



Wakefield Road, Mapplewell

Draft Drainage Statement

February 2016

PROPOSED RESIDENTIAL DEVELOPMENT
Wakefield Road, Mapplewell

Purico UK Ltd.

DRAINAGE STATEMENT

Report by: Rik Binnersley

Bryan G Hall
Consulting Civil & Transportation Planning Engineers
Suite E15, Joseph's Well, Hanover Walk, Leeds, LS3 1AB

Ref: 14-369-001.1

February 2016

14-369-001.1

	Name	Signed	Date
Report prepared by	Rik Binnersley		15/02/2016
Report checked by	James Pointon		15/02/2016

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1.0 INTRODUCTION

- 1.1 This report has been prepared on behalf of Purico UK Ltd. to assess the surface water drainage strategy for the development of a 9.42 hectare area of land off Wakefield Road, Mapplewell. The proposals are for a residential development comprising of up to 236 dwellings.
- 1.2 The purpose of this report is to establish a drainage strategy for the site, giving consideration to any requirements within the Flood Risk Assessment in accordance with National Planning Policy Framework (NPPF) and its accompanying guidance document, the Interim Code of Practice for Sustainable Drainage.

2.0 SITE LOCATION AND DESCRIPTION

Site Location

- 2.1 The site is located on existing undeveloped land located to the south-west of Wakefield Road, on the east side of Mapplewell approximately 2.3 miles north of Barnsley.
- 2.2 The location of the site is shown on the Location Plan included in Appendix A.

Site Description

- 2.3 The area for the proposed development is approximately hexagonal shaped with east to west dimension of 380m at its widest point and north to south dimension of 380m. The total site covers an overall area of 9.42ha.
- 2.4 The site is bounded by Wakefield Road to the north east and an existing housing development to the south.
- 2.5 The site falls relatively uniformly from north to south at a gradient of around 1 in 16. There is around 22m of fall across the entire length of the site. The southern boundary of the site is set above the housing development to the south.
- 2.6 The site is now in agricultural use, however historically was subject to extensive open-cast mining and subsequent backfill.
- 2.7 A minor water watercourse runs through the site collecting at a point on the southern boundary where it is culverted and then passes through the residential development to the south. It has been concluded that there are no waters contributing to the watercourse other than the agricultural run-off from the development area itself.
- 2.8 The survey confirms that the existing site is entirely undeveloped, with no identified impermeable areas or service connections evident.

3.0 NATIONAL PLANNING POLICY FRAMEWORK

FLOOD RISK

- 3.1 A Flood Risk Assessment Report was undertaken for Purico UK Ltd. for the development by ARP Associates in September 2013.

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4.0 GROUND CONDITIONS

Ground Conditions

- 4.1 A Stage 2 Geo-Environmental Report was carried out on behalf of Pipestone Ltd. by ARP Geotechnical Ltd. in March 2015.

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5.0 DRAINAGE PHILOSOPHY

5.1 Surface Water Drainage

- 5.1.1 The use of Sustainable Urban Drainage Systems (SUDS) to collect, treat and dispose of surface water run-off is currently being promoted throughout the water industry due to their positive impact on the natural water cycle and therefore the environment compared to conventional piped drainage systems.
- 5.1.2 There are no Yorkshire Water surface water sewers in the immediate vicinity of the site however a layout of the existing Yorkshire Water Foul Sewer to the north-east within the land fronting Wakefield Road is contained in Appendix C.
- 5.1.3 There is a minor watercourse passing through the site collecting and discharging surface runoff to a culverted watercourse leaving the site through the residential development to the south.
- 5.1.4 The use of soakaways has been discussed with members of Barnsley Council Land Drainage Dept. and deemed unsuitable due to the presence of several underlying coal strata, the steep topography of the site and the elevation of the site above the residential development to the south. Correspondence between ourselves and Barnsley council is contained in Appendix D.
- 5.1.5 The surface water system within the site will be designed and built to adoptable standards in accordance with Sewers for Adoption 6th Edition. The surface water system will be adopted and maintained by Yorkshire Water.

5.2 Foul Drainage

- 5.2.1 A layout of the existing Yorkshire Water sewers can also be seen in correspondence from Yorkshire Water contained in Appendix C. This shows there is a 225mm diameter public sewer within the development boundary to the north east running parallel to Wakefield Road.
- 5.2.2 Officers of Yorkshire Water have confirmed that the existing foul sewer network will have limited capacity to take the foul flow from the development at a discharge rate to be agreed.

- 5.2.3 Part of the site will drain by gravity to the existing combined sewer and the remainder of the site will drain by gravity to a pumping station.
- 5.2.4 The foul water system within the site will be built to adoptable standards in accordance with Sewers for Adoption 6th Edition. The foul water system will be adopted and maintained by Yorkshire Water

