ for “non-aggressive” conditions in relation to concrete piles.

Chloride and pH results were compared with the “Exposure classification for steel piles” in *Australian Standard 2159: Piling – Design and Installation (AS 2159)*. All results were found to be above the minimum pH threshold of 4 and below the threshold of 0.5% for Chloride to be considered “non-aggressive” under AS 2159. It should be noted that although chloride levels are below the AS 2159 threshold the measured levels of chloride may pose some corrosive risk to unprotected steel structures.

While exposure classifications can be used as a guide it should also be noted that a “low” salinity can relate to a resistivity that can provide a corrosive environment to unprotected material.

2.3 **MANAGEMENT**

Due to the nature of the redevelopment it was considered most appropriate to address the “Level Two Salinity Management Response Checklist” from the *Western Sydney Salinity Code of Practice*.

Hazard Areas

No salinity hazard areas were identified on the site. The site currently has good drainage which is expected to be improved by the redevelopment. The increased capture of rainwater as part of the redevelopment will reduce infiltration of surface water through the soil profile.

Water Inputs

Due to the rainwater recovery system to be installed as part of the redevelopment stormwater infiltration will be eliminated during rainfall events up to the stormwater design 1:100 ARI storm.

Where it is practicable to do so all new stormwater pipes should be installed to minimise leaks and where possible the existing system should be inspected for leaks.

There are no permanent water bodies or water features on the site. A drainage basin will be constructed, however, this will be connected to a stormwater pipe and will not store any water up to the design 1:100 ARI rainfall event.

Drainage

Disturbance of the natural drainage patterns on the site will be limited to the construction of the drainage basin, filling beneath the new warehouse and the increase in impervious area that the footprint of the new warehouse will create. It is considered that the combination of these activities will have a beneficial impact on potential salinity by reducing the area for infiltration of surface water by approximately 4000m².

There are no existing areas of waterlogging apparent on the site, however all slabs and foundations as part of the redevelopment should be designed for good drainage and to avoid waterlogging.

All guttering and downpipes will be connected to a series of rainwater tanks as part of the redevelopment. These should be maintained regularly to ensure the ongoing function of the rainwater capture system.

Vegetation

Where possible all areas of established vegetation will be maintained. Any new landscaped areas should be designed so that they are not immediately adjacent to buildings which may create a pathway for rising damp. Where possible it is suggested to establish local, native species in open areas.

Any irrigation systems installed should be designed to prevent leakage and to apply "waterwise" gardening principles. This essentially involves planting native species without excessive watering requirements, reducing lawn areas on site and irrigating only when necessary based on soil moisture requirements. It may be possible to install a "smart" irrigation system that delivers water to landscaped areas based on plant needs identified by in-situ soil moisture probes installed in gardens.

Building/Engineering

The following general principles should be employed during the design and construction phases of the project:

- damp proof courses should be properly installed and maintained throughout construction, landscaping and finishing;
- install a damp proof membrane beneath any new slabs;
- minimise the amount of soil disturbance;
- consider the use of corrosive resistant and non-porous materials; and
- address the potential for saline soils in erosion and sediment control requirements.

In correspondence from Liverpool City Council to the Department of Planning on 2nd May 2008 it was stated that:

"There is no known contamination of the site on Council records, however any application over the allotment should identify previous land uses and if required submit a preliminary contamination assessment."

A Phase I Environmental Site Assessment (ESA) was conducted on behalf of the previous site owners by ERM in 2006. Subsequently, a Phase II ESA was conducted on behalf of the previous site owners by ERM in 2007. In January 2008 ERM undertook a review of the previous works on behalf of IPMG to document any changes undertaken on the site, which may have the potential to influence or change the overall findings of the Phase II ESA report. The review report 0078101 *Warwick Farm-Update Jan 08* undertaken for IPMG is included in Annex D.

3.1 IMPACT

Phase I and Phase II Update, 2008

The findings of the update were:

" The facility is now no longer operational for manufacturing but is used for warehousing only. Third party contractors are used for goods transportation. No vehicle fuelling, maintenance or washdown takes place on the site other than minor forklift maintenance which is undertaken in the designated forklift workshop as previous.

Overall environmental management of the site appears to be proactive, and KCA continue to manage and operate the site as previous. Spill kits are provided across the site and no incidents or spills have occurred in recent years. All production chemicals have been removed from the site and the hazardous/dangerous goods store was noted to be cleared and disused. No evidence of widespread staining was noted during the site walkover.

No new potential contamination sources or impact was observed during the site walkover. It appears that KCA have progressively eliminated or reduced the previously identified potential contamination sources. No new significant potential contamination sources were identified on neighbouring properties however it should be noted that observations were based on fenceline observations only. No major construction works were reported by site management to have occurred in the immediate vicinity of the site in the past 18 months, other than replacement of the grey water main across the northern section of the site by Sydney Water (as detailed in previous reports)."

And reached the following conclusion;

"In conclusion, no evidence of new staining or potential contamination sources was observed during the site walkover, which are considered likely to alter the overall findings of ERM Report 59739L01. "

The Phase II ESA Report 59739L01 previously concluded that concentrations of potential contaminants of concern in soil and groundwater were not considered to affect the suitability of the site for ongoing industrial use.

3.2 MANAGEMENT

Based on previous investigations significant soil or groundwater contamination has not been identified at the site. However, the redevelopment should be managed in a way so that future contamination is prevented and or mitigated. In general all chemical handling and storage should be in line with the following legislation:

- Australian Standard AS 1940B1993: *The Storage and Handling of Flammable and Combustible Liquids*;
- Australian Standard AS 4452B1997: *The Storage and Handling of Toxic Substances*;
- NSW EPA Bunding and Spill Management Guidelines; and
- the *Dangerous Goods Act 1975*.

The storage and processing of the following dangerous goods are potential contaminant sources:

- Toluene 3PGII;
- Chromic acid- 8PGII or 8PGIII;
- Sulphuric acid (98%)-8/6.1PGI;
- Sulphuric acid (2%)- 8PGII;
- Spent acid- 8PGII; and
- Chromic acid-5.1/8PGII.

An assessment of the proposed dangerous goods storage against SEPP 33-*Hazardous and Offensive Development* by Stephenson Environmental Management concluded that:

- All acids, both solid and solution, do not trigger SEPP 33 Screening Threshold Quantities.

- Toluene storage (186m³/month) will not trigger SEPP 33 Screening Thresholds provided the minimum buffer distance to the boundary exceeds 22 metres. The current design is 31.6 metres to the nearest boundary.
- The number of trips and quantities of Dangerous Goods classified chemicals per trip will not trigger SEPP 33 Transportation Screening Thresholds.

All chemical storage will be above ground and therefore should meet the following requirements:

- stored in covered areas surrounded by an impermeable bund;
- the capacity of the bund should be equal to 110% of the total volume of all vessels contained within the bund;
- the bund should be designed to meet *NSW EPA Bunding and Spill Management Guidelines* so that any spills can be easily recovered and disposed appropriately;
- bunds should be checked for spills regularly and maintained to preserve their capacity and integrity;
- as an additional precaution chemical storage areas should be equipped with basic spill kits to contain and manage small spills; and
- it is important that all staff are trained in appropriate chemical storage handling techniques so that contaminant streams are treated appropriately and accidental releases of chemicals to soil or stormwater are prevented.

The site is mapped as having low probability of Acid Sulphate Soils in National Acid Sulphate Soils (NatASS) layer from the Australian Soil Resource Information System (ASRIS), however due to the proximity to areas of the Georges River flood plain and Horseshoe Pond which are mapped as having high probability it was considered prudent to undertake limited soil field testing and SPOCAS analysis to determine whether an Acid Sulphate Soil Management Plan is required.

All works were conducted in accordance with the *Acid Sulphate Soil Manual* (1998).

4.1 IMPACT

Preliminary Assessment

The proposed earthworks as part of the redevelopment are described below:

- the excavation of a drainage basin to approximately 1.7m below current ground level and new stormwater pipe to a maximum of 3.2m bgl adjacent to the Scrivener Street entrance in the east of the site;
- the excavation of bored piers to approximately 2m below current ground level to provide foundations for the proposed new 4000m² warehouse; and
- the excavation of bored piers to approximately 3m below current ground level (bgl) to provide foundations for the area where the roof will be raised to between 12 and 14 metres.

Drawings 07200 – SK03-A and 07200-SK07-A included in Annex E produced by *Davis, Naismith and McGovern* show the number of footings to be constructed in each area of the site. From this information the following estimated volumes of soil to be disturbed in each area were calculated:

- In the new warehouse a total of 70, 1200mm diameter piers will be bored to a depth of 2m bgl. This is estimated to disturb a total volume of 496.92m³ of soil.
- Where the roof is going to be raised in the press room area a total of 35, 1200mm diameter piers will be bored to a depth of 3m bgl. This is estimated to disturb a total volume of 372.75m³ of soil.
- The drainage basin will excavate an estimated total of 2000m³.

The total volume of soil to be disturbed is approximately 2842.67m³. Assuming a conservative density of 1.8 tonne per m³ a total of 5116.81 tonnes of soil will be disturbed.

All soil disturbances will be permanent. If issues are identified there is likely to be sufficient area on the site to undertake mitigation treatment.

All excavation works will be above the water table, therefore leachate will not be generated. All works as part of the redevelopment are not anticipated to lower groundwater levels.

The geomorphic criteria used to determine if acid sulphate soils are likely to be present which may be present at the site are:

- sediments of recent geological age (Holocene); and
- soil horizons less than 5m AHD.

Field Soil Characteristics

As previously stated in Section 2 a total of 12 boreholes were advanced to maximum depth of 5m bgl. A borehole location plan is presented in *Figure 2* in *Annex A*. Detailed borehole logs are presented in *Annex B*. A photographic log is included in *Annex F*.

None of the soil or landscape characteristics considered to be indicative of Acid Sulphate Soils (ASS) were identified on the site.

Testing of the soil profile for field pH and pH_{fox} (field peroxide test) was undertaken every 0.5m with the exception of BH05 which refused at shallow depth. Field pH and pH_{fox} are presented in *Table 3* in *Annex C*. The results are summarised below:

- field pH results ranged from 4.1 to 6.9, the lower end of this range (<pH4.5) indicates potential for “actual” acid sulphate soils;
- 48 of the 88 samples tested for pH_{fox} experienced a drop in pH of at least one unit, the limited drop in pH may be due to sulphidic material already being oxidised ;
- eight of the 88 samples tested for pH_{fox} had a final pH below 3.5; and
- three of the 88 samples tested for pH_{fox} had a “High” reaction rate with 30% peroxide solution, again the predominance of slight and moderate reactions may be due to sulphidic material already being oxidised;

From these results there is the possibility that Actual Acid Sulphate Soils (ASS) and Potential Acid Sulphate Soils (PASS) are present in soils at the site.

Chemical Analysis

Due to the possibility that both Actual and Potential Acid Sulphate Soils (ASS and PASS) may be present, chemical analysis was undertaken on a total of six samples from two profiles considered to be representative of the “worst case” on the site. Results of Suspension Peroxide Oxidation Combined Acidity and Sulphate (SPOCAS) analysis are presented in *Table 4 in Annex C*. As previously mentioned it is estimated that approximately 5116.81 tonnes of soil will be disturbed as part of the redevelopment. Therefore SPOCAS results were compared with the *Action Criteria if more than 1000 tonnes disturbed* in *Table 4.4 in the Acid Sulphate Soil Manual*. The results are summarised as follows:

- analysis of the “sulphur trail” indicated that the net percentage of oxidisable sulphur (s-Net Acidity) was above the criterion of 0.03% in BH08 at 1.0m bgl (0.12%), BH08 at 2.05m bgl (0.087%) , BH08 at 4.5m bgl (0.045%) and BH11 at 1.0m bgl (0.118%);
- the “acid trail” indicated by the net mol H⁺/tonne (a-Net Acidity) exceeded the criteria of 18 mol H⁺/tonne in BH08 at 1.0m bgl (78 mol H⁺/tonne), BH08 at 2.05m bgl (54 mol H⁺/tonne) , BH08 at 4.5m bgl (25 mol H⁺/tonne) and BH11 at 1.0m bgl (6 mol H⁺/tonne);
- calculated liming rates ranged from 0.8 kg CaCO₃/tonne in BH11 at 4.0m bgl to 5.8 kg CaCO₃/tonne in BH08 at 1.0m bgl.

