



## **DEVELOPMENT SERVICES**

### **PLANNING COMMITTEE**

#### **FOR DECISION**

**17th May 2016**

Ladies and Gentlemen,

The applications within this report have been submitted for determination under the Town and Country Planning Acts and associated legislation.

All applications within this report are “Delegated” to this Committee but can be moved “Non-Delegated” by a Member of the Committee under the terms adopted for the Scheme of Delegation approved by Council, 16<sup>th</sup> May, 1994. Any such motion needs to be accepted by a majority of Members of the Committee present (Council, 8<sup>th</sup> August, 1995). All applications left as Delegated will be decided by the Committee and will not be subject to confirmation by Council.

The application plan numbers also refer to files for the purposes of background papers.

*Jason Hipkiss*

**Planning Manager**

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<b>PLAN NUMBER:</b>	<b>APPLICANT:</b>	<b>AGENT:</b>
2015/0860	Mulberry Homes Ltd	Mr Allan Lloyd-Haydock
<b>WARD/PARISH:</b>	<b>CASE OFFICER:</b>	<b>DATE RECEIVED:</b>
Ormsgill	Charles Wilton 01229 876553	30/11/2015
		<b>STATUTORY DATE:</b> 24/01/2016
<b>LOCATION:</b>	Thorncliffe School (south site), Thorncliffe Road, Barrow-in-Furness	
<b>PROPOSAL:</b>	Application for approval of details as reserved by condition No. 4 (foul and surface water drainage) No. 5 (Construction Environmental Management Plan) and No. 6 (highway details) of planning permission 2015/0642 (erection of 29 detached houses)	
<b>SAVED LOCAL PLAN POLICIES:</b>		

### POLICY D56

The Council will refuse permission for development that in its opinion is likely to adversely affect the quality of surface, underground or coastal water as a result of the nature of the surface or waste water discharge, or give rise to pollution problems resulting from the disturbance of contaminated land. The Authority will support initiatives that lead to improvement in surface water quality.

### POLICY D57

Developments will not be permitted which in the opinion of the Council pose an unacceptable risk to the quality of groundwater. Areas subject to different levels of risk and protection are shown on the Proposals Map.

### POLICY E2

Highways proposed in housing developments must be designed and constructed to adoptable standards.

## **SUMMARY OF MAIN ISSUES:**

It is relatively unusual for an application which seeks to discharge conditions previously attached to a planning permission to come before Committee. Such submissions are almost always dealt with by the planning manager under the delegated authority. However this is limited to cases where there are no objections. In this case there are objections from Cumbria County Council as Lead Local Flood Authority (LLFA).

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When first submitted there were many more objections including from United Utilities. Changes have been made and further information provided which have gone some way to reducing the County's objections and have removed UU objections altogether. In part this is due to the County accepting that in this case UU requirements have priority as a result of the application site falling within a Special Groundwater Protection Zone (SGPZ1). The SPZ1 relates to the site's proximity to UU bore holes where drinking water is extracted. However not all matters have been resolved.

These remaining matters relate largely to condition no 4 which required details of the foul and surface water drainage to be agreed. Unusually UU and the County had at one time different objectives. While this has been resolved the County remains concerned about several matters which I have listed under headings **A** to **G** below. In some cases the applicant has agreed to provide further information which I understand should be available in time for your meeting. In a smaller number of instances there remains an in pass which I also comment on.

Subject to the receipt of the further acceptable information identified I expect to be able to recommend the relevant details are agreed.

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### NON MATERIAL CONSIDERATIONS:

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### REPRESENTATIONS:

None received

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### CONSULTATIONS:

United Utilities dated 18/12/2015

"With reference to the above planning application and further to my letter of 30 October and your email of 19 November 2015, United Utilities wishes to confirm its final position in respect of the above-mentioned proposal.

In previous correspondence to the local planning authority we have highlighted that the proposed development is located within an Environment Agency designated Groundwater Source Protection Zone 1 (SPZ1) used for public water supply purposes.