DRAFT

6.0 MAINTENANCE AND MANAGEMENT

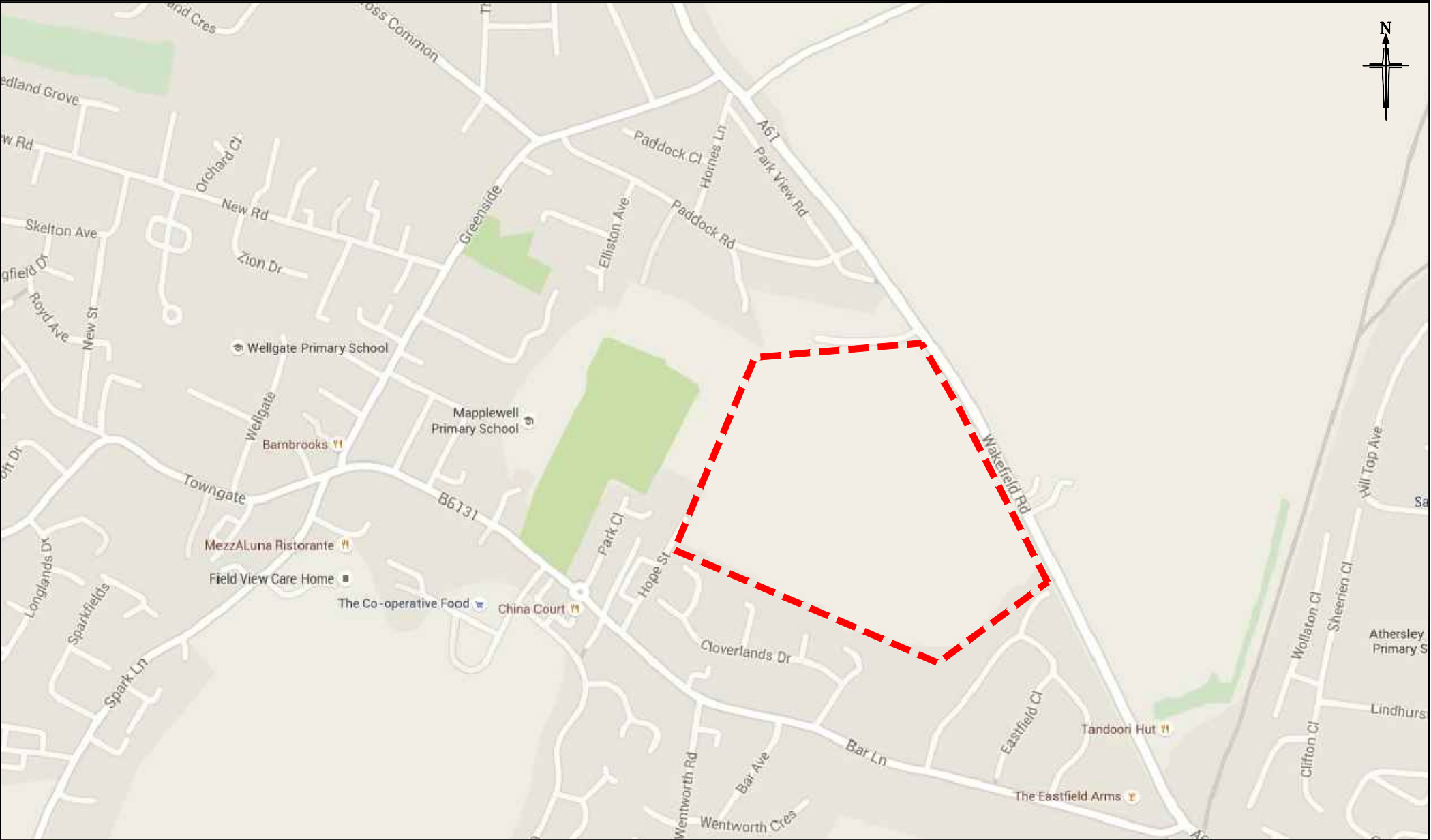
Management of Main Drains

- 6.1 The piped system as a whole including the 2100 diameter storage pipes to the southern portion of the site (but excluding attenuation basins and headwalls) will be offered to Yorkshire Water for adoption under a Section 104 agreement. As such the on-going maintenance and upkeep of this portion of the system will be attributed to them.
- 6.2 The attenuation basins partially containing the 1 in 100 year (+ 30% cc) flood waters will be maintained and managed by a management company as part of the upkeep of all public open space within the development.
- 6.3 The use of Skeletank attenuation structures under the driveways is proposed on the majority of the properties as a source control measure to contain the balance of 1 in 100 year (+ 30% cc) flood waters not housed within the attenuation basins. Appendix E contains a Stage 3 Report produced by RWO associates which outlines the implementation of the Skeletank units. These tanks will become the property of the home owner who will be issued with an information pack outlining the maintenance and upkeep of the units upon purchase of the dwelling.

7.0 CONCLUSIONS

- 7.1 Surface Water run-off from the site shall discharge at a reduced rate into the existing watercourse exiting the site at the southern end through the existing residential development.
- 7.2 1 in 30 year flood attenuation will be housed within on-line adoptable attenuation pipes which will be offered to the Local Water Authority who will then become responsible of their ongoing maintenance.
- 7.3 1 in 100 year (+ 30% c.c.) flood attenuation will be housed partly within private attenuation basins which will be maintained by a site wide maintenance company, with the remainder being attenuated at source by Skeletank attenuation structures within the curtilage of each property to be maintained by the home owner.
- 7.4 Foul water drainage from the site will discharge partly by gravity, the rest by means of pump and rising main into the public 225 diameter F.W. sewer running within the development land parallel to Wakefield Road.

APPENDIX A



Rev:	Amendment:	DRN:	CHK:	Date:

Client: PIPESTONE GROUP LTD

Project: WAKEFIELD ROAD,
MAPPLEWELL, BARNSELY

Title: LOCATION PLAN

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Job No: 14-369 Drawn: MF Checked: MA Date: 25.06.15

Scale: N.T.S Drawing No: 14/369/SKH/001 Revision:

A4 - 297 x 210

APPENDIX B

APPENDIX C

YORKSHIRE WATER PROTECTION OF MAINS AND SERVICES

1. The position of Yorkshire Water Services Ltd (YWS) apparatus shown on the existing mains record drawing(s) indicates the **general** position and nature of our apparatus and the accuracy of this information cannot be guaranteed. Any damage to YWS apparatus as a result of your works may have serious consequences and you will be held responsible for all costs incurred. Prior to commencing major works, the exact location of apparatus must be determined on site, if necessary by excavating trial holes. The actual position of such apparatus and that of service pipes which have not been indicated must be established on site by contacting the Customer Helpline on 0845 124 24 24 for both water and sewerage.
2. The public sewer and water network is lawfully retained in its existing position and the sewerage and water undertaker is entitled to have it remain so without any disturbance. The provisions of section 159 of the Water Industry Act 1991 provides that the undertaker may "inspect, maintain, adjust, repair or alter" the network. Those rights are given to enable the undertaker to perform its statutory duties. Any development of the land or any other action that unacceptably hindered the exercise of those rights would be unlawful. The provisions contained in Section 185 of the Water Industry Act 1991 state that where it is reasonable to do so, a person may require the water supply undertaker to alter or remove a pipe where it is necessary to enable that person to carry out a proposed change of use of the land. The provisions contained in Section 185 also require the person making the request to pay the full cost of carrying out the necessary works.
3. Ground levels over existing YWS apparatus are to be maintained. Sewers in highways will **generally** be laid to give 1200mm of cover from finished ground level working to kerb races, other permanent identification of the limits of the road or to an agreed line and level. Substantial increases or decreases to this 1200mm depth of cover will result in the sewer being re-laid at your expense. Water mains and services will **generally** be laid with a minimum of 750mm depth of cover however some mains and services usually those installed over 50 years ago may have less ground cover.
4. If surface levels are to be decreased / increased significantly the effects on existing water supply apparatus will be carefully considered and if any alterations are necessary, the costs of the alterations will be recharged to you in full. Outlets on fire hydrants must be no more than 300mm below the new levels and all surface boxes must be adjusted as part of the scheme.
5. To enable future repair works to be carried out without hindrance; any pipe, cable, duct, etc. installed parallel to a water main or service pipe should not be installed directly over or within 300mm of a water main or service pipe or 1000mm of a waste water asset. Where a pipe, cable, duct, etc. crosses a main or service it should preferably cross perpendicular or at an angle of no less than 45° and with a minimum clearance of 150mm. These requirements apply to activities within an existing highway and are relevant to the installation of pipes, cables, ducts, etc. up to and including 250mm in diameter (**see illustration below**). Necessary protection measures for installations greater than 250mm in diameter and/or in private land will need to be agreed on an individual basis. Installations within a new development site must comply with the National Joint Utilities Group publication Volume 2: NJUG Guidelines On The Positioning Of Underground Utilities Apparatus For New Development Sites.
6. All excavation works near to YW apparatus should be by hand digging only.
7. Backfilling with a suitable material to a minimum 300mm above YW apparatus is required.
8. Adequate support must be provided where any works pass under YW apparatus.
9. Jointing chambers, lighting columns and other structures must be installed in such a way that future repair or maintenance works to YW apparatus will not be hindered.
10. Apparatus such as; railings, sign posts, etc. must not be placed in such a way that they prevent access to or full operation of controlling valves, hydrants or similar apparatus. YWS surface boxes must not be covered or buried. Any adjustment, alteration or replacement of manhole covers must be agreed on site prior to the commencement of the works with a YWS Inspector who may be contacted via our Call Centre on 0845 124 24 24.
11. Explosives shall not be used within 100 metres of any Yorkshire Water Services apparatus or installations.
12. Vibrating plant should not be used directly over any apparatus. Movement or operation by vehicles or heavy plant is not to be permitted in the immediate vicinity of YWS plant or apparatus unless there has been prior consultation and, if necessary, adequate protection provided without cost to YWS.
13. **Under no circumstances** should thrust boring or similar trenchless techniques commence until the actual position of the Company's mains/services along the proposed route have been confirmed by trial holes.
14. Any alterations to the highway should be notified following the procedures outlined in the New Road and Street Works Act 1991 Code of Practice; Measures Necessary Where Apparatus Is Affected By Major Works (Diversions Works).