4.2

CONCLUSIONS

In summary:

- groundwater will not be affected by the redevelopment;
- field testing indicated that actual acid sulphate soils may be present, and that there was limited possibility that PASS is present;
- there was limited anecdotal evidence of red to brown iron mottling in the borehole logs;
- the net percentage of oxidisable sulphur (s-Net Acidity) exceeded the action criteria of in four out of the six samples analysed;
- the net acidity of the “acid trail’ (a-Net Acidity) exceeded the action criteria in four out of the six samples analysed;
- the acidity present in the soil appears to be in relation to actual rather than potential acid sulphate soils. This indicates that this material has been oxidised at some time in the past; and

- while the soil profiles analysed are above the groundwater table, flooding of the site in the past may have contributed to the oxidisation of this material.
- the action criteria for both the “sulphur trail” and “acid trail” were exceeded and results indicate that Actual Acid Sulphate Soils are present at the site, therefore an Acid Sulphate Soil Management Plan must be developed to manage the potential harm to the environment as outlined in the *Acid Sulphate Soil Manual*.

An assessment of the aggressivity of subsurface conditions (including pH) was conducted previously in Section 2. The soils that were tested beneath the site were below the “non-aggressive” threshold values for concrete and steel piles outlined in AS2159.

4.3 MANAGEMENT

The Acid Sulphate Soil Management Plan will outline measures to protect soils, surface and groundwater, ecology and the community. Some of the components of the management plan such as the site environmental attributes and the proposed works have been completed. The effects on groundwater are considered to be negligible therefore mitigation strategies will concentrate on soil impacts. In addition to the information that has already been prepared the following should also be included in the ASS Management Plan:

- *A description of mitigation strategies:* this is likely to be confined to soil and include the application of lime to disturbed soils.
- *A monitoring program:* outlining what parameters will be monitored, the number of locations, monitoring frequency, analyses to be conducted.
- *Contingency procedures:* in the case of unexpected events or the failure of management procedures a plan for remedial action and restoration action should be in place.
- If new mitigation strategies are used or the determining authority declares that it is necessary a pilot trial of the proposed mitigation strategy may be necessary.

REFERENCES

Nicolson, R (2003) *Western Sydney Salinity Code of Practice*, Western Sydney regional Organisation of Councils, Blacktown, NSW, Australia.

Standards Australia Limited (1995) *Australian Standard 2159: Piling – Design and Installation (AS2159)*. Standards Australia Limited, Australia.

Stone, Y, Ahern, CR, and Blunden, B (1998) *Acid Sulfate Soils Manual*, Acid Sulfate Soils Management Advisory Committee, Wollongbar, NSW, Australia.

Annex A

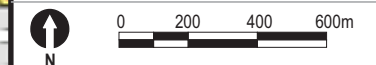
Figures



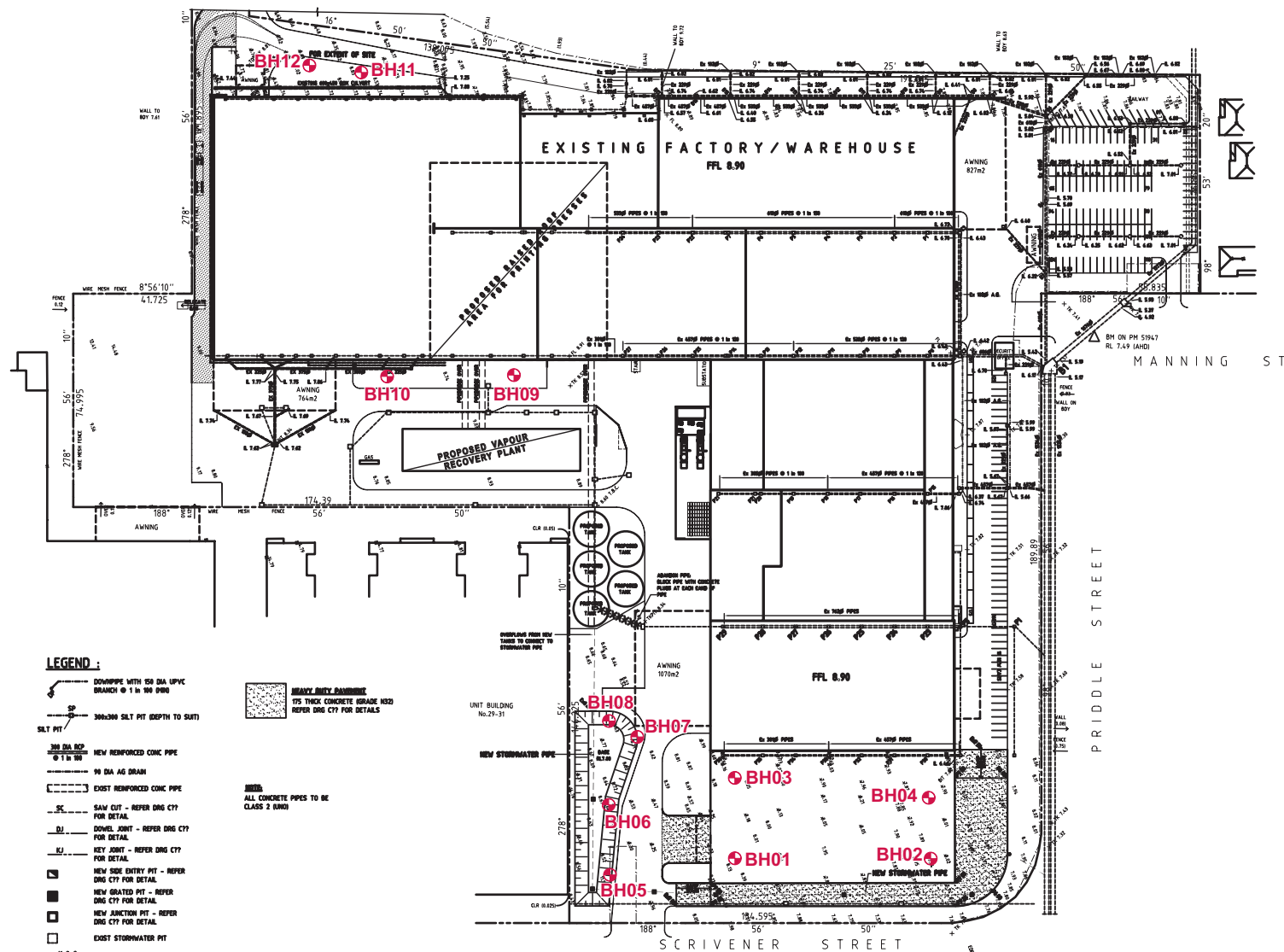
Figure 1
Site Location

Client: IPMG
Project: IPMG Warwick Farm - Soil Investigation

Drawing No: 0086333s_S_01
Date: 09/07/2008 Drawing size: A4
Drawn by: ML Reviewed by: -
Source: UBD
Scale: Refer to Scale Bar



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Building C, 33 Saunders St, Pyrmont, NSW 2009
Telephone +61 2 8584 8888



LEGEND :

- DOWNPIPE WITH 150 DIA UPVC BRANCHY @ 1 IN 100 DRAIN
- 300x300 SILT PIT (DEPTH TO SUIT)
- 300 DIA UPVC @ 1 IN 100
- 90 DIA AG DRAIN
- EXIST REINFORCED CONC PIPE
- SAW CUT - REFER DRG C77 FOR DETAIL
- DOWNS JOINT - REFER DRG C77 FOR DETAIL
- KEY JOINT - REFER DRG C77 FOR DETAIL
- NEW SIDE ENTRY PIT - REFER DRG C77 FOR DETAIL
- NEW GRAVED PIT - REFER DRG C77 FOR DETAIL
- NEW JUNCTION PIT - REFER DRG C77 FOR DETAIL
- EXIST STORMWATER PIT
- NEW CONCRETE KENS & CHANNEL - REFER DRG C77 FOR DETAIL
- NEW CONCRETE KENS - REFER DRG C77 FOR DETAIL
- NEW FINISHED PAVEMENT LEVELS
- HEAVY DUTY DRAINAGE 175 THICK CONCRETE GRADE 1000 REFER DRG C77 FOR DETAILS
- JUNK ALL CONCRETE PIPES TO BE CLASS 2 (UND)

Legend

- Borehole Locations

Figure 2
Borehole Location Plan

Client: IPMG
Project: IPMG Warwick Farm - Soil Investigation

Drawing No: 0086333s_S_02
Date: 09/07/2008 Drawing size: A4
Drawn by: ML Reviewed by: -
Source: -
Scale: Refer to Scale Bar



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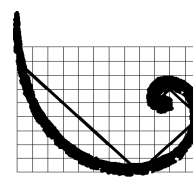


Annex B

Borehole Logs

Client: **Independent Print Media Group**
 Project No.: **0086333**
 Project Name: **Warwick Farm Printing Project**
 Site Name: **Kimberley Clark Mill**
 Site Address: **23 Scrivener St, Warwick Farm, NSW**

ID: BH01



ERM

ERM Australia Pty Ltd

Drill Start Date: 23/06/08	Total Depth (m): 3.0	Final Water Level (m bgl): -
Drill Finish Date: 23/06/08	Hole Diam. / Width (mm): 80	Elevation (Ground): 0
Drill Co: DAGS	Casing Type:	Elevation (Case): 0
Driller: Antony Critcher	Casing Diam. (mm):	Easting (MGA): 0
Drill Method: Hand Auger/Push Tube	Surface Completion: Backfill	Northing (MGA): 0
Hole Type: Borehole	Water Strike (m bgl): -	

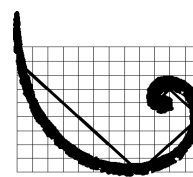
Lithology	Symbol	Well	Depth (m)	Recovery	Sample Type	Analysed	PPT (kPa)	PID (ppm)	Sample Details	Remarks
Ground Surface			0							
Silty Clay Dark brown, dry, poorly sorted, stiff, low to no plasticity, little organic matter (roots and rootlets), no odour, no visual impact, decrease in clay content with depth.					DS	Y				Hand Auger 0-1.2m bgl
					DS	Y				
Clayey Silt Dark brown, dry, very loose, poorly sorted, trace organic matter, grain size increasing with depth to fine sand.					DS	Y				
Clayey Sandy Silt Dark yellowish brown, dry to moist, very loose, well sorted, grain size increasing with depth, fine to medium sand content increasing with depth, trace organic matter, trace ironstone at 0.8m, no odour, no visual impact.			1		DS	Y				
Silty Clay Dark yellowish brown with light grey and reddish brown mottling, dry, stiff, low to no plasticity, no odour, no visual impact.					DS	Y				Push tube 1.2 -3.0m
					DS	Y				
Silty Clay mottled grey, dark yellowish brown and reddish brown, dry, very stiff to hard, poorly sorted, low to no plasticity.			2		DS	Y				
					DS	Y				
Clayey Silt Mottled grey, reddish brown and dark yellowish brown, dry, very dense, no plasticity, no odour, no visual impact. Reddish brown mottling decreasing 2.4 to 2.75m bgs.					DS	Y				
					DS	Y				
Silty Clay Grey with some dark yellowish brown and reddish brown mottling, dry, very stiff, low to no plasticity, no odour, no visual impact, reddish brown mottling increasing between 2.9 to 3.0m depth, silt content increasing to clayey silt 2.9 to 3.0m bgl.			3							
End of Log			4							
			5							

NOTE: This bore log is for environmental purposes only and is not intended to provide geotechnical information.

Log By: **EW**
 Checked By: **CA**
 Page **1 of 1**

Client: **Independent Print Media Group**
 Project No.: **0086333**
 Project Name: **Warwick Farm Printing Project**
 Site Name: **Kimberly Clark Warwick Farm Mill**
 Site Address: **23 Scrivener St, Warwick Farm, NSW**

ID: BH02



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Drill Start Date: 23/06/08	Total Depth (m): 3.0	Final Water Level (m bgl): -
Drill Finish Date: 23/06/08	Hole Diam. / Width (mm): 80	Elevation (Ground): 0
Drill Co: DAGS	Casing Type: -	Elevation (Case): 0
Driller: Antony Critcher	Casing Diam. (mm): -	Easting (MGA): 0
Drill Method: Hand Auger/Push Tube	Surface Completion: Backfill	Northing (MGA): 0
Hole Type: Borehole	Water Strike (m bgl): -	

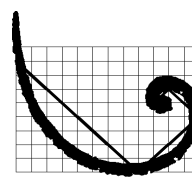
Lithology	Symbol	Well	Depth (m)	Recovery	Sample Type	Analysed	PPT (kPa)	PID (ppm)	Sample Details	Remarks
Ground Surface			0							
Clayey Silt Reworked, greyish brown, dry, loose, poorly sorted, little organic matter with trace gravel (50mm diameter), no odour, no visual impact.					DS	Y				
Clay Clay with trace silt and fine sand, dark yellowish brown, hard, dry, low plasticity, trace organic matter (rootlets), no odour, no visual impact.					DS	Y				
			1							Hand augur 0 - 1.2m bgs.
Sand Sand with trace clay, yellowish brown and grey, moist, medium grained sand, loose to medium dense, no odour, no visual impact.					DS	Y				
Sand dark yellowish brown and reddish brown, moist, medium grained sand, loose to medium dense, no odour, no visual impact.					DS	Y				
			2							Push tube 1.2 - 3.0m bgs.
Sand grey with little yellowish brown and reddish brown mottling, moist, medium grained sand, loose to medium dense, no odour, no visual impact, trace organic matter (wood) at 2.5 to 2.7m bgs.										
Clayey Sand grey with little yellowish brown and reddish brown mottling, moist, medium grained sand, loose to medium dense, no odour, no visual impact, pocketed clay at 2.7 and 2.85m bgs, stiff, high plasticity, grey.					DS	Y				
			3		DS	Y				
End of Log										
			4							
			5							

NOTE: This bore log is for environmental purposes only and is not intended to provide geotechnical information.