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United Utilities has been consulted by the local planning authority on potential development at this location as part of the preparation of the emerging development plan. As has always been the case in respect of the consideration of development at this location, our starting point has always been that United Utilities would be able to most appropriately manage the impact on its assets if development does not take place within SPZ1 as this is the most sensitive location from a groundwater protection viewpoint. Notwithstanding our strong preference for development to take place in locations outside SPZ1, if you are minded to grant approval, it is important that we explain that residential development in SPZ1 could pose a threat to groundwater quality if mitigation measures are not included and therefore the conditions which we recommend are very important. In our earlier letter, we asked the applicant to consider two points, which were:

- 1) the proposed inclusion of an overspill basin within the open space in close proximity to the public water supply boreholes; and
- 2) the overland flow flood exceedance routes are directed towards the water treatment works and public water supply boreholes.

The applicant has subsequently written to United Utilities on 19 November 2015 to confirm that the overspill basin will not form part of the proposal. They have confirmed that the surface water drainage proposed will accommodate the whole of the Q100 storm plus 30% climate change allowance in the tank below ground rather than have the climate change element overspill to the open space.

In light of the above, the conditions which we can now confirm to you are set out below.

### **Condition 1**

*Foul and surface water shall be drained on separate systems.*

*Reason: To secure proper drainage and to manage the risk of flooding and pollution.*

### **Condition 2**

*Prior to the commencement of development, details of the foul and surface water drainage schemes (inclusive of how the schemes shall be maintained and managed after completion) shall be submitted to and approved in writing by the local planning authority. Unless otherwise agreed in writing:*

- a) *the surface water drainage scheme shall discharge to the surface water sewerage system on Salkeld Road and the rate of discharge shall be restricted to a maximum pass forward flow of 5 l/s in accordance with the details in the submitted Flood Risk Assessment and Surface Water Management Strategy dated 28.08.15 prepared by ID Civils Design Limited Reference 4069/FRA1B; and*

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b) *surface water storage shall be provided for the 1 in 100 year rainfall event including a 30% allowance for climate change in a below ground tank structure in accordance with the email dated 19 November 2015 from D Linklater of ID Civils Design Limited to United Utilities and Eden District Council.*

*The foul and surface water drainage schemes shall provide details of measures required to mitigate any risks to groundwater and public water supply from the development. The mitigation measures shall include the highest specification design for the new foul and surface water sewerage system. These measures shall include:*

c) *trench excavations beneath roadways for both foul and surface water drainage will be lined with a 1 metre thick engineered clay layer beneath the pipework, including regularly spaced clay stanks;*

d) *trenches beneath gardens and plots for foul and surface water drainage will be lined with 0.5 metre thick engineered clay layer beneath pipework and wrapped in an impermeable HDPE liner;*

e) *the surface water attenuation tanks will be twin walled with excavations lined with a 1 metre thick engineered clay layer beneath the tanks;*

f) *written evidence from the applicant to confirm that the imported clay material with which it is proposed to line the trenches will be impermeable. This could be in the form of permeability test reports from a supplier demonstrating that the material has a permeability less than  $1 \times 10^{-9}$ ;*

g) *trapped gully pots should be installed to control pollutants entering the surface water drainage system;*

h) *the foul sewers serving plots 21 – 30 inclusive (as defined on the Proposed Detailed Site Layout, drawing number reference 402-STO 100 Revision I, dated 07.09.2015) shall be located to the rear of the proposed properties so to maximise the stand-off distance from the public water supply boreholes. This principle is illustrated on Drawing No. 4069-C-D9-01 Revision 0 dated 19.06.14 titled 'Mitigation Strategy for Drainage within SPZ1' included within Appendix J of the submitted Flood Risk Assessment and Surface Water Management Strategy; and*

i) *the foul and surface water drainage scheme shall be offered for adoption in accordance with paragraph 9.22 of the submitted Flood Risk Assessment and Surface Water Management Strategy.*

The development shall be completed, maintained and managed in accordance with the approved details.