15. You will be held responsible for any damage or loss to YWS apparatus during and after completion of work, caused by yourselves, your servant or agent. Any damage caused or observed to YWS plant or apparatus should be immediately reported to YWS. Should YW incur any costs as a result of non-compliance with the above, all costs will be rechargeable in full.
16. You should ensure that nothing is done on the site to prejudice the safety or operation of YWS employees, plant or apparatus.
17. In accordance with the New Roads and Street Works Act 1991, Chapter 22, Part 3, Section 80. The location of any identified YW asset **"which is not marked, or is wrongly marked, on the records made available"** should be communicated back to Yorkshire Water. The location of the apparatus should be identified on copies of the supplied plans which should be returned to Yorkshire Water (Asset Records Team) with photographic supporting evidence where possible.
18. The Government has decided that responsibility for private sewers serving two or more properties and lateral drains (the section of pipe beyond the boundary of a single property, connecting it to the public sewer) will be transferred to the water companies on Oct 1 2011. Private pumping stations will also transfer during the period 1 October 2011 – 1 Oct 2016. Records of these assets may not yet be shown on the existing mains record drawing(s). If you encounter any of these assets you must inform Yorkshire Water Services Ltd (YWS).
19. Please note that the information supplied on the enclosed plans is reproduced from Ordnance Survey material with the permission of the Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office, © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Licence Number 1000019559.
20. This information is for guidance only and the position and depth of any YW apparatus is approximate only. Likewise, the nature and condition of any YW apparatus cannot be guaranteed. YW has no responsibility for recording the locations of privately owned apparatus. As of 1 October 2011, there may be some lateral drains and/or public sewers which are not documented on YW records but may still be present. For the avoidance of doubt, this information is not a substitute for appropriate professional and/or legal advice. YW accepts no responsibility for any inaccuracy or omissions in this information. The actual position of YW apparatus must be determined on site by excavating trial holes by hand. YW requires a minimum of two working days' written notice of the intention to excavate any trial holes before any excavation can be undertaken. If there are any queries in this respect please contact Yorkshire Water on 0845 124 24 24.

Sewer Legend

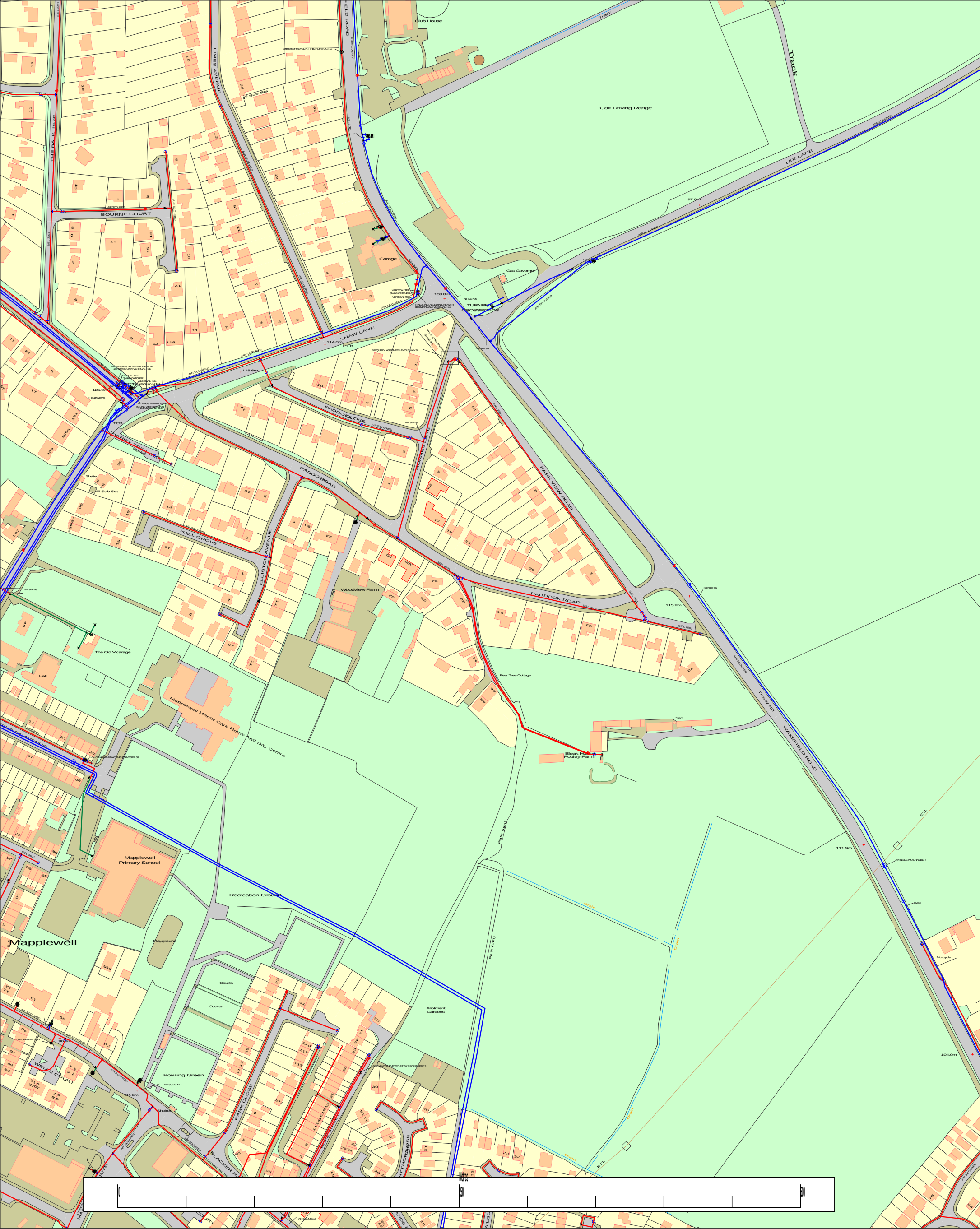
	Combined Sewer		S24 Combined Sewer
	Surface Water Sewer		S24 Surface Water Sewer
	Foul Sewer		S24 Foul Sewer
	Section 104 Sewer		Public Rising Main
	Pumping Station		Abandoned Sewer
	Public Sewage Treatment Works		Syphon Sewer & Vacuum Sewer