Log By: **EW**
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Client: **Independent Print Media Group**
 Project No.: **0086333**
 Project Name: **Warwick Farm Printing Project**
 Site Name: **Kimberley Clark Warwick Farm Mill**
 Site Address: **23 Scrivener St, Warwick Farm, NSW**

ID: BH03



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Drill Start Date: 23/06/08	Total Depth (m): 3.0	Final Water Level (m bgl):
Drill Finish Date: 23/06/08	Hole Diam. / Width (mm): 80	Elevation (Ground): 0
Drill Co: DAGS	Casing Type: -	Elevation (Case): 0
Driller: Antony Critcher	Casing Diam. (mm): -	Easting (MGA): 0
Drill Method: Hand Auger/Push Tube	Surface Completion:	Northing (MGA): 0
Hole Type: Borehole	Water Strike (m bgl): -	

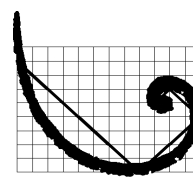
Lithology	Symbol	Well	Depth (m)	Recovery	Sample Type	Analysed	PPT (kPa)	PID (ppm)	Sample Details	Remarks
Ground Surface			0							
Clay trace sand, greyish brown, moist, poorly sorted, soft, medium to high plasticity, little organic matter (roots and rootlets), no odour, no visual impact.			0		DS	Y				Hand Auger 0-1.2m bgl.
					DS	Y				
Clayey Silty Sand Dark brown, moist, very loose, poorly sorted, fine sand, trace organic matter, no odour, no visual impact.										
					DS	Y				
Silty Sandy Clay Dark yellowish brown, moist, soft, fine to medium sand, poorly sorted, low to medium plasticity, no odour, no visual impact Some reddish brown mottling from 0.75m. Colour change to reddish brown from 1.0m.										
					DS	Y				
					DS	Y				
Silty Sandy Clay grey with little yellowish brown and reddish brown mottling, moist, soft, fine to medium sand, poorly sorted, low to medium plasticity, no odour, no visual impact.										
					DS	Y				
					DS	Y				
Clay Grey with little yellowish brown and reddish brown mottling, dry to damp, very stiff to hard, medium to high plasticity, no odour, no visual impact.			2		DS	Y				Push tube 1.2 - 3.0m bgl.
					DS	Y				
					DS	Y				
					DS	Y				
Silty Clay trace fine sand, mottled grey, dark yellowish brown and reddish brown, dry to moist, stiff, poorly sorted, medium plasticity, no odour, no visual impact trace ironstone at 2.7m and 3.0m.										
					DS	Y				
					DS	Y				
					DS	Y				
					DS	Y				
End of Log			3							
			4							
			5							

NOTE: This bore log is for environmental purposes only and is not intended to provide geotechnical information.

Log By: **EW**
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Client: **Independent Print Media Group**
 Project No.: **0086333**
 Project Name: **Warwick Farm Printing Project**
 Site Name: **Kimberley Clark Warwick farm Mill**
 Site Address: **23 Scrivener St, Warwick Farm, NSW**

ID: BH04



ERM

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Drill Start Date: 23/06/08	Total Depth (m): 3.0	Final Water Level (m bgl):
Drill Finish Date: 23/06/08	Hole Diam. / Width (mm): 80	Elevation (Ground): 0
Drill Co: DAGS	Casing Type: -	Elevation (Case): 0
Driller: Antony Critcher	Casing Diam. (mm): -	Easting (MGA): 0
Drill Method: Hand Augur/Push Tube	Surface Completion: Backfill	Northing (MGA): 0
Hole Type: Borehole	Water Strike (m bgl): -	

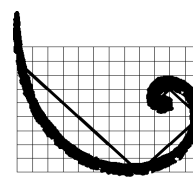
Lithology	Symbol	Well	Depth (m)	Recovery	Sample Type	Analysed	PPT (kPa)	PID (ppm)	Sample Details	Remarks
Ground Surface			0							
Silty Sandy Clay Very dark brown, moist, soft, low to no plasticity, little organic matter (grass roots), trace gravel, no odour, no visual impact.										
Silty Sand Greyish brown, dry, loose, fine to coarse sand, poorly sorted, trace organic matter with some pocketed clay; olive brown to yellowish brown, stiff to hard, low plasticity, no odour, no visual impact.					DS	Y				
					DS	Y				
Silty Clay Dark yellowish brown, dry, very stiff, low plasticity, poorly sorted, no odour, no visual impact.			1		DS	Y				
Sand Grey, moist, medium grained sand, very loose, no odour, no visual impact.					DS	Y				
Sandy Clay Mottled grey, dark yellowish brown and reddish brown, dry, stiff, well sorted, clay content decreasing with depth, no odour, no visual impact.			2		DS	Y				
Sand trace clay, reddish brown and dark yellowish brown, dry, loose to medium dense, poorly sorted, medium grained sand, no odour, no visual impact.					DS	Y				
Sand Light yellow, dry, very loose, fine to medium sand, no odour, no visual impact.					DS	Y				
					DS	Y				
Sand Sand with trace clay, grey with some reddish brown and dark yellowish brown mottling, medium dense, medium grained sand, poorly sorted, no odour, no visual impact.			3		DS	Y				
Clay Grey, dry, very stiff, no plasticity, no odour, no visual impact.										
End of Log										
			4							
			5							

NOTE: This bore log is for environmental purposes only and is not intended to provide geotechnical information.

Log By: **EW**
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 Page 1 of 1

Client: **Independent Print Media Group**
 Project No.: **0086333**
 Project Name: **Warwick Farm Printing Project**
 Site Name: **Kimberley Clark Warwick Farm Mill**
 Site Address: **23 Scrivener St, Warwick Farm, NSW**

ID: BH05



ERM

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Drill Start Date: 23/6/08	Total Depth (m): 0.5	Final Water Level (m bgl): -
Drill Finish Date: 23/6/08	Hole Diam. / Width (mm): 80	Elevation (Ground): -
Drill Co: DAGS	Casing Type: -	Elevation (Case): -
Driller: Antony Critcher	Casing Diam. (mm): -	Easting (MGA): -
Drill Method: Hand Auger	Surface Completion: Backfill	Northing (MGA): -
Hole Type: Borehole	Water Strike (m bgl): -	

Lithology	Symbol	Well	Depth (m)	Recovery	Sample Type	Analysed	PPT (kPa)	PID (ppm)	Sample Details	Remarks
Ground Surface			0							
Silty Clay Dark brown, moist, soft, poorly sorted, little organic matter, trace brick fragments, no odour, no visual impact.			1							Refusal on subsurface obstruction in four locations
			2							
			3							
			4							
			5							

NOTE: This bore log is for environmental purposes only and is not intended to provide geotechnical information.

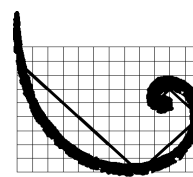
Log By: **EW**

Checked By: **CA**

Page **1** of **1**

Client: **Independent Print Media Group**
 Project No.: **0086333**
 Project Name: **Warwick Farm Printing Project**
 Site Name: **Kimberley Clark Warwick Farm Mill**
 Site Address: **23 Scrivener St, Warwick Farm, NSW**

ID: BH06



ERM

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Drill Start Date: 24/06/08	Total Depth (m): 5.0	Final Water Level (m bgl):
Drill Finish Date: 24/06/08	Hole Diam. / Width (mm): 80	Elevation (Ground): 0
Drill Co: DAGS	Casing Type: -	Elevation (Case): 0
Driller: Antony Critcher	Casing Diam. (mm): -	Easting (MGA): 0
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Hole Type: Borehole	Water Strike (m bgl): -	

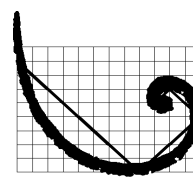
Lithology	Symbol	Well	Depth (m)	Recovery	Sample Type	Analysed	PPT (kPa)	PID (ppm)	Sample Details	Remarks
Ground Surface			0							
Silty Sandy Clay Dark brown, moist, soft, poorly sorted, little organic matter, trace brick fragments, no odour, no visual impact.										
					DS	Y				
					DS	Y				
					DS	Y				
Clayey Silt with little sand, greyish brown, moist, loose, poorly sorted, trace organic matter, no odour, no visual impact.					DS	Y				
Clay Clay with trace silt, dark yellowish brown, moist, stiff, low to medium plasticity, little organic matter (rootlets), no odour, no visual impact.			1		DS	Y				
Clay Mottled grey, reddish brown, and dark yellowish brown, damp, stiff, low to medium plasticity, trace organic matter and ash at 1.7m bgl.					DS	Y				
					DS	Y				
Silty Clay Grey with trace reddish brown mottling, damp, stiff, low to medium plasticity, no odour, no visual impact.			2		DS	Y				
Silty Clay reddish brown, little ironstone gravel, low to no plasticity, damp, stiff, low to medium plasticity, no odour, no visual impact.										
Sandy Clay Mottled grey, yellowish brown and reddish brown, dry to damp, stiff, low to no plasticity, no odour, no visual impact, trace organic matter (wood at 2.6m bgl).			3		DS	Y				
Sand trace clay, light greyish brown, damp, loose, fine to medium sand, poorly sorted, no odour, no visual impact.					DS	Y				
Sandy Clay Light greyish brown, damp, stiff, poorly sorted. At 3.9 to 3.95m reddish brown staining and trace ironstone, no odour, no visual impact.					DS	Y				
Sandy Clay mottled grey, dark yellowish brown and reddish brown, damp, stiff, poorly sorted, no odour, no visual impact.			4		DS	Y				
					DS	Y				
Clay Grey, damp, very stiff, low plasticity, poorly sorted, no odour, no visual impact.					DS	Y				
Silty Clay Mottled grey, dark yellowish brown and reddish brown, damp, medium stiff, low to medium plasticity,			5							
End of Log										

NOTE: This bore log is for environmental purposes only and is not intended to provide geotechnical information.

Log By: **EW**
 Checked By: **CA**
 Page 1 of 1

Client: **Independent Print Media Group**
 Project No.: **0086333**
 Project Name: **Warwick Farm Printing Project**
 Site Name: **Kimberley Clark Warwick farm Mill**
 Site Address: **23 Scrivener St, Warwick Farm, NSW**

ID: BH07



ERM

ERM Australia Pty Ltd

Drill Start Date: 24/06/08	Total Depth (m): 5.0	Final Water Level (m bgl):
Drill Finish Date: 24/06/08	Hole Diam. / Width (mm): 80	Elevation (Ground): 0
Drill Co: DAGS	Casing Type: -	Elevation (Case): 0
Driller: Antony Critcher	Casing Diam. (mm): -	Easting (MGA): 0
Drill Method: Hand Auger/Push Tube	Surface Completion: Backfill	Northing (MGA): 0
Hole Type: Borehole	Water Strike (m bgl): -	

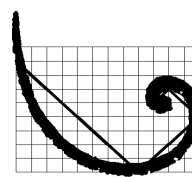
Lithology	Symbol	Well	Depth (m)	Recovery	Sample Type	Analysed	PPT (kPa)	PID (ppm)	Sample Details	Remarks
Ground Surface			0							
Silty Sandy Clay Dark brown, moist, soft, poorly sorted, medium to low plasticity, little organic matter, no odour, no visual impact.										
Clayey Silt Clayey silt with little sand, greyish brown, dry to damp, loose, poorly sorted, trace organic matter, no odour, no visual impact.					DS	Y				
					DS	Y				
Clay Clay with trace silt and sand, dark yellowish brown with trace grey and reddish brown mottling, stiff, low plasticity, fine to medium sand, no odour, no visual impact.			1		DS	Y				
Sand Sand with trace clay, mottled reddish brown, grey, and dark yellowish brown, loose to medium dense, medium to coarse grained sand. Colour change to dark reddish brown between 1.7 to 1.9m, grain size decrease to fine to medium sand 1.7 to 1.9m, no odour, no visual impact.					DS	Y				
					DS	Y				
Clay Dark grey with trace reddish brown mottling, damp, stiff, medium to high plasticity, trace organic matter (rootlets), no odour, no visual impact.			2		DS	Y				
Sandy Clay Grey with dark yellowish brown and reddish brown mottling, damp, stiff, no plasticity, well sorted, fine sand, sand content increasing with depth.					DS	Y				
			3		DS	Y				
					DS	Y				
					DS	Y				
Clayey Sand Grey with dark yellowish brown and reddish brown mottling, dense, damp, fine sand, no plasticity, no odour, no visual impact.			4							
Sandy Clay Grey with dark yellowish brown and reddish brown mottling, dense, damp, fine sand, no plasticity, no odour, no visual impact, with ironstone between 3.9 to 4.0m.					DS	Y				
					DS	Y				
Sand White, dry, very loose, fine sand, no odour, no visual impact.					DS	Y				
Clayey Sand Dark brown, dry, dense, fine sand, no plasticity, poorly			5							

NOTE: This bore log is for environmental purposes only and is not intended to provide geotechnical information.