Reason: To promote sustainable development, secure proper drainage and to manage the risk of flooding and pollution. The site lies within a Groundwater Source Protection Zone 1 for a nearby public water supply abstraction, and as such the site is considered to be particularly sensitive to the input of pollutants at the surface. In accordance with the Environment Agency position statement in Groundwater Protection: Principles and Practice (GP3), the Environment Agency and United Utilities require the highest specification pipework and design for the sewerage system at this site. This condition is imposed in light of policies within the NPPF and NPPG.

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### **Condition 3**

*No development shall take place until a Construction Phase Environmental Management Plan (CEMP), for the construction phase of the proposed development, is submitted to and approved by the Local Planning Authority in writing. The developer will need to refer to all relevant pollution prevention guidelines. The statement shall outline the potential impacts from all construction activities on groundwater and identify mitigation measures to protect and prevent pollution of these waters. In particular it will need to be ensured that any facilities for the storage of oils, fuels or chemicals is appropriately bunded and contained to prevent the discharge of contaminated fluids to ground. The site compound shall be located as far as possible from the public water supply boreholes. The development shall be undertaken in accordance with the approved CEMP.*

*Reason: To promote sustainable development and to manage the risk of pollution. The site lies within a Groundwater Source Protection Zone 1 for a nearby public water supply abstraction, and as such the site is considered to be particularly sensitive to the input of pollutants at the surface.*

### **Condition 4**

*The construction of the foul and surface water sewerage systems shall be subject to a watching brief. The watching brief appointment shall be agreed with the local planning authority in liaison with United Utilities Water Limited and the results provided to the Local Planning Authority in writing. No occupation shall take place until a written validation report has been submitted to and agreed with the local planning authority demonstrating completion of the installation of the liner system and confirmation and assurance that mitigation measures have been constructed/implemented as per the agreed design.*

*Reason: The site lies within a Groundwater Source Protection Zone 1 for a nearby public water supply abstraction, and as such the site is considered to be particularly sensitive to the input of pollutants at the surface.*

### **Condition 5**

*No occupation shall take place until a management plan for the public open space is submitted to and agreed in writing with the local planning authority in liaison with United Utilities Water Limited. The management plan shall ensure that the management of the land closest to the public water supply boreholes is managed to reduce the possibility of pollutants entering groundwater. This should include restrictions on the use of herbicides and pesticides. The public open space shall be managed in accordance with the agreed management plan for the lifetime of the development.*

*Reason: To minimise the risk of pollution to the nearby public water supply abstraction.*

The applicant can discuss further details of the site drainage proposals with Josephine Wong, Developer Engineer, by email at [wastewaterdeveloperservices@uuplc.co.uk](mailto:wastewaterdeveloperservices@uuplc.co.uk). For any further information regarding Developer Services and Planning, please visit our website at <http://www.unitedutilities.com/builders-developers.aspx>.

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In addition to the above conditions, we note the purchaser has offered to provide information packs at the point of sale informing property owners of the location of the site within a groundwater source protection zone which is used for public water supply purposes. We encourage the applicant to do this if planning permission is granted.

We are also aware that this proposal is shown as phase 1 of a wider development in the submitted information and in the emerging local plan. We wish to continue with early engagement with the applicant and the local planning authority in respect of any further development that may be brought forward in the area given the sensitivity of this location for public water supply purposes.

In addition, we encourage the construction of the homes with water efficiency measures, especially to the water use standard previously required by Level 3 of the Code for Sustainable Homes. This reflects Policy CS7 of the adopted Core Strategy Development Plan Document for Eden District (March 2010). We also encourage the inclusion of water efficiency options which will help to reduce the flow of surface water from the site, for example, rainwater harvesting systems and rainwater butts.”

### Comments to applicant but copied to LPA -United Utilities 8/2/16

"Further to our recent discussions I wanted to confirm the up to date position of United Utilities with respect to conditions 3, 4, 5 and 9 of outline planning permission B07/2015/0642. This planning permission relates to the Erection of 29 detached houses and garages, including associated site works on land at Thorncliffe School (south site), Thorncliffe Road, Barrow in Furness.