+

Property Identifier

Water Legend

	Water Main 4" and below
	Water Main 4" and above
	Raw Water Main
	Private Water Main
	Fire Hydrant
	Pumping Station



433223 : 409948		Map Name : SE3309NW		Title	
 YorkshireWater		Yorkshire Water, PO Box 500, Halifax Road, Bradford BD6 2LZ Contact Name : Julie Brook Contact Tel :		Notes	
				Partial Key Water mains up to 4" in diameter Water mains over 4" in diameter Raw water mains Private water mains	
				The position and depths of apparatus shown on this plan are approximate only. The exact positions and depths should be obtained by excavation trial holes.	
				Scale : 1:2500	
				Drg No :	
				Maris No :	
				Date Req : 16/06/2015, 10:39:03	
				Date Gen : 16/06/2015, 10:39:04	
				Source : Water Network Enquiry	

APPENDIX D

Our ref: 14-369/RPB

please reply to Leeds office

2 July 2015

Mr Derek Bell
Barnsley Metropolitan Borough Council
Westgate Plaza 1
PO Box 601
Barnsley
S70 9FA

Dear Derek

**PROPOSED RESIDENTIAL DEVELOPMENT, WAKEFIELD ROAD, MAPPLEWELL –
DETERMINATION OF SUITABILITY OF SOAKAWAYS**

I am writing to you in relation to the above development, following our meeting and various correspondence over recent weeks, I have obtained the Geotechnical report prepared by ARP Geotechnical Ltd.

I refer particularly to Appendix. C (Borehole & Trial Pit Plan, Logs and Geotechnical Sections) & Appendix. D (Soakaway Test Results) of the attached report.

You will note 3 No. Soakaway tests were carried out on the site at the locations of Trial Pits TP11, TP12 & TP14. Trial Pit TP11 returned reasonably favourable results, however TP12 & TP14 were unsuccessful. Interpreting the borehole logs it appears that the soakaway tests's success was attributed to the presence of made ground in the vicinity of the trial pit deposited as a results of the opencast mining undertaken within the area, evidence of the is supported by the Coal Authority Abandonment Plans enclosed within Appendix. G of the attached ARP report.

The soakaway testing was carried out prior to any consideration being taken on site layout or suitable locations for the use of soakways in relation to the proposed drainage design, however taken supporting evidence from the Site Sections and Borehole Logs located in Appendix. C of the attached ARP report, it is apparent that due to a large portion of the site being subject to open cast mining, the upper layers of the ground may in areas produce favourable soakaway results when small scale testing is carried out. However due to the presence of underlying coal seams, a number of which remain intact and large pockets of natural clays combined with the steep topography of the site which falls around 10m in height along the length of the site, there is an increased likelihood that any ground waters taken through infiltration methods may re-emerge at the low end of the site where the coal seams outcrop.

Continued

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Continuation 1
Mr Derek Bell
14-369/RPB

2 July 2015

Exacerbating this issue is the fact the site naturally falls towards an existing housing estate immediately to the south of the site. The attached plan, Figure A, indicates the various coal seams and approximate location of made ground/natural strata taken from supporting evidence provided by ARP. The diagram shows the relationship between the site and the level of existing properties and indicates the approximate point where waters may re-emerge.

In order to gain full and detailed planning permission for the site, and number of conditions relating to drainage need to be discharged. Conditions 18c and 22 respectively of the planning conditions (attached) state the following.

- 18c Porosity tests are carried out in accordance with BRE 365, to demonstrate that the subsoil is suitable for soakaways:
- 22 A scheme disposing of surface water by means of a sustainable drainage system shall accompany the reserved matters application.

My query relating to the above is threefold;

- Firstly is the evidence provided within the attached ARP report sufficient for you to recommend condition 18c can be discharged by your planning department.
- Secondly can you confirm you are in agreement that due to a number of factors outlined in the above, the use of infiltration methods to dispose of surface water on the proposed development would be generally unsuitable.
- Thirdly can you confirm that as per the ARP Flood Risk Assessment report submitted as part of the planning application suggest, the council would be happy to accept the surface water run-off from the site contributing to the existing watercourse leaving the southern boundary of the site at a restricted rate (email from Barnsley Council to ARP 8 March 2012 extracted from report and attached).

I appreciate the confirmation of the system is subject to receipt of a detailed design for consideration, however I wish to ensure the strategy we utilise for the surface water as a whole is in general agreement with yourself prior to commencement of the detailed design, therefore your urgent response would be greatly appreciated so we can commence design works as soon as possible.

Continued

BRYAN G HALL

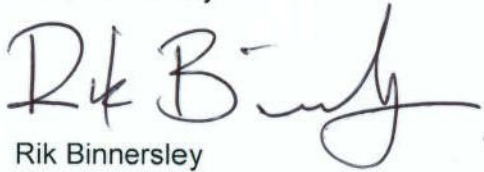
CONSULTING CIVIL & TRANSPORTATION PLANNING ENGINEERS

Continuation 2
Mr Derek Bell
14-369/RPB

2 July 2015

If you have any queries relating to any of the above or the attached information, please do not hesitate to get in touch.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Rik Binnersley', with a stylized flourish at the end.

Rik Binnersley

Enc.