Log By: **EW**
 Checked By: **CA**
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Client: **Independent Print Media Group**
 Project No.: **0086333**
 Project Name: **Warwick Farm Printing Project**
 Site Name: **Kimberley Clark Warwick Farm Mill**
 Site Address: **23 Scrivener St, Warwick Farm, NSW**

ID: BH08



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Drill Start Date: 23/06/08	Total Depth (m): 5.0	Final Water Level (m bgl):
Drill Finish Date: 24/06/08	Hole Diam. / Width (mm): 80	Elevation (Ground): 0
Drill Co: DAGS	Casing Type: -	Elevation (Case): 0
Driller: Antony Critcher	Casing Diam. (mm): -	Easting (MGA): 0
Drill Method: Hand auger/Push Tube	Surface Completion:	Northing (MGA): 0
Hole Type: Borehole	Water Strike (m bgl): -	

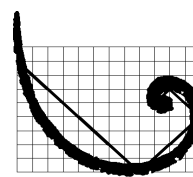
Lithology	Symbol	Well	Depth (m)	Recovery	Sample Type	Analysed	PPT (kPa)	PID (ppm)	Sample Details	Remarks
Ground Surface			0							
Silty Sandy Clay Dark brown, damp, soft, poorly sorted, medium to low plasticity, little organic matter, no odour, no visual impact, trace brick fragments.										
Clayey Silt Clayey Silt with little sand, greyish brown, dry to damp, loose, poorly sorted, trace organic matter, no odour, no V.I.					DS	Y				Hand Auger 0-1.2m bgl.
Clay Clay with trace silt and sand, dark yellowish brown, stiff, dry to damp, low plasticity, no odour, no visual impact some grey and reddish brown mottling from 1.0m.			1		DS	Y				
Sand Sand with trace clay, dark yellowish brown to reddish brown, dry, loose to medium dense, medium sand, no odour, no visual impact.					DS	Y				Push Tube 1.2-5m bgl.
Clay Grey with reddish brown mottling, very stiff, dry, medium plasticity, no odour, no visual impact.			2		DS	Y				
Sandy Clay Grey and reddish brown, dry, stiff, fine to medium grained sand, low plasticity, no odour, no visual impact.					DS	Y				
Silty Clay Grey with reddish brown and yellowish brown mottling, dry, very stiff, low to no plasticity, no odour, no visual impact.					DS	Y				
Silty Clay Grey with reddish brown and yellowish brown mottling, dry, very stiff, low to no plasticity, no odour, no visual impact. with some ironstone at 3.05-3.1m, 3.5-3.6m and 3.7 to 4.0m.			3		DS	Y				
					DS	Y				
					DS	Y				
Silty Clay Grey with reddish brown and yellowish brown mottling, dry, very stiff, low to no plasticity, no odour, no visual impact. with trace organic matter at 4.2m, some ironstone at 4.5 to 5.0m.			4		DS	Y				
					DS	Y				
					DS	Y				
			5							

NOTE: This bore log is for environmental purposes only and is not intended to provide geotechnical information.

Log By: **EW**
 Checked By: **CA**
 Page 1 of 1

Client: **Independent Print Media Group**
Project No.: **0086333**
Project Name: **Warwick Farm Printing Project**
Site Name: **Kimberley Clark Warwick Farm Mill**
Site Address: **23 Scrivener St, Warwick Farm, NSW**

ID: BH09



ERM

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Drill Start Date: **23/06/08**
Drill Finish Date: **24/06/08**
Drill Co: **DAGS**
Driller: **Antony Critcher**
Drill Method: **Hand Augur/Push Tube**
Hole Type: **Borehole**

Total Depth (m): **4.0**
Hole Diam. / Width (mm): **80**
Casing Type: -
Casing Diam. (mm): -
Surface Completion:
Water Strike (m bgl): -

Final Water Level (m bgl): -
Elevation (Ground): -
Elevation (Case): -
Easting (MGA): -
Northing (MGA): -

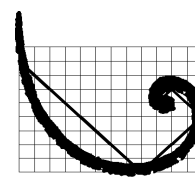
Lithology	Symbol	Well	Depth (m)	Recovery	Sample Type	Analysed	PPT (kPa)	PID (ppm)	Sample Details	Remarks
Ground Surface			0							
Silty Sandy Clay Dark brown, moist, soft, poorly sorted, medium to low plasticity, little organic matter, no odour, no visual impact.										
Clay with trace silt and sand, dark yellowish brown, stiff, low plasticity, fine to medium sand, no odour, no visual impact.					DS	Y				Hand Auger 0-1.2m bgl.
			1		DS	Y				
Clay Mottled grey, reddish brown and dark yellowish brown, dry to damp, stiff, medium to high plasticity, trace organic matter, no odour, no visual impact.					DS	Y				
Sand Sand with trace clay, mottled grey, reddish brown and yellowish brown, damp, dense, medium sand, poorly sorted, no odour, no visual impact.					DS	Y				
					DS	Y				
			2		DS	Y				Push Tube 1.2-4m bgl.
					DS	Y				
Clay Grey, dry, very stiff, medium to high plasticity, trace organic matter, no odour, no visual impact.										
			3		DS	Y				
					DS	Y				
					DS	Y				
					DS	Y				
End of Log			4							
			5							

NOTE: This bore log is for environmental purposes only and is not intended to provide geotechnical information.

Log By: EW
Checked By: CA

Client: **Independent Print Media Group**
 Project No.: **0086333**
 Project Name: **Warwick Farm Printing Project**
 Site Name: **Kimberley Clark Warwick Farm Mill**
 Site Address: **23 Scrivener St, Warwick Farm, NSW**

ID: BH10



ERM

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Drill Start Date: 24/06/08	Total Depth (m): 2.4	Final Water Level (m bgl): -
Drill Finish Date: 24/06/08	Hole Diam. / Width (mm): 80	Elevation (Ground): -
Drill Co: DAGS	Casing Type: -	Elevation (Case): -
Driller: Antony Critcher	Casing Diam. (mm): -	Easting (MGA): -
Drill Method: Hand Auger	Surface Completion: Backfill	Northing (MGA): -
Hole Type: Borehole	Water Strike (m bgl): 2.3 (perched water)	

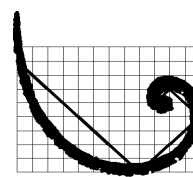
Lithology	Symbol	Well	Depth (m)	Recovery	Sample Type	Analysed	PPT (kPa)	PID (ppm)	Sample Details	Remarks
Ground Surface			0							
Silty Sandy Clay Dark brown, moist, soft, medium plasticity, little organic matter, poorly sorted, no odour, no visual impact.			0		DS	Y				Hand augered due to the proximity of a high pressure gas line.
					DS	Y				
Clay Clay with trace silt, mottled yellowish brown and reddish brown, damp, very stiff, low plasticity, no odour, no visual impact From 1.2m colour change to mottled reddish brown and dark yellowish brown.			1		DS	Y				
					DS	Y				
Clayey Sand Moist to wet, loose, medium sand, reddish brown, poorly sorted, no odour, no visual impact. EOH at 2.4m bgs; extent of hand augur extension.			2		DS	Y				
					DS	Y				
End of Log			3							
			4							
			5							

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Log By: **EW**
 Checked By: **CA**
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Client: **Independent Print Media Group**
 Project No.: **0086333**
 Project Name: **Warwick Farm Printing Project**
 Site Name: **Kimberley Clark Warwick farm Mill**
 Site Address: **23 Screvener St, Warwick Farm, NSW**

ID: BH11



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Drill Start Date: 24/06/08	Total Depth (m): 4.0	Final Water Level (m bgl): -
Drill Finish Date: 24/06/08	Hole Diam. / Width (mm): 80	Elevation (Ground): -
Drill Co: DAGS	Casing Type: -	Elevation (Case): -
Driller: Antony Critcher	Casing Diam. (mm): -	Easting (MGA): -
Drill Method: Hand Auger/ Push Tube	Surface Completion: Backfill	Northing (MGA): -
Hole Type: Borehole	Water Strike (m bgl): -	

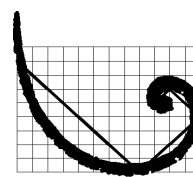
Lithology	Symbol	Well	Depth (m)	Recovery	Sample Type	Analysed	PPT (kPa)	PID (ppm)	Sample Details	Remarks
Ground Surface			0							
Silty Sandy Clay Reworked, dark yellowish brown, dry, very stiff, no to low plasticity, poorly sorted, no odour, no visual impact, fine sand.					DS	Y				Hand Auger 0-1.2m bgl.
Silty Sandy Clay Fill, greyish brown, dry, hard, no plasticity, fine sand, trace igneous gravel, poorly sorted, no odour, no visual impact.					DS	Y				Very compacted material.
Clay Dark brown, damp, hard, no to low plasticity, no odour, no visual impact.			1		DS	Y				
Clay Grey with some reddish brown mottling, damp, hard, low to medium plasticity, trace silt, trace ironstone at 1.9m, no odour, no visual impact.					DS	Y				
Clay Grey with some reddish brown and dark yellowish brown mottling, dry, low to no plasticity, some ironstone at 2.4m, no odour, no visual impact.			2		DS	Y				Very difficult drilling.
Silty Clay Mottled grey, reddish brown and dark yellowish brown, dry to damp, very stiff, low plasticity, no odour, no visual impact, well sorted, silt content increasing with depth, some ironstone at 2.9 - 3.0m.			3		DS	Y				
Clayey Sand Mottled yellowish brown and grey, dry, medium dense, fine sand, no plasticity, no odour, no visual impact.			4		DS	Y				
EOH at 4.0m - target depth.										
End of Log										
			5							

NOTE: This bore log is for environmental purposes only and is not intended to provide geotechnical information.

Log By: **EW**
 Checked By: **CA**
 Page 1 of 1

Client: **Independent Print Media Group**
 Project No.: **0086333**
 Project Name: **Warwick Farm Printing Project**
 Site Name: **Kimberley Clark warwick Farm Mill**
 Site Address: **23 Scrivener St, Warwick Farm, NSW**

ID: BH12



ERM

ERM Australia Pty Ltd

Drill Start Date: 24/06/08	Total Depth (m): 5.0	Final Water Level (m bgl): -
Drill Finish Date: 24/06/08	Hole Diam. / Width (mm): 80	Elevation (Ground): -
Drill Co: DAGS	Casing Type: -	Elevation (Case): -
Driller: Antony Critcher	Casing Diam. (mm): -	Easting (MGA): -
Drill Method: Hand Augur, Push Tube	Surface Completion: Backfill	Northing (MGA): -
Hole Type: Borehole	Water Strike (m bgl): -	

Lithology	Symbol	Well	Depth (m)	Recovery	Sample Type	Analysed	PPT (kPa)	PID (ppm)	Sample Details	Remarks
Ground Surface			0							
Silty Sandy Clay Dark brown, moist, soft, poorly sorted, medium plasticity, little organic matter, no odour, no visual impact.			0							Hand Auger 0-1.2m bgl.
Clay Clay with trace sand and silt, dark brown to dark yellowish brown, damp, very stiff, medium to low plasticity, poorly sorted, no odour, no visual impact.					DS	Y				
					DS	Y				
					DS	Y				
					DS	Y				
Clay Mottled dark yellowish brown, grey and reddish brown, damp, very stiff, medium to low plasticity, no odour, no visual impact, silt content increasing with depth.			1							Push Tube 1.2-5m bgl.
					DS	Y				
					DS	Y				
					DS	Y				
					DS	Y				
Sandy Clay Mottled dark yellowish brown and grey, damp, stiff, low plasticity, well sorted, sand content increasing with depth, fine sand, no odour, no visual impact.			2							
					DS	Y				
					DS	Y				
					DS	Y				
					DS	Y				
Sand Sand with trace clay, grey, moist, medium dense, fine to medium sand, no odour, no visual impact.			3							
					DS	Y				
					DS	Y				
					DS	Y				
					DS	Y				
Clayey Sand Light reddish brown and light grey, dry, dense, fine sand, well sorted, clay content decreasing with depth.			4							
					DS	Y				
					DS	Y				
					DS	Y				
					DS	Y				
					DS	Y				
Sand Sand with trace clay, light grey and reddish brown, dry, fine to medium sand, no odour, no visual impact. 4.6 to 4.7m very loose band of white sand.			5							
					DS	Y				
					DS	Y				
					DS	Y				
					DS	Y				
					DS	Y				

NOTE: This bore log is for environmental purposes only and is not intended to provide geotechnical information.