In our response to the planning application, we highlighted to you and the local planning authority that the proposed development is located within Groundwater Source Protection Zone 1 (SPZ1). In this case the proposal is within 50 metres of a United Utilities' borehole and an existing water treatment works. This borehole is a primary source for providing public water supply. It is a key infrastructure resource.

Within our response to the application for planning permission reference B07/2015/0642, United Utilities stated the following.

- 1) It would be able to most appropriately manage the impact on its assets if development does not take place within SPZ1 as this is the most sensitive location from a groundwater protection viewpoint;
- 2) Notwithstanding our strong preference for development to take place in locations outside SPZ1, we drew attention to the advice of the Environment Agency on development in such locations. This is set out in their guidance document titled '*Groundwater Protection: Principles and Practice (GP3) August 2013*'.
- 3) Residential development in SPZ1 could pose a threat to groundwater quality if mitigation measures are not considered. We expect developers to provide adequate information when submitting their proposals so that the potential impact on groundwater resources and quality can be adequately assessed.

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- 4) It is necessary to consider appropriate protection measures in the design of the foul and surface water drainage schemes. In accordance with Position Statement G8 Sewerage Pipework of the aforementioned document, we will require the use of the highest specification pipework and designs for schemes involving new sewerage systems in SPZ1 to minimise leakage.
- 5) It is necessary to consider appropriate protection measures during the construction process to mitigate the risk to groundwater quality and public water supply.

In response to these concerns, the local planning authority helpfully attached the following conditions.

### *Condition 3*

*Foul and surface water shall be drained on separate systems.*

Reason: To secure proper drainage and to manage the risk of flooding and pollution.

### Condition 4

Prior to the commencement of development, details of the foul and surface water drainage schemes (inclusive of how the schemes shall be managed after completion) shall be submitted to and approved in writing by the local planning authority.

The drainage schemes shall include a quantitative and qualitative risk assessment and mitigation strategy with respect to groundwater protection details of any extra protection measures necessary to manage the risk of pollution to public water supply and the water environment. The risk assessment should be based on the source-pathway-receptor methodology. It shall identify all possible contaminant sources and pathways for the life of the development and provide details of measures required to mitigate any risks to groundwater and public water supply from the development. The mitigation measures shall include the highest specification design for the new foul and surface water sewerage system (pipework, trenches, manholes, pumping stations and attenuation features).

The surface water drainage scheme must be in accordance with the Non-Statutory Technical Standards for Sustainable Drainage Systems (March 2015) or any subsequent replacement national standards and unless otherwise agreed in writing no surface water shall discharge to the public sewerage system. The peak surface water runoff rate from the development for the 1 in 1 year rainfall event and the 1 in 100 year rainfall event must be as close as reasonably practicable to the greenfield run-off rate from the development for the same rainfall event, but in accordance with the submitted flood risk assessment should never exceed the rate of discharge (including 30% betterment) from the development prior to redevelopment for that event.

The drainage schemes shall demonstrate that any overland flows from the sewerage system for rainfall events greater than 1 in 30 are directed away from the public water supply borehole.

The development shall be completed, maintained and managed in accordance with the approved details.

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Reason: To promote sustainable development, secure proper drainage and to manage the risk of flooding and pollution. This condition is imposed in light of policies within the NPPF and NPPG and takes account of the location of the development within a Ground Water Source Protection Zone 1 (SPZ1).

### Condition 5

No development shall take place until a Construction Environmental Management Plan (CEMP), for construction of the proposed development, is submitted to and approved by the Local Planning Authority. The statement shall outline the potential impacts from all construction activities on both groundwater, public water supply and surface water and identify mitigation measures to protect and prevent pollution of these waters. The development shall be undertaken in accordance with the approved CEMP.

Reason: To promote sustainable development and to manage the risk of pollution.