Cc: Peter Golightly – Yorkshire Water PLC.
Craig Stevenson – Netherton Homes (Letter only)

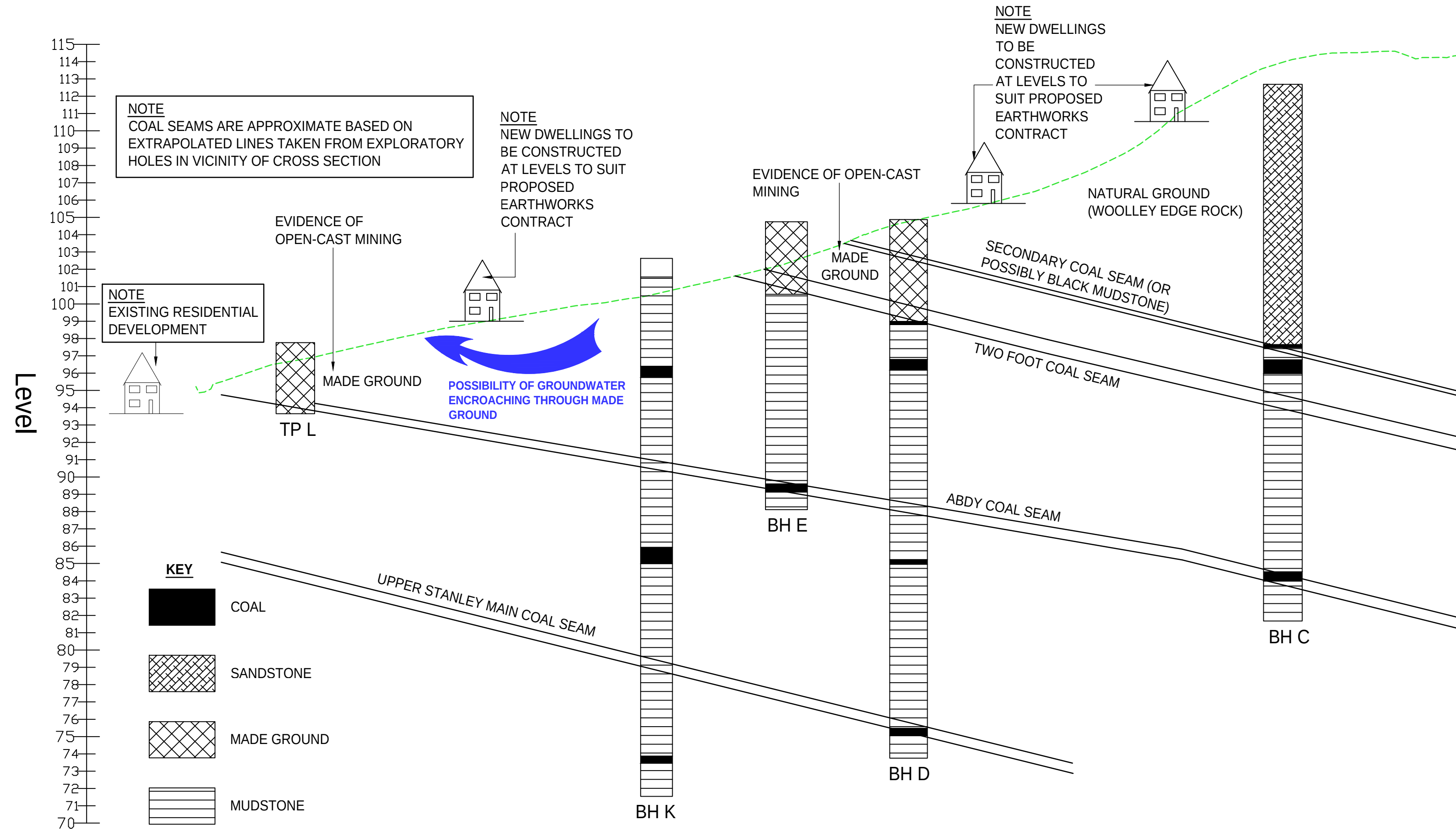


FIGURE A: SITE SECTION
SCALE: H 1:1000,V 1:200. DATUM: 90.000

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It is the contractors responsibility to ensure full compliance with the Building Regulations. Do not scale from this drawing, use figured dimensions only. It is the contractors responsibility to check and verify all dimensions on site. Any discrepancies to be reported immediately. IF IN DOUBT ASK.

Materials not in conformity with relevant British or European Standards/Codes of practice or materials known to be deleterious to health & safety must not be used or specified on this project.

Client:

PURICO GROUP LTD.

Project:

PROPOSED RESIDENTIAL DEVELOPMENT
WAKEFIELD ROAD, MAPPLEWELL

Status:

PRELIMINARY

Rev: Date: Amendment: DRN CHK

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Title

FIGURE A
SITE SECTION

Scale: see above
A2 - 594 x 420

Drawn: RPB

Checked: JP

Drawing No: 14/369/SKH/003

Job No: 14-369

Revision: -

Date: 01.07.15

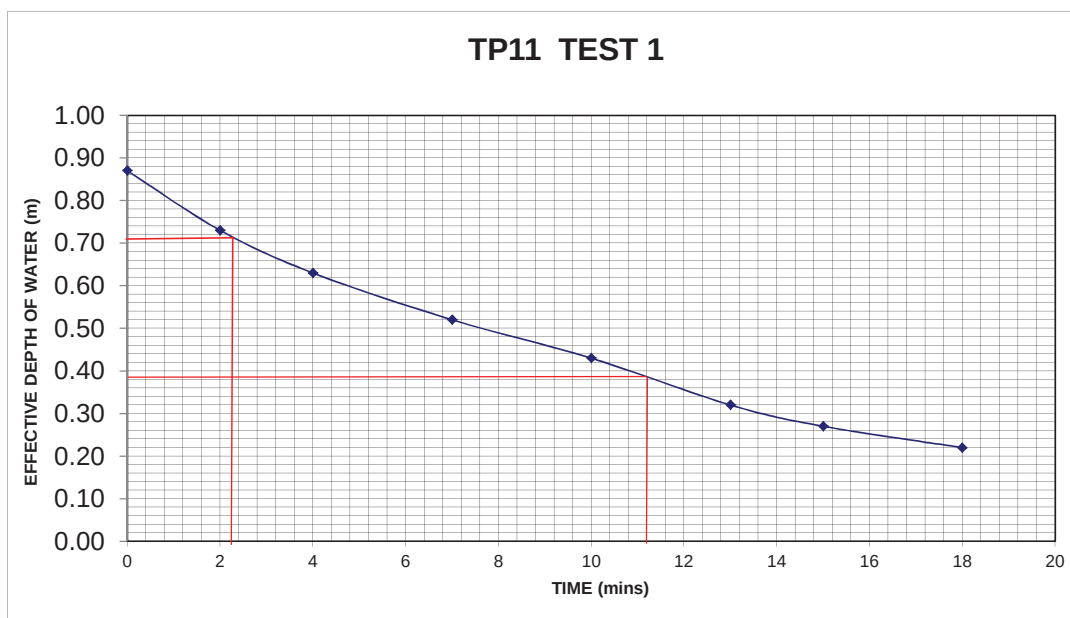
[illegible]

If water level does not pass 25% effective depth, final depth of water is used.