Log By: **EW**
 Checked By: **CA**
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Annex C

Tables

Table 1. Soil pH and Electrical Conductivity Results.

IPMG Warwick Farm
0086333

Sample Name	Date of Sampling	pH in H2O	pH in CaCl2	EC	ECe
		pH units	pH units	dS/m	dS/m
BH01/0.1	6/23/2008	5.33	4.51	0.1	1.5
BH01/0.25	6/23/2008	5.41	4.43	0.05	0.75
BH01/0.67	6/23/2008	5.13	4.16	0.06	0.9
BH01/1.0	6/23/2008	5.11	3.92	0.08	1.2
BH01/1.5	6/23/2008	5.11	3.88	0.06	0.9
BH01/2.0	6/23/2008	4.92	3.79	0.09	1.35
BH01/2.75	6/23/2008	4.97	3.74	0.16	2.4
BH02/0.2	6/23/2008	6.68	5.71	0.11	1.65
BH02/0.75	6/23/2008	6.07	5.47	0.88	13.2
BH02/1.6	6/23/2008	6.83	6.15	0.34	5.1
BH02/2.7	6/23/2008	5.03	4.26	0.72	10.8
BH03/0.1	6/23/2008	6.23	5.31	0.05	0.75
BH03/0.3	6/23/2008	6.09	5.1	0.03	0.45
BH03/0.75	6/23/2008	5.55	4.32	0.06	0.9
BH03/1.2	6/23/2008	5.35	3.93	0.05	0.75
BH03/1.7	6/23/2008	BH08/1.0	3.86	0.05	0.75
BH03/2.2	6/23/2008		5.38	3.83	0.04
BH03/2.8	6/23/2008	5.63	3.81	0.03	0.45
BH04/2.75	6/23/2008	4.17	3.97	0.29	4.35
BH04/4.2	6/23/2008	5.34	4.04	0.16	2.4
BH04/0.75	6/23/2008	5.9	5.23	0.39	5.85
BH04/3.2	6/23/2008	6.1	4.32	0.09	1.35
BH04/1.5	6/23/2008	5.34	4.64	0.4	6
BH06/1.7	6/23/2008	5.39	4.03	0.18	2.7
BH06/2.25	6/23/2008	5.33	4.14	0.16	2.4
BH06/1.0	6/23/2008	4.99	4.01	0.17	2.55
BH06/4.2	6/23/2008	5.03	4.2	0.52	7.8
BH06/0.5	6/23/2008	6.99	6.15	0.06	0.9
BH07/0.5	6/23/2008	6.95	6.08	0.04	0.6
BH07/1.5	6/23/2008	5.45	3.99	0.07	1.05
BH07/0.75	6/23/2008	5.4	4.27	0.1	1.5
BH08/3.3	6/23/2008	5.98	4.42	0.12	1.8
BH08/1.8	6/23/2008	5.41	3.96	0.08	1.2
BH08/1.3	6/23/2008	5.36	4.06	0.06	0.9
BH08/4.3	6/23/2008	5.51	4.42	0.32	4.8
BH08/0.75	6/23/2008	5.76	4.76	0.06	0.9
BH09/3.2	6/23/2008	5.52	4.16	0.2	3
BH09/1.7	6/23/2008	5.44	3.95	0.12	1.8
BH09/0.25	6/23/2008	5.98	5.08	0.06	0.9
BH10/1.0	6/24/2008	5.47	4.56	0.18	2.7
BH10/0.0	6/24/2008	4.89	4.04	0.07	1.05
BH10/2.4	6/24/2008	5.14	3.92	0.08	1.2
BH11/1.8	6/24/2008	4.75	4.12	0.82	12.3
BH11/1.0	6/24/2008	4.52	4.06	0.87	13.05
BH11/3.8	6/24/2008	5.05	4.33	0.49	7.35
BH11/0.3	6/24/2008	4.99	4.37	0.47	7.05
BH11/2.5	6/24/2008	4.9	4.17	0.63	9.45
BH12/1.2	6/24/2008	5.02	4.53	1.15	17.25
BH12/2.7	6/24/2008	6.05	5.3	0.78	11.7
BH12/4.7	6/24/2008	6.59	5.88	0.37	5.55
D08-240608	6/24/2008	5.46	3.98	0.12	1.8
D07-240608	6/24/2008	4.49	4.07	0.94	14.1
D01-230608	6/24/2008	5.09	4.22	0.52	7.8
D04-230608	6/24/2008	5.39	4.3	0.1	1.5

 Indicates EC Values greater than 0.25 ds/cm

Soil Texture**Ece Multiplication Factor (1:5)**

Loamy sand, clayey sand	25
Sandy loam, fine sandy loam, light sandy clay loam	20
Loam, loam fine sandy, silt loam, sandy clay loam	15
Clay loam, silty clay loam, fine sandy loam	12.5
Sandy clay, silty clay, light clay	10
Light medium clay	8.75
Medium clay	7.5
Heavy clay	6.25

Table 2. Soil Chloride and Sulphate Results.

Sample_Name	pH_in_H2O	Comment Acidity	EC	Comment Salinity	Corrsn_Scaling Soil SO4 1:5	% SO4 Calculation <0.2%	Corrosion Scaling comment Soil Sulphate	Corrosion Scaling ppm Clsol lt7.0	%Cl Calculation <0.5%	Corrosion Scaling comment Soil Chloride
AS 2159 Guideline for "Non-Aggressive" Soil Conditions										
BH02/0.75	6.07	Slight Acidity	.88	High Salinity	250	0.00025	Low Sulphate	1200	0.0012	Low Chloride
BH02/1.6	6.83	Very Slight Acidity	.34	Elevated Salinity	120	0.00012	Low Sulphate	430	0.00043	Low Chloride
BH02/2.7	5.03	Very Strong Acidity	.72	High Salinity	60	0.00006	Low Sulphate	1170	0.00117	Low Chloride
BH04/2.75	4.17	Extreme Acidity	.29	Elevated Salinity	70	0.00007	Low Sulphate	380	0.00038	Low Chloride
BH04/0.75	5.9	Medium Acidity	.39	Elevated Salinity	230	0.00023	Low Sulphate	250	0.00025	Low Chloride
BH04/1.5	5.34	Strong Acidity	.4	Elevated Salinity	320	0.00032	Low Sulphate	450	0.00045	Low Chloride
BH06/4.2	5.03	Very Strong Acidity	.52	High Salinity	170	0.00017	Low Sulphate	820	0.00082	Low Chloride
BH11/1.8	4.75	Very Strong Acidity	.82	High Salinity	180	0.00018	Low Sulphate	1250	0.00125	Low Chloride
BH11/1.0	4.52	Very Strong Acidity	.87	High Salinity	150	0.00015	Low Sulphate	1310	0.00131	Low Chloride
BH11/3.8	5.05	Strong Acidity	.49	Elevated Salinity	90	0.00009	Low Sulphate	700	0.0007	Low Chloride
BH11/0.3	4.99	Very Strong Acidity	.47	Elevated Salinity	240	0.00024	Low Sulphate	560	0.00056	Low Chloride
BH11/2.5	4.9	Very Strong Acidity	.63	High Salinity	110	0.00011	Low Sulphate	1020	0.00102	Low Chloride
BH12/1.2	5.02	Very Strong Acidity	1.15	Very High Salinity	200	0.0002	Low Sulphate	1790	0.00179	Low Chloride
BH12/2.7	6.05	Slight Acidity	.78	High Salinity	60	0.00006	Low Sulphate	1110	0.0011	Low Chloride
BH12/4.7	6.59	BH08/1.0	.37	Elevated Salinity	40	0.00004	Low Sulphate	540	0.00054	Low Chloride
D07-240608	4.49	Very Strong Acidity	.94	Very High Salinity	100	0.0001	Low Sulphate	1450	0.00145	Low Chloride
D01-230608	5.09	Strong Acidity	.52	High Salinity	100	0.0001	Low Sulphate	810	0.00081	Low Chloride

Table 3. Soil field pH and pHfox results.