### Condition 9

*The approved Construction Method Statement Ref Mul. TSS-CEMP1 dated October 2015 shall be adhered to throughout the construction period.*

*Reason: In the interests of minimising the impact upon local environmental amenity.*

In response to these conditions you have submitted a Surface Water Drainage Strategy dated 24 November 2015 reference CN15115 prepared by M & P Gadsden. Our comments on this document are below.

### **Submitted Surface Water Drainage Strategy**

Within the submitted Surface Water Drainage Strategy are the following statements.

*'The made ground ranges in depth from 0.1m to 0.3m before encountering the clay. This clay becomes stiff in every trial hole prior to reaching a depth of 0.6m.'* See page 8 under the heading of '*Contamination, Geology and Hydrogeology*'.

*'Beneath the shallow layer of made ground are stiffer impermeable clays, approximately 21m deep.'* See page 14 under the heading of '*Conclusions*'.

We note that this contrasts with the geological records obtained from the British Geological Survey ([http://scans.bgs.ac.uk/sobi\\_scans/boreholes/904518/images/13371912.html](http://scans.bgs.ac.uk/sobi_scans/boreholes/904518/images/13371912.html)). These indicate that the geology in this immediate area comprises clay and stones to a depth of 6 feet (1.8 m) underlain by a mixed succession of ballast, boulders, iron ore and marl overlying the sandstone which is first encountered at a depth of about 24 metres from the ground surface. It is unclear what proportion of clay to stones is present in this uppermost layer.

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Although there is clay present in the superficial deposits, which will reduce vertical infiltration, there will be some inherent permeability pathways within the vast majority of the succession above the Permo-Triassic Sandstone aquifer, and hence the potential for downward migration of fluids if the uppermost clay and stone sequence is breached or not present all over the site. Therefore, the strategy document needs to reflect this in some of the proposals that are being put forward which are discussed below.

1. The report proposes that “*channel drains will be provided at back of footpath to the base of driveway slopes which will be discharged through filter drains to planted garden beds*”. Given the geological sequence outlined above, we do not agree with this approach. We feel the approach does not provide sufficient protection to groundwater quality in this area. There is the potential for contaminants from driveway run off, such as petroleum based products, to percolate into the ground via the planted garden beds due to the underlying geological ground conditions. We require that driveway run-off should be diverted to sewer not to ground as there is too great a risk given the geology of the site to allow run off from driveways to enter the ground.
2. We note the reference to a “*Surface water protection zone 1 (SPZ1 – Inner Protection Zone)*”. For clarity this should refer to “*Groundwater Source Protection Zone SPZ1*”.
3. Appendix G is the Life Cycle Risk Assessment. Row 6 of the Life Cycle Risk Assessment considers mitigation for failure of the drainage assessment. It proposes concrete bed and surround. Whilst United Utilities appreciates the intentions of the applicant, United Utilities does not consider this an appropriate way forward as this would make future access to the sewer problematic. As an alternative we have suggested that you pursue a clay lined approach. The details of this approach have already been forwarded to you by way of an example at Salkeld Road in Penrith (attached). This includes various other measures for inclusion.
4. With regards the proposed connection point for surface water discharge, we note Appendix H which includes a drainage layout reference 15115/06.1. This proposes connection to the public combined sewer for surface water. The original intention was to discharge to the nearby culverted watercourse. You have stated this is not available. The next most sustainable appropriate alternative is discharge to the surface water sewer in Salkeld Road. Please can you amend your proposals showing discharge to the surface water sewer.
5. With regards the proposed surface water discharge rates, you can discuss this matter with Graham Perry, Development Engineer, who can be contacted on [wastewaterdeveloperservices@uuplc.co.uk](mailto:wastewaterdeveloperservices@uuplc.co.uk)
6. With regards condition 5, we request that a Construction Environmental Management Plan is submitted which fully reflects the need to manage the risk posed by the redevelopment of this brownfield site within Groundwater Source Protection Zone 1. With regards the submitted Construction Method Statement, which partly overlaps with this condition, we note paragraph 3.8 in particular:

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- i. the reference to '*Not discharging wash waters from mobile pressure washers to surface water drains*'. Please confirm where this will go;
- ii. the reference to '*Prevent the spillage from entering drains and try to protect the surrounding ground*'. Please confirm what these measures are; and
- iii. the reference to '*The spillage of polluting fluids can cause environmental damage. Their use and storage will be addressed in the COSHH assessment and the site risk assessment. However members of site staff will be trained on discovering a major spill to implement the following measures. Stop the flow if possible;*' and '*Prevent the spillage from entering drains and try to protect the surrounding ground.*' Please confirm what measures will be taken to protect the surrounding ground.