[illegible]

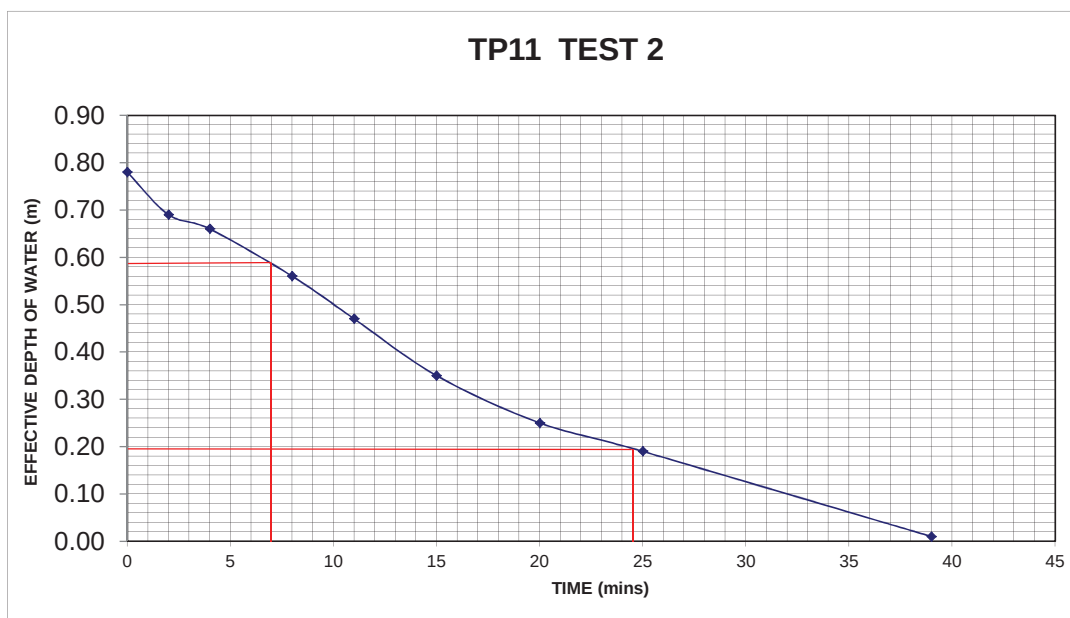
**TP11 TEST 1**

Depth of pit	1.950	
Depth to water at start	1.080	
Effective Depth of water at start	0.870	
Depth used for calc*	1.73	(Final depth to water level)
Length of hole at max. filled water level	2.400	Volume outflow (75% - 25% effective depth):
Length of hole at base	1.600	$V_{p75} = 0.44 \text{ m}^3$
Average	2.000	
Width of hole at surface	0.680	Mean surface area (inc. base of pit)
Width of hole at base	0.680	$a_{p50} = 4.2812 \text{ m}^2$
Average	0.680	
Maximum drop in water level	0.65	
75% effective depth	0.708	Time for discharge (75% and 25% effective depth):
50% effective depth	0.545	$t_{p75-25} = 9 \text{ minutes}$
25% effective depth	0.383	
Depth of hole	1.950	Soil infiltration rate:
50% Effective depth	0.545	$f = 1.98\text{E-}04 \text{ m/s}$
Time in mins at 75% effective depth (see curve)	2	
Time in mins at 25% effective depth (see curve)	11	



**TP11 TEST 2**

Depth of pit	1.950	
Depth to water at start	1.170	
Effective Depth of water at start	0.780	
Depth used for calc*	1.95	(Final depth to water level or base of pit if >25% effective depth)
Length of hole at max. filled water level	2.400	Volume outflow (75% - 25% effective depth):
Length of hole at base	1.600	$V_{p75} = 0.53 \text{ m}^3$
Average	2.000	
Width of hole at surface	0.680	Mean surface area (inc. base of pit)
Width of hole at base	0.680	$a_{p50} = 3.4504 \text{ m}^2$
Average	0.680	
Maximum drop in water level	0.78	
75% effective depth	0.585	Time for discharge (75% and 25% effective depth):
50% effective depth	0.390	$t_{p75-25} = 18 \text{ minutes}$
25% effective depth	0.195	
Depth of hole	1.950	Soil infiltration rate:
50% Effective depth	0.390	$f = 1.42\text{E-}04 \text{ m/s}$
Time in mins at 75% effective depth (see curve)	7	
Time in mins at 25% effective depth (see curve)	25	



**TP11 TEST 3**

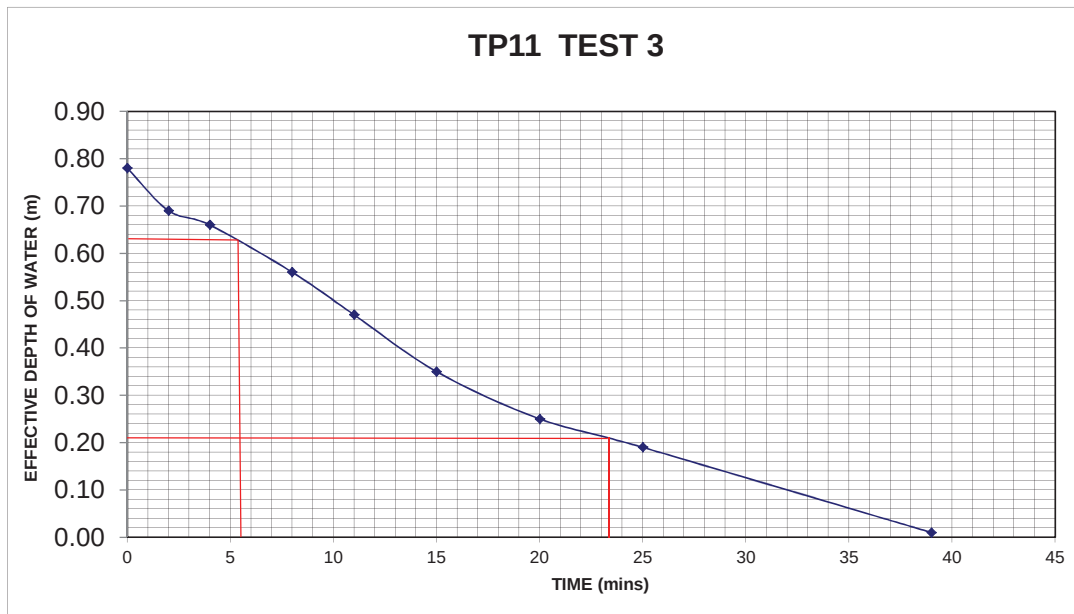
Depth of pit	1.950
Depth to water at start	1.120
Effective Depth of water at start	0.830
Depth used for calc*	1.95 (Final depth to water level)

Length of hole at max. filled water level	2.400	Volume outflow (75% - 25% effective depth): $V_{p75} = 0.56 \text{ m}^3$
Length of hole at base	1.600	
Average	2.000	

Width of hole at surface	0.680	Mean surface area (inc. base of pit) $a_{p50} = 3.5844 \text{ m}^2$
Width of hole at base	0.680	
Average	0.680	