IPMG Warwick Farm
0086333

Reference	Description	Sample Description	Sample No.	Replicate	Depth	Date Sampled	Type of sample	pH _e (field pH test)*	pH _{fox} (field peroxide test)*	Reaction Rate*	pH Change
Units								pH Units	pH Units	-	
20407	0086333, IPMG	BH01/0.1	1	0	0.1	6/23/2008	Soil	5.6	3.8	Moderate	1.8
20407	0086333, IPMG	BH01/0.25	2	0	0.25	6/23/2008	Soil	5.5	4.3	Slight	1.2
20407	0086333, IPMG	BH01/0.67	3	0	0.67	6/23/2008	Soil	5.1	4	Slight	1.1
20407	0086333, IPMG	BH01/1.0	4	0	1.0	6/23/2008	Soil	5.1	4	Slight	1.1
20407	0086333, IPMG	BH01/1.7	5	0	1.7	6/23/2008	Soil	4.7	3.8	Slight	0.9
20407	0086333, IPMG	BH01/2.2	6	0	2.2	6/23/2008	Soil	4.7	3.7	Slight	1
20407	0086333, IPMG	BH01/2.8	7	0	2.8	6/23/2008	Soil	4.6	3.6	Slight	1
20407	0086333, IPMG	BH02/0.2	8	0	0.2	6/23/2008	Soil	6.4	4.5	High	1.9
20407	0086333, IPMG	BH02/0.75	9	0	0.75	6/23/2008	Soil	5.8	4.5	Moderate	1.3
20407	0086333, IPMG	BH02/1.8	10	0	1.8	6/23/2008	Soil	6.4	4.6	Slight	1.8
20407	0086333, IPMG	BH02/2.9	11	0	2.9	6/23/2008	Soil	4.8	3.8	Slight	1
20407	0086333, IPMG	BH03/0.1	12	0	0.1	6/23/2008	Soil	6.2	4.3	High	1.9
20407	0086333, IPMG	BH03/0.3	13	0	0.3	6/23/2008	Soil	6.2	3.8	Moderate	2.4
20407	0086333, IPMG	BH03/0.75	14	0	0.75	6/23/2008	Soil	5.7	4.2	Slight	1.5
20407	0086333, IPMG	BH08/1.0	15	0	1.4	6/23/2008	Soil	5.4	4.1	Slight	1.3
20407	0086333, IPMG	BH03/1.9	16	0	1.9	6/23/2008	Soil	5.5	4.2	Slight	1.3
20407	0086333, IPMG	BH03/2.4	17	0	2.4	6/23/2008	Soil	5.5	4.1	Slight	1.4
20407	0086333, IPMG	BH03/2.9	18	0	2.9	6/23/2008	Soil	5.5	4.2	Slight	1.3
20407	0086333, IPMG	BH04/0.5	19	0	0.5	6/23/2008	Soil	6.5	4.6	Moderate	1.9
20407	0086333, IPMG	BH04/1.0	20	0	1.0	6/23/2008	Soil	6.2	4.7	Slight	1.5
20407	0086333, IPMG	BH04/1.5	21	0	1.5	6/23/2008	Soil	5.4	3.9	Slight	1.5
20407	0086333, IPMG	BH04/2.0	22	0	2.0	6/23/2008	Soil	5.1	3.9	Slight	1.2
20407	0086333, IPMG	BH04/2.5	23	0	2.5	6/23/2008	Soil	4.6	3.7	Slight	0.9
20407	0086333, IPMG	BH04/3.0	24	0	3.0	6/23/2008	Soil	4.4	3.1	Slight	1.3
20433	0086333, IPMG	BH06/0.4	25	0	0	6/23/2008	Soil	6.9	5.4	Moderate	1.5
20433	0086333, IPMG	BH06/0.9	9	0	0	6/23/2008	Soil	5.2	3.8	Slight	1.4
20433	0086333, IPMG	BH06/1.5	21	0	0	6/23/2008	Soil	4.7	3.8	Slight	0.9
20433	0086333, IPMG	BH06/2.0	14	0	0	6/23/2008	Soil	4.9	4	Slight	0.9
20433	0086333, IPMG	BH06/2.5	2	0	0	6/23/2008	Soil	5.2	4	Slight	1.2
20433	0086333, IPMG	BH06/3.0	24	0	0	6/23/2008	Soil	5.1	4	Slight	1.1
20433	0086333, IPMG	BH06/3.5	7	0	0	6/23/2008	Soil	5	4.1	Slight	0.9
20433	0086333, IPMG	BH06/4.0	11	0	0	6/23/2008	Soil	4.9	3.7	Slight	1.2
20433	0086333, IPMG	BH06/4.5	4	0	0	6/23/2008	Soil	4.5	3.7	Slight	0.8
20433	0086333, IPMG	BH07/0.5	18	0	0	6/23/2008	Soil	6.1	5.1	Moderate	1
20433	0086333, IPMG	BH07/1.0	16	0	0	6/23/2008	Soil	5	4.2	Slight	0.8
20433	0086333, IPMG	BH07/1.7	20	0	0	6/23/2008	Soil	4.8	3.8	Slight	1
20433	0086333, IPMG	BH07/2.1	1	0	0	6/23/2008	Soil	5.8	4.3	Slight	1.5
20433	0086333, IPMG	BH07/2.6	5	0	0	6/23/2008	Soil	5.6	4.4	Slight	1.2
20433	0086333, IPMG	BH07/3.0	3	0	0	6/23/2008	Soil	5.9	4.5	Slight	1.4
20433	0086333, IPMG	BH07/3.5	22	0	0	6/23/2008	Soil	5.4	4.8	Slight	0.6
20433	0086333, IPMG	BH07/4.0	12	0	0	6/23/2008	Soil	4.8	3.6	Slight	1.2
20433	0086333, IPMG	BH07/4.5	13	0	0	6/23/2008	Soil	4.8	3.9	Slight	0.9
20433	0086333, IPMG	BH08/0.5	6	0	0	6/23/2008	Soil	6.7	4.8	High	1.9
20433	0086333, IPMG	BH08/1.0	17	0	0	6/23/2008	Soil	5	3.9	Moderate	1.1
20433	0086333, IPMG	BH08/1.5	29	0	0	6/24/2008	Soil	4.5	3.5	Slight	1
20433	0086333, IPMG	BH08/2.05	39	0	0	6/24/2008	Soil	4.8	3.7	Slight	1.1
20433	0086333, IPMG	BH08/2.5	36	0	0	6/24/2008	Soil	4.8	3.8	Slight	1
20433	0086333, IPMG	BH08/3.0	35	0	0	6/24/2008	Soil	4.9	4	Slight	0.9
20433	0086333, IPMG	BH08/3.5	26	0	0	6/24/2008	Soil	5.4	4.2	Slight	1.2
20433	0086333, IPMG	BH08/4.0	27	0	0	6/24/2008	Soil	5.1	4.2	Slight	0.9
20433	0086333, IPMG	BH08/4.5	28	0	0	6/24/2008	Soil	4.4	3.5	Slight	0.9
20433	0086333, IPMG	BH09/0.25	23	0	0	6/23/2008	Soil	5.9	3.8	Moderate	2.1
20433	0086333, IPMG	BH09/0.5	10	0	0	6/23/2008	Soil	6.8	5	Moderate	1.8
20433	0086333, IPMG	BH09/1.0	8	0	0	6/23/2008	Soil	5	3.5	Moderate	1.5
20433	0086333, IPMG	BH09/1.5	37	0	0	6/24/2008	Soil	4.6	3.4	Slight	1.2
20433	0086333, IPMG	BH09/2.0	34	0	0	6/24/2008	Soil	4.7	3.7	Slight	1
20433	0086333, IPMG	BH09/2.5	38	0	0	6/24/2008	Soil	4.9	4.1	Slight	0.8
20433	0086333, IPMG	BH09/3.0	41	0	0	6/24/2008	Soil	5	3.9	Slight	1.1
20433	0086333, IPMG	BH09/3.5	33	0	0	6/24/2008	Soil	4.6	3.8	Slight	0.8
20433	0086333, IPMG	BH09/4.0	31	0	0	6/24/2008	Soil	4.6	3.9	Slight	0.7
20460	0086333, IPMG	BH10/0.0	2	0	0	6/24/2008	Soil	6.6	4.9	Moderate	1.7
20460	0086333, IPMG	BH10/0.5	1	0	0	6/24/2008	Soil	6.2	4.8	Moderate	1.4
20460	0086333, IPMG	BH10/1.0	3	0	0	6/24/2008	Soil	5.4	4	Slight	1.4
20460	0086333, IPMG	BH10/1.5	4	0	0	6/24/2008	Soil	5.1	3.9	Slight	1.2
20460	0086333, IPMG	BH10/2.0	5	0	0	6/24/2008	Soil	5.2	4	Slight	1.2
20460	0086333, IPMG	BH10/2.4	6	0	0	6/24/2008	Soil	5	3.8	Slight	1.2
20433	0086333, IPMG	BH11/0.5	40	0	0	6/24/2008	Soil	5.1	4	Moderate	1.1
20433	0086333, IPMG	BH11/1.0	43	0	0	6/24/2008	Soil	4.2	3.3	Slight	0.9
20433	0086333, IPMG	BH11/1.5	58	0	0	6/24/2008	Soil	4.2	3.3	Slight	0.9
20433	0086333, IPMG	BH11/2.0	54	0	0	6/24/2008	Soil	4.5	3.5	Slight	1
20433	0086333, IPMG	BH11/2.4	56	0	0	6/24/2008	Soil	4.2	3.3	Slight	0.9
20433	0086333, IPMG	BH11/3.0	53	0	0	6/24/2008	Soil	4.1	3.2	Slight	0.9
20433	0086333, IPMG	BH11/3.5	48	0	0	6/24/2008	Soil	4.5	3.6	Slight	0.9
20433	0086333, IPMG	BH11/4.0	55	0	0	6/24/2008	Soil	4.4	3.8	Slight	0.6
20433	0086333, IPMG	BH12/0.5	49	0	0	6/24/2008	Soil	4.4	3.2	Moderate	1.2
20433	0086333, IPMG	BH12/1.0	57	0	0	6/24/2008	Soil	4.6	3.2	Moderate	1.4
20433	0086333, IPMG	BH12/1.5	44	0	0	6/24/2008	Soil	4.5	3.6	Slight	0.9
20433	0086333, IPMG	BH12/2.0	46	0	0	6/24/2008	Soil	4.8	3.7	Slight	1.1
20433	0086333, IPMG	BH12/2.5	45	0	0	6/24/2008	Soil	5.1	4.2	Slight	0.9
20433	0086333, IPMG	BH12/3.0	42	0	0	6/24/2008	Soil	5.4	5.2	Slight	0.2
20433	0086333, IPMG	BH12/3.5	50	0	0	6/24/2008	Soil	5.6	5.3	Slight	0.3
20433	0086333, IPMG	BH12/4.0	47	0	0	6/24/2008	Soil	5.5	5.1	Slight	0.4
20433	0086333, IPMG	BH12/4.5	52	0	0	6/24/2008	Soil	5.7	4.6	Slight	1.1
20433	0086333, IPMG	BH12/5.0	51	0	0	6/24/2008	Soil	5.6	4.7	Slight	0.9
20433	0086333, IPMG	D02-230608	19	0	0	6/23/2008	Soil	4.8	3.8	Slight	1
20433	0086333, IPMG	D03-230608	15	0	0	6/23/2008	Soil	5.1	4.4	Slight	0.7
20433	0086333, IPMG	D05-240608	32	0	0	6/24/2008	Soil	4.7	4	Slight	0.7
20433	0086333, IPMG	D06-240608	30	0	0	6/24/2008	Soil	4.7	3.9	Slight	0.8

Table 4. Soil SPOCAS Results

Reference	Description	Sample Description	Sample No.	Replicate	Date Sampled	Type of sample	Date prepared	Date analysed	pH _{EC}	TAA pH 6.5	s-TAA pH 6.5	pH _{Ca}	TPA pH 6.5	s-TPA pH 6.5	TSA pH 6.5	s-TSA pH 6.5	ANC _E	a-ANC _E	s-ANC _E	S _{EC}	S _p	S _{POS}
Units									pH units	moles H ⁺ /tonne	%w/w S	pH units	moles H ⁺ /tonne	%w/w S	moles H ⁺ /tonne	%w/w S	% CaCO ₃	moles H ⁺ /tonne	%w/w S	%w/w	%w/w	%w/w
PQL										<0.01	<0.01		<5	<0.01	<5	<0.01	<0.05	<5	<0.05	<0.005	<0.005	<0.005
Action Criteria: (greater than 1000 tonnes disturbed)																						
20433-A	0086333, IPMG Warwick Farm	BH08/1.0	17	0	6/23/2008	Soil	7/7/2008	7/7/2008	3.7	75	0.12	4.1	97	0.16	22	0.036	<0.05	<5	<0.05	0.03	0.034	<0.005
20433-A	0086333, IPMG Warwick Farm	BH08/2.05	39	0	6/24/2008	Soil	7/7/2008	7/7/2008	3.7	50	0.08	4.3	52	0.084	<5	<0.01	<0.05	<5	<0.05	0.018	0.025	0.007
20433-A	0086333, IPMG Warwick Farm	BH08/4.5	28	0	6/24/2008	Soil	7/7/2008	7/7/2008	4.2	20	0.032	4.4	15	0.024	<5	<0.01	<0.05	<5	<0.05	0.013	0.018	0.005
20433-A	0086333, IPMG Warwick Farm	BH11/1.0	43	0	6/24/2008	Soil	7/7/2008	7/7/2008	3.5	62	0.1	4.2	97	0.16	35	0.056	<0.05	<5	<0.05	0.043	0.049	0.005
20433-A	0086333, IPMG Warwick Farm	BH11/2.4	56	0	6/24/2008	Soil	7/7/2008	7/7/2008	4	7.5	0.012	4.5	20	0.032	12	0.02	<0.05	<5	<0.05	0.02	0.024	<0.005
20433-A	0086333, IPMG Warwick Farm	BH11/4.0	55	0	6/24/2008	Soil	7/7/2008	7/7/2008	4.3	10	0.016	4.3	5	<0.01	<5	<0.01	<0.05	<5	<0.05	0.014	0.015	<0.005

Reference	Description	Sample Description	Sample No.	Replicate	Date Sampled	Type of sample	Date prepared	Date analysed	a-S _{POS}	Ca _{EC}	Ca _p	Ca _A	Mg _{EC}	Mg _p	Mg _A	SRAS	S _{EC}	S _{IAS}	a-S _{IAS}	S-S _{IAS}	s-Net Acidity	a-Net Acidity	Liming rate	
Units									moles H ⁺ /tonne	%w/w	%w/w	%w/w	%w/w	%w/w	%w/w	%w/w	%w/w	%w/w	moles H ⁺ /tonne	%w/w S		moles H ⁺ /tonne	kg CaCO ₃ /tonne	
PQL									<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.01	Calc	<10	<0.75	
Action Criteria: (greater than 1000 tonnes disturbed)																								
20433-A	0086333, IPMG Warwick Farm	BH08/1.0	17	0	6/23/2008	Soil	7/7/2008	7/7/2008	<5	0.006	0.005	<0.005	0.092	0.094	<0.005	<0.005	0.024	<0.005	<5	<0.01	0.03	0.12	70	5.8
20433-A	0086333, IPMG Warwick Farm	BH08/2.05	39	0	6/24/2008	Soil	7/7/2008	7/7/2008	<5	<0.005	<0.005	<0.005	0.058	0.058	<0.005	<0.005	0.015	<0.005	<5	<0.01	0.087	54	4.1	
20433-A	0086333, IPMG Warwick Farm	BH08/4.5	28	0	6/24/2008	Soil	7/7/2008	7/7/2008	<5	<0.005	<0.005	<0.005	0.072	0.075	<0.005	0.008	0.016	<0.005	<5	<0.01	0.045	35	1.9	
20433-A	0086333, IPMG Warwick Farm	BH11/1.0	43	0	6/24/2008	Soil	7/7/2008	7/7/2008	<5	0.013	0.013	<0.005	0.11	0.12	0.008	0.012	0.038	<0.005	<5	<0.01	0.118	88	5	
20433-A	0086333, IPMG Warwick Farm	BH11/2.4	56	0	6/24/2008	Soil	7/7/2008	7/7/2008	<5	<0.005	<0.005	<0.005	0.098	0.1	<0.005		0.013	0.026	0.005	<5	<0.01	0.025	13	0.95
20433-A	0086333, IPMG Warwick Farm	BH11/4.0	55	0	6/24/2008	Soil	7/7/2008	7/7/2008	<5	<0.005	<0.005	<0.005	0.039	0.042	<0.005	<0.005	0.011	<0.005	<5	<0.01	0.016	11	0.8	

Annex D

ERM Follow-up Report

29 January 2008

Mr Andrew Orum
International Print Media Group
83 O'Rordan St,
Alexandria 2015
N.S.W.
Sent by email – aorum@ipmg.com.au

Our Reference: 0078101 WARWICK FARM- UPDATE JAN 08.DOC



Dear Andrew,

**RE: 23 SCRIVENER STREET, WARWICK FARM - PHASE I & II
ENVIRONMENTAL SITE ASSESSMENTS (ESA)- FOLLOW-UP
VISIT**

Environmental Resources Management Australia (ERM) is pleased to provide this follow up to the previous Phase I and II Environmental Site Assessments issued in 2006 and 2007 to Kimberly-Clark Australia (KCA):

- ❑ Report "51381RP01 Final" dated November 2006, which identified a number of potential contamination sources at the site
- ❑ Report "59739L01" dated 27 February 2007, which details a targeted intrusive soil and groundwater contamination investigation across the site, focusing on the potential contamination sources previously identified.