For your information, I have copied this response to the planning officer. We look forward to receiving a revised submission for further comment"

### United Utilities dated 3/03/2016

"Thank you for the below email and forwarding the attached letter dated 29 January 2016 from Cumbria County Council. Having very carefully considered the matter of the appropriateness of using infiltration for run-off from roof water with colleagues, we wish to confirm that we would prefer all run-off to discharge to the public surface water sewer in Thorncliffe Road at this sensitive location. This is as a result of the need to protect the groundwater environment and the importance of this public water supply location. This deals with point 1 raised in my email of 8 February 2016, which is attached.

With regards the rate of discharge, this has also been considered by colleagues and having regard to the previously developed nature of this site, United Utilities will accept a discharge of 15 l/s to the public surface water sewer. Please note the discharge should be to the surface water sewer and not the combined sewer in Thorncliffe Road. This relates to point 5 of my email of 8 February 2016.

In accordance with point 4 of the email of 8 February 2016, the applicant should submit revised details reflecting the above position.

Please note additional information is still requested in respect of points 3 and 6 (i-iii) of my email of 8 February. We look forward to receiving the resubmitted details."

### United Utilities dated 20/04/16

"I've circulated this information to colleagues and we'll do our absolute best to come back to you asap, however, it may be a struggle before tomorrow as our Groundwater Protection Manager only returns to the office today and will be out of the office all day tomorrow.

I wondered if I could trouble you to forward a copy of the decision notice so I can confirm the exact wording of the conditions. I did look on your website, however, it doesn't appear to be available. Many thanks for your assistance."

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United Utilities dated 22/04/16

“I won't be in a position to recommend discharge of all the conditions in respect of this proposal today. I'm still awaiting comments from colleagues. Please rest assured I am giving this a high priority.”

Cumbria County Council dated 29/01/16

“Thank you for the opportunity to provide your authority with Cumbria County Council's comments on this application.

4. Prior to the construction or laying out of any part of the foul or surface water drainage, details of the foul and surface water drainage schemes (inclusive of how the schemes shall be managed after completion) shall be submitted to and approved in writing by the local planning authority.

The drainage schemes shall include a quantitative and qualitative risk assessment and mitigation strategy with respect to groundwater protection details of any extra protection measures necessary to manage the risk of pollution to public water supply and the water environment. The risk assessment should be based on the source pathway-receptor methodology. It shall identify all possible contaminant sources and pathways for the life of the development and provide details of measures required to mitigate any risks to groundwater and public water supply from the development. The mitigation measures shall include the highest specification design for the new foul and surface water sewerage system (pipework, trenches, manholes, pumping stations and attenuation features).

The surface water drainage scheme must be in accordance with the Non-Statutory Technical Standards for Sustainable Drainage Systems (March 2015) or any subsequent replacement national standards and unless otherwise agreed in writing no surface water shall discharge to the public sewerage system. The peak surface water runoff rate from the development for the 1 in 1 year rainfall event and the 1 in 100 year rainfall event must be as close as reasonably practicable to the greenfield run-off rate from the development for the same rainfall event, but in accordance with the submitted flood risk assessment should never exceed the rate of discharge (including 30% betterment) from the development prior to redevelopment for that event.

The drainage schemes shall demonstrate that any overland flows from the sewerage system for rainfall events greater than 1 in 30 are directed away from the public water supply borehole.

The development shall be completed, maintained and managed in accordance with the approved details.