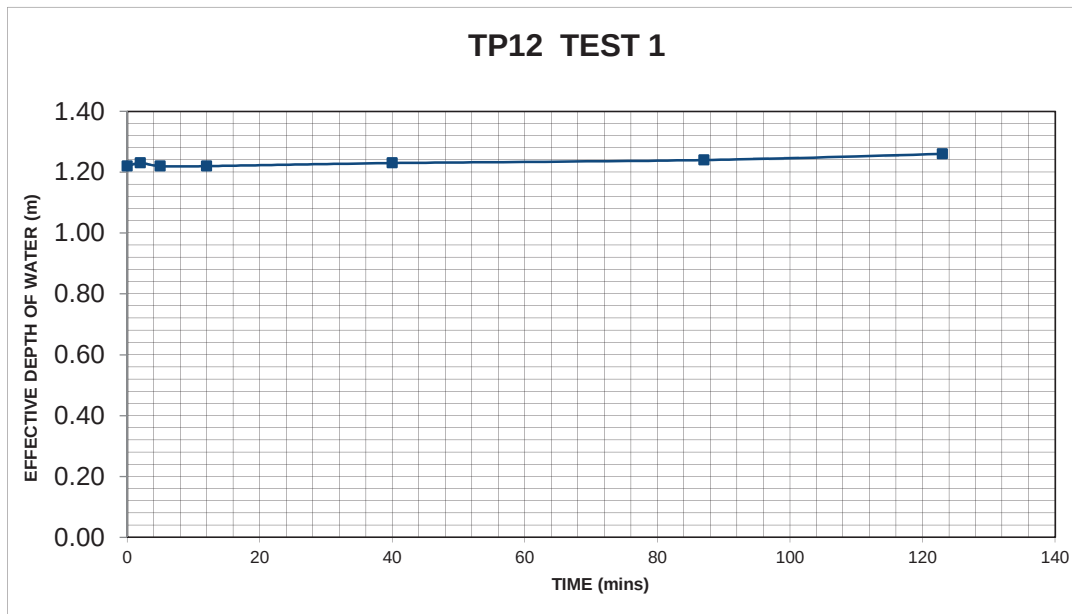
Maximum drop in water level	0.83	Time for discharge (75% and 25% effective depth): $t_{p75-25} = 18 \text{ minutes}$
75% effective depth	0.623	
50% effective depth	0.415	
25% effective depth	0.208	

Depth of hole	1.950	Soil infiltration rate: $f = 1.46\text{E-}04 \text{ m/s}$
50% Effective depth	0.415	
Time in mins at 75% effective depth (see curve)	6	
Time in mins at 25% effective depth (see curve)	24	