It is understood that International Print Media Group (IPMG) is in the process of purchasing 23 Scrivener Street "the site" from KCA, on completion of which IPMG intends to redevelop the site for industrial purposes under a Part 3A Application.

It is understood that IPMG have been advised by their own consultants that the above referenced ERM reports should be sufficient for the purposes of a future Part 3A application, if supplemented with an updated current visual overview of the site, to be performed by ERM. The purpose of this letter report is to document any changes undertaken on the site, which may have the potential to influence or change the overall findings of report 59739L01.

ERM re-visited the site on 10 January 2008 to view closure works undertaken since the initial ERM site visit in June 2006 and the soil and groundwater investigation works undertaken in January 2007.

1. SCOPE OF WORK

- ❑ Review of previous ERM reports and identification of relevant potential source areas;
- ❑ Discussion of changes and improvements that may have been undertaken during 2006 - 2007, with KCA staff;
- ❑ Performance of a detailed walkover of all areas, including internal and external;
- ❑ Summary and presentation of any relevant engineering or remediation works performed during 2007;
- ❑ Provision of a letter-form observations report with "before and after" observations

2. FINDINGS

The facility is now no longer operational for manufacturing but is used for warehousing only. Third party contractors are used for goods transportation. No vehicle fuelling, maintenance or washdown takes place on the site other than minor forklift maintenance which is undertaken in the designated forklift workshop as previous.

Overall environmental management of the site appears to be proactive, and KCA continue to manage and operate the site as previous. Spill kits are provided across the site and no incidents or spills have occurred in recent years. All production chemicals have been removed from the site and the hazardous/dangerous goods store was noted to be cleared and disused. No evidence of widespread staining was noted during the site walkover.

No new potential contamination sources or impact was observed during the site walkover. It appears that KCA have progressively eliminated or reduced the previously identified potential contamination sources. No new significant potential contamination sources were identified on neighbouring properties however it should be noted that observations were based on fenceline observations only. No major construction works were reported by site management to have occurred in the immediate vicinity of the site in the past 18 months, other than replacement of the grey water main across the northern section of the site by Sydney Water (as detailed in previous reports).

Table 1 Changes between June 2006 and January 2008

Observations	June 06	January 08
Previously investigated area of BH25-28 & MW04. Previous Petrol UST Area. Jan 08 - No change - no new potential contamination sources or impact observed. MW04 still accessible.		
Previously investigated area of BH07, BH05 – Chemical store. 90% of drums in the Phase I assessment were disposed of by January 2007. Jan 08 - All drums in this area had been removed offsite. No new potential contamination sources or impact observed.		
Previously investigated area of BH19,20,31, MW02 – former open unlined sewer. Jan 08 - Area along length of sewer is covered with good quality grass. No change - no new potential contamination sources or impact observed. MW02 still accessible.		
Previously investigated area of BH14 - Hydrocarbon staining was observed in June 2006. Impacted soil was removed by KCA in 2006. Jan 08 - No staining, otherwise no change - no new potential contamination sources or impact observed.		

Observations	June 06	January 08
<i>Previously investigated area near BH14 – 1500 litre diesel tank.</i> Jan 08 – No change – tank observed to be in good condition and no significant staining observed. No new potential contamination sources or impact observed.		
<i>Previously investigated area near BH14, 19 - heavy fuel oil tank removed in late 2006. Validation tested and reported by third party consultant, after ERM issuing of Phase II investigation report. No significant soil impact was reportedly found during tank removal works.</i> Jan 08 – Area has since been tested, validated and concreted over. No new potential contamination sources or impact observed.		
<i>Previously investigated area near BH14, 19 – air handling equipment and washdown bay in background</i> Jan 08 – All air handling equipment has been removed. No new potential contamination sources or impact observed.		

Observations	June 06	January 08
<i>Previously investigated area BH14, 19- nearest – surficial dye staining was noted in 2006.</i> Jan 08 – Localised cleanup of staining has been undertaken. No new potential contamination sources or impact observed.		
<i>Previously investigated BH9-12, MW01 - former effluent spraying area.</i> Jan 08 – Grass in good condition. No change - no new potential contamination sources or impact observed. MW01 still accessible.		
<i>Previously investigated BH9-12, MW01 - former effluent settling tank area.</i> Jan 08 – Grass in good condition. No change - no new potential contamination sources or impact observed. MW01 still accessible.		
<i>Previously investigated BH16 – former area used by water utility for storage of container during groundworks</i> Jan 08 – All equipment removed, resurfaced. Houses under construction beyond boundary. No new potential contamination sources or impact observed.		

Observations	June 06	January 08
<i>Previously investigated BH14, 19 – nearest – area of former heavy fuel oil UST in corner.</i> Jan 08 – UST has since been removed, also air compressor unit. No new potential contamination sources or impact observed.		

3. CONCLUSION

In conclusion, no evidence of new staining or potential contamination sources was observed during the site walkover, which are considered likely to alter the overall findings of ERM Report 59739L01.

4. LIMITATIONS

The findings of this report are based on the Scope of Work described in ERM's proposal P13964 (dated 7th January 2008). ERM performed the services in a manner consistent with the normal level of care and expertise exercised by members of the environmental auditing profession. No warranties, expressed or implied, are made.

Subject to the Scope of Work, ERM's assessment is limited strictly to identifying typical conditions associated with potential land contamination on the subject property and does not include evaluation of any other issues.

This report is not intended to be used for the purposes of tendering, programming of works, refurbishment works or demolition works unless used in conjunction with a specification detailing the extent of the works. To ensure its contextual integrity, the report must be read in its entirety and should not be copied, distributed or referred to in part only.

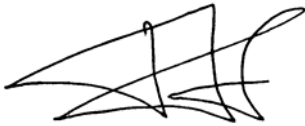
The results of this assessment are based upon a site inspection and discussions with site management. All conclusions and recommendations regarding the property area are the professional opinions of the ERM personnel involved with the project, subject to the qualifications made above.

While normal assessments of data reliability have been made, ERM assumes no responsibility or liability for errors in any data obtained from regulatory agencies, statements from sources outside of ERM, or developments resulting from situations outside the scope of this project.

ERM is not engaged in environmental auditing and reporting for the purpose of advertising, sales, promoting, or endorsement of any client interests, including raising investment capital, recommending investment decisions, or other publicity purposes. The client acknowledges that this report is for the exclusive use of the client, its representatives and advisers and investors, lenders, underwriters and financiers who agreed to execute a reliance letter, and the client agrees that ERM's report or correspondence will not be, except as set forth herein, used or reproduced in full or in part for such promotional purposes, and may not be used or relied upon in any prospectus or offering circular.

If you have any questions or comments, please contact Howard Stott on 02 8584 8888.

Sincerely,

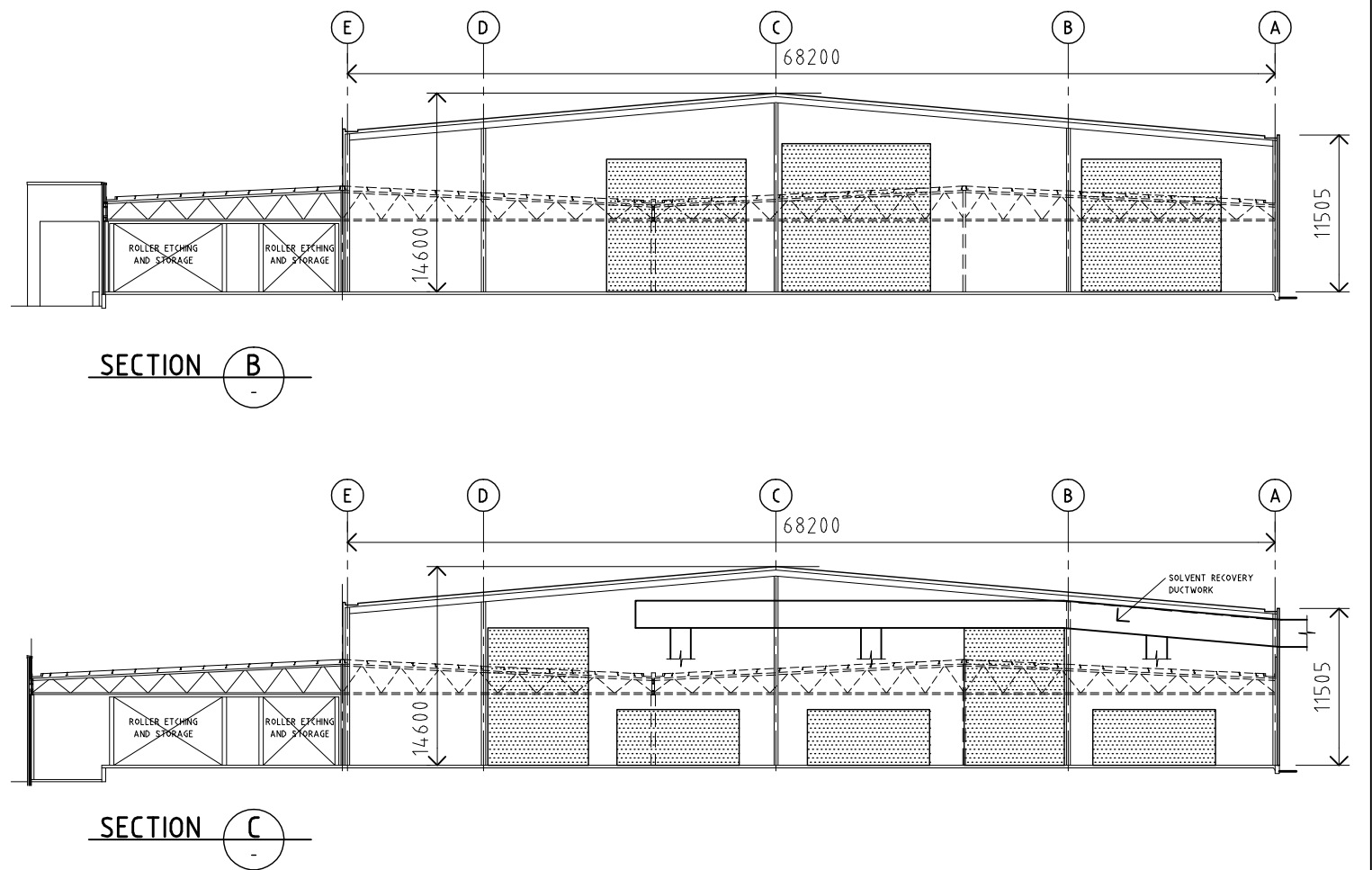
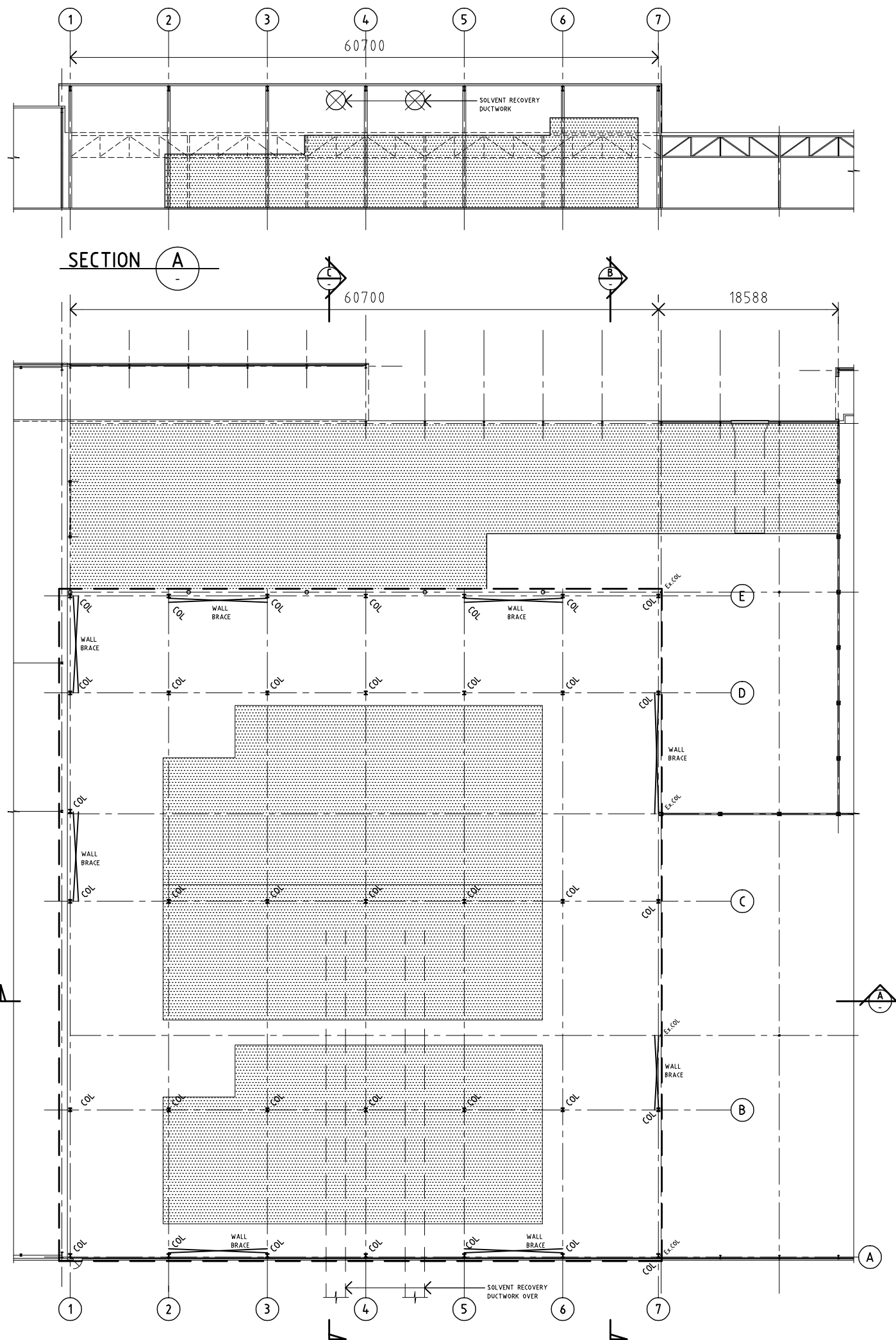
A handwritten signature in black ink, appearing to be 'H. Stott', with a stylized, sweeping flourish extending from the end.

Howard Stott
Principal Consultant

Lance Robert
Partner

Annex E

Engineering Drawings




 PROPOSED NEW PRINTING PRESSES

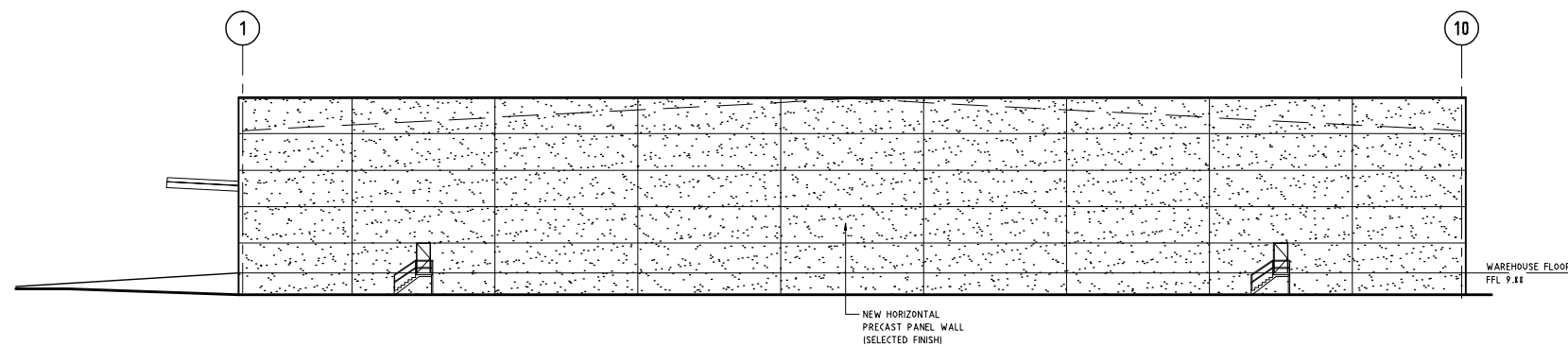

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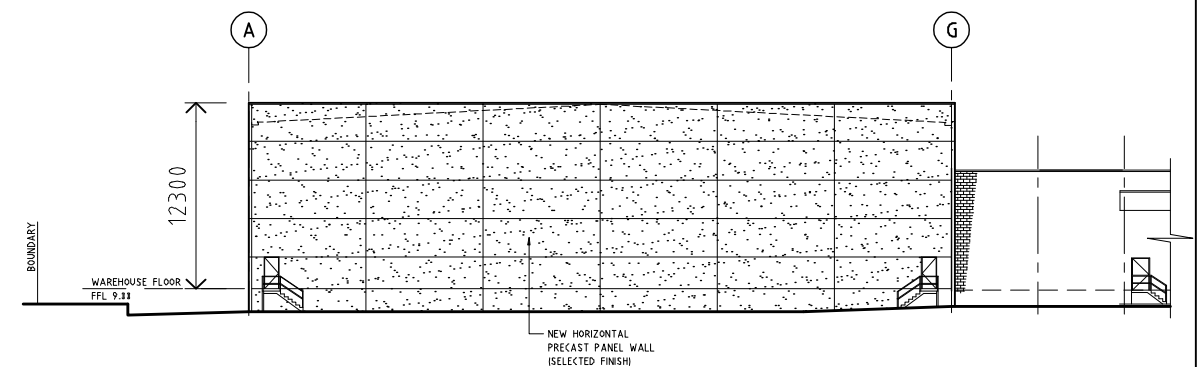
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SCRIVENER STREET RENOVATION
AND WAREHOUSE EXTENSION
NEW PRINTING PRESSES
PLAN & SECTIONS

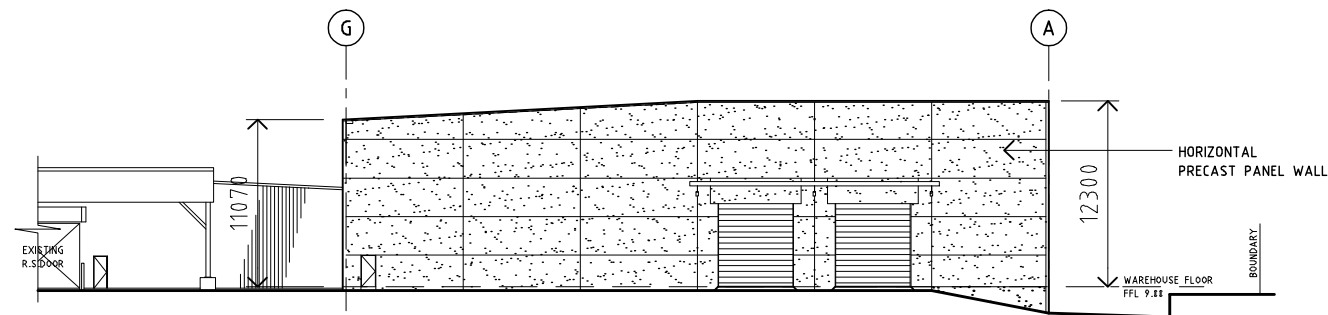
SK.03



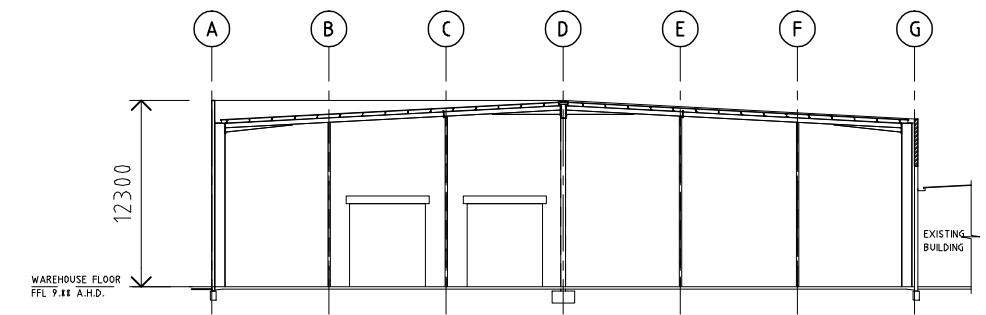
EAST ELEVATION



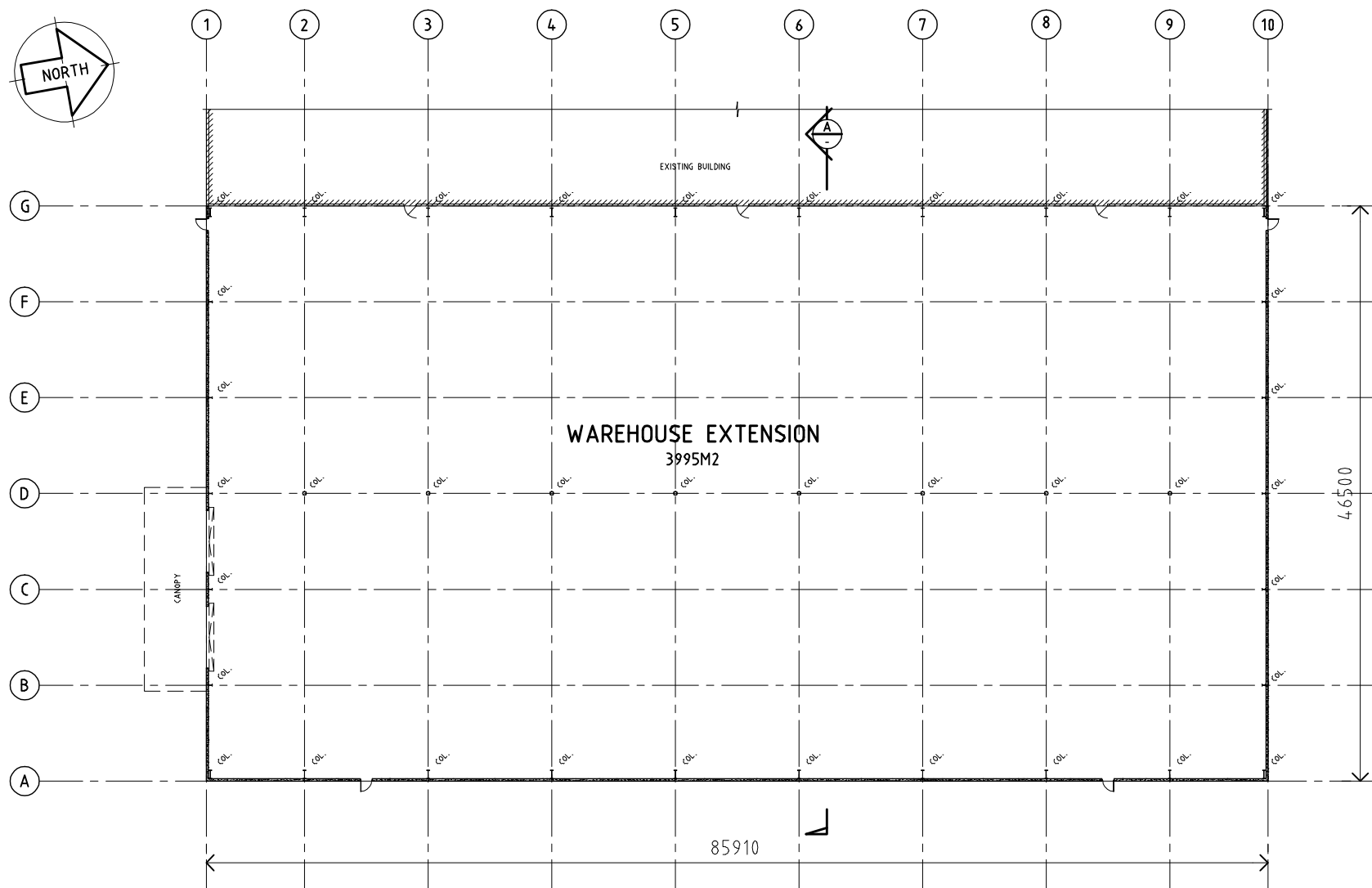
NORTH ELEVATION



NORTH ELEVATION



SECTION A



GROUND FLOOR PLAN

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NEW WAREHOUSE
PLAN & ELEVATIONS

SK.07

Annex F

Photographic Log



Photograph 1

BH01 Arising



Photograph 2

BH02 Arising



Photograph 3

BH03 Arising



Photograph 4

BH04 Arising



Photograph 5

BH06 Arising



Photograph 6

BH07 Arising



Photograph 7

BH08 Arising



Photograph 8

BH09 Arising



Photograph 9

BH10 Arising



Photograph 10

BH011 Arising



Photograph 11

BH011 Location



Photograph 12

BH12 Arising



Photograph 13

Drill Rig in Operation

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