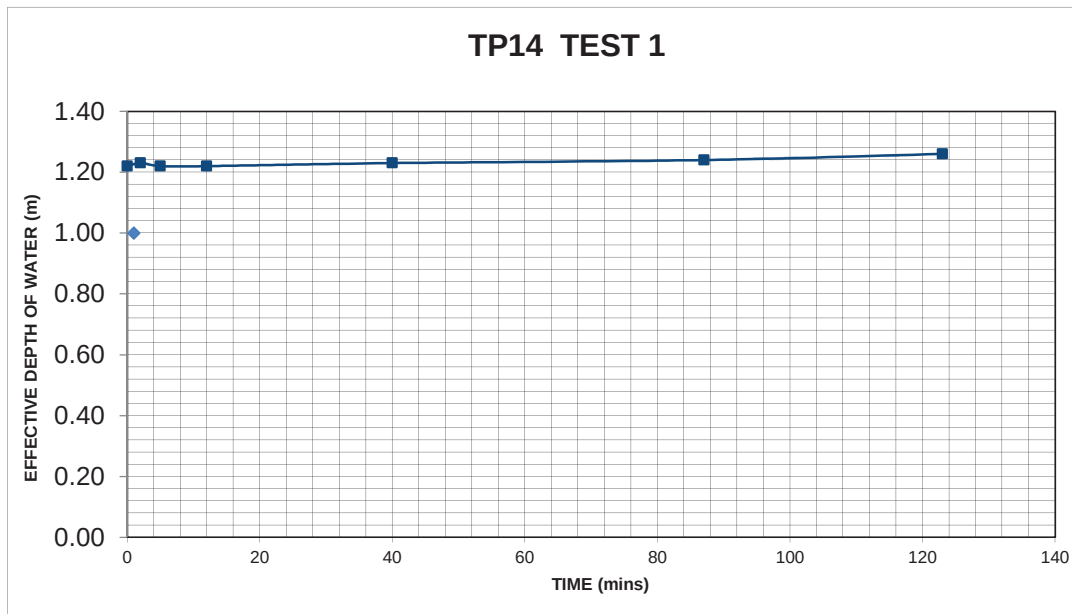
**TP12 TEST 1**

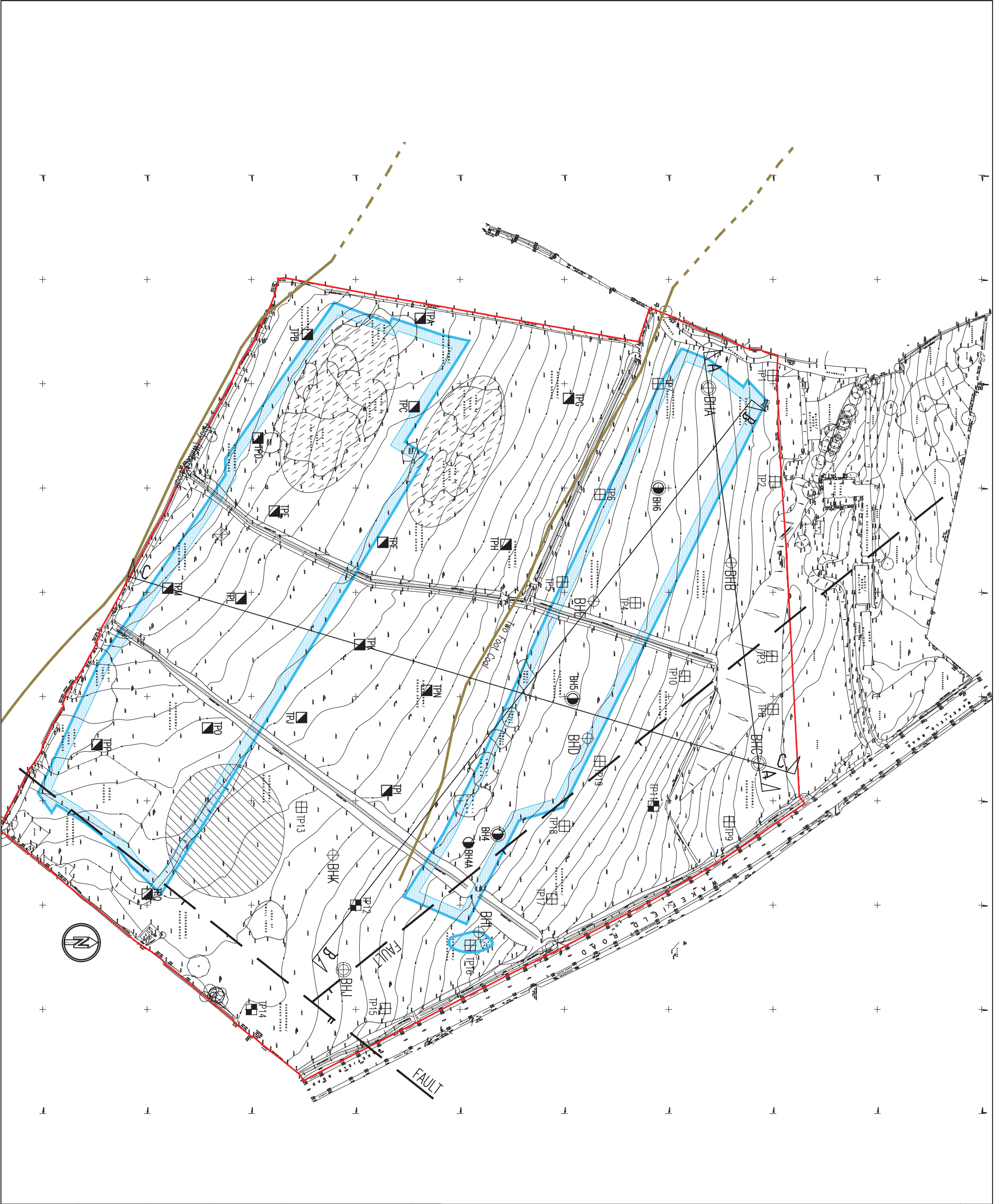
Depth of pit	2.000	
Depth to water at start	0.730	
Effective Depth of water at start	1.270	
Depth used for calc*	0.69	(Final depth to water level)
Length of hole at max. filled water level	2.500	Volume outflow (75% - 25% effective depth):
Length of hole at base	1.700	$V_{p75} = -0.03 \text{ m}^3$
Average	2.100	
Width of hole at surface	0.620	Mean surface area (inc. base of pit)
Width of hole at base	0.620	$a_{p50} = 8.3196 \text{ m}^2$
Average	0.620	
Maximum drop in water level	-0.04	
75% effective depth	1.280	Time for discharge (75% and 25% effective depth):
50% effective depth	1.290	$t_{p75-25} = 0 \text{ minutes}$
25% effective depth	1.300	
Depth of hole	2.000	Soil infiltration rate:
50% Effective depth	1.290	$f = \text{ m/s}$
Time in mins at 75% effective depth (see curve)		
Time in mins at 25% effective depth (see curve)		



**TP14 TEST 1**

Depth of pit	2.000	
Depth to water at start	0.730	
Effective Depth of water at start	1.270	
Depth used for calc*	0.69	(Final depth to water level)
Length of hole at max. filled water level	2.500	Volume outflow (75% - 25% effective depth):
Length of hole at base	1.700	$V_{p75} = -0.03 \text{ m}^3$
Average	2.100	
Width of hole at surface	0.620	Mean surface area (inc. base of pit)
Width of hole at base	0.620	$a_{p50} = 8.3196 \text{ m}^2$
Average	0.620	
Maximum drop in water level	-0.04	
75% effective depth	1.280	Time for discharge (75% and 25% effective depth):
50% effective depth	1.290	$t_{p75-25} = 0 \text{ minutes}$
25% effective depth	1.300	
Depth of hole	2.000	Soil infiltration rate:
50% Effective depth	1.290	$f = \text{\#DIV/0!} \text{ m/s}$
Time in mins at 75% effective depth (see curve)		
Time in mins at 25% effective depth (see curve)		





N 0 T E S

KEY:

- Approximate Site Boundary
- Approx. perimeter of Opencast Workings (based on Coal Authority plans)
- Coal Seam Outcrop
- Coal Seam Outcrop (Conjectured)
- Fault (Conjectured) – Cross hair shown on downthrown side
- Area of very soft ground
- Overgrown Area
- Rotary Borehole
- Rotary Borehole with Well
- Cable Percussive Borehole
- Cable Percussive Boreholes with Well
- Trial Pit (JCB 3CX excavator)
- Trial Pit (14 tonne tracked 360)
- Trial Pit (with sodakaway test)
- Geological Cross Sections

Rev	By	Date	Revision	Chk
1		06.03.15	Issued for approval	



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TITLE

TRIAL PIT AND BOREHOLE PLAN

PROJECT

WAKEFIELD ROAD,
MAPPLEWELL.

CLIENT

PIPESTONE LTD

Scale	Date	Drawn	MW
1:1250 @ A2	FEB 15	Chk.	JM
Dwg. No.	PIP/01/SI.06	Rev	

Rik Binnersley

From: Bell , Derek <DerekBell@barnsley.gov.uk>
Sent: 03 September 2015 14:46
To: Rik Binnersley
Cc: Grayson , Ian
Subject: [pending]RE: 14-369 - Wakefield Road, Mapplewell

Rik,

Given the recent correspondence regarding the soakaways and their suitability at this site I acknowledge your comments regarding the functionality of soakaways and the potential for their subsequent failure resulting in unwanted discharge and increased flood risk within the site. With this in mind I welcome alternate provisions for surface water management for the development and look forward to your proposals for the use of the watercourse on the southern boundary.

At this stage I'm only able to provide an 'in principle' agreement to this approach and will provide more detailed comments on you're the full drainage proposal once it has been submitted.

Regards ~ Derek

Derek Bell

Principal Network Resilience Manager
Environment & Transport

Barnsley Metropolitan Borough Council, Westgate Plaza 1, PO Box 601, Barnsley, S70 9FA*

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Mob: 07773 783184
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E-mail: DerekBell@barnsley.gov.uk

From: Rik Binnersley [mailto:RikBinnersley@bryanghall.co.uk]
Sent: 03 September 2015 12:36
To: Bell , Derek
Cc: Grayson , Ian
Subject: 14-369 - Wakefield Road, Mapplewell

Derek,

Further to our telephone conversation, following on from the telephone conversation I had earlier this morning with Ian Grayson, we confirm that we will proceed as discussed with relation to the existing ditches on the site.

I have attached a mapping extract I received from Dave Lacey while you were on leave, it is our intension to maintain the ditch along the southern boundary of the site only. As advised by Ian earlier today the other ditches shown on the map appear now to be redundant, this will be made the case furthermore by the development of the site.

Unless we hear contrary to the above in the next day or so we will proceed on this basis.

On a related note, we are still awaiting receipt of confirmation from yourself regarding the omission of soakaways in favour of positively draining the site to the aforementioned southern ditch as outlined in my letter to you of the 2nd July 2015. Due to the time that has now elapsed we need to move the design forward. We did discuss our

APPENDIX E

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