Reason

To promote sustainable development, secure proper drainage and to manage the risk of flooding and pollution. This condition is imposed in light of policies within the NPPF and NPPG and takes account of the location of the development within a Ground Water Source Protection Zone 1 (SPZ1).

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Response: This condition should not be discharged as the details submitted are not in line with the approved application.

For clarity, I am not commenting on the second paragraph above from “The drainage schemes...” to “...and attenuation features).” This paragraph was not introduced at our request.

The drainage strategy argues that Sustainable Drainage Systems (SuDS) are not achievable for the house roof areas but we would disagree with this position and furthermore this position is not in line with the agreed Flood Risk Assessment.

1) The gardens would not be unusable as was suggested in the drainage strategy, it is a question of using garden design to make a feature out of any SuDS systems. It is possible that more of the gardens will need to be devoted to soakaway land drains under planted beds than would otherwise be the case or there may be other innovative design solutions, either way this is an inevitable consequence of settling on a layout without consideration of the NPPF requirement to give priority to the use of sustainable drainage. Given that the condition requested by United Utilities in order to protect the public water supply states that *no surface water shall discharge to the public sewerage system*, which is a condition that we would support, we would advise that the developer should investigate which SuDS components, are suitable for the site and use them to the fullest in order to keep as much surface water as possible out of the public sewerage system. There are many options other than the attenuation ponds, swales, infiltration and soakaway systems, that are considered in the drainage strategy and much more could be achieved on this site.

2) If as LPA you are minded to agree with the developer that house roof water should not be discharged into garden areas then the agreed FRA listed other ways to manage this water which have not been pursued. This included ground level rills (i.e. 1 2) collecting water from downpipes and water butts with overflows (i.e. rainwater harvesting) both of which should be pursued.

The drainage strategy states driveways and garage roof areas will be discharged using filtration systems which is similar to the soakaway land drains under planted beds and is welcome. However no design or detail of these systems has been supplied so there is a high risk that these components will fail causing surface water flooding. BRE Digest 365 is the most common method for soakaway design but it only gives guidance to design for 1 in 10 year rainfall events. Any method the designer chooses to use must be modified if necessary to ensure that it is compliant with the Non-statutory technical standards for sustainable drainage systems.

As the system relies on infiltration the results of a ground investigation including infiltration testing and groundwater monitoring should be submitted. This investigation must take place over a wet period when soil moisture deficit is lowest (usually winter). Now is the ideal time for the applicant to conduct their ground investigation. Basing any design on figures derived from testing in dry conditions would risk failure of the component causing surface water flooding.

We objected to the application partly because the ultimate drainage destination had not been resolved. As this matter is still not resolved at this even later stage then we would not recommend that this condition can be discharged.

No consideration of flows originating from offsite has been made.

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It is not correct to count the garages as greenfield area. They are impermeable surfaces (brownfield) so create the increased surface water runoff associated with these surfaces regardless of whether they discharge to planted garden beds or not. This error has occurred at an early stage in the calculations and we cannot verify whether the proposal will meet the standard required or not. If the driveways are not fully permeable then this same error would be the case for the driveways but as no design has been supplied we cannot be certain at this point.

Clear arrangements must be in place for ongoing maintenance over the lifetime of the development. The developer states that maintenance of driveway and garage roof drainage will be the sole responsibility of the homeowners. This is reasonable but the developer needs to submit for planning approval a maintenance pack which is to be provided to the homeowner outlining their responsibilities so that we can be assured that clear arrangements are in place for this purpose. This will also need to cover any other drainage elements that may be submitted as part of a revised drainage strategy. It is also unclear whether United Utilities are willing to adopt the main drainage system and I would not recommend discharge of this condition until the question of adoption is resolved.

5. No development shall take place until a Construction Environmental Management Plan (CEMP), for construction of the proposed development, is submitted to and approved by the Local Planning Authority. The statement shall outline the potential impacts from all construction activities on both groundwater, public water supply and surface water and identify mitigation measures to protect and prevent pollution of these waters. The development shall be undertaken in accordance with the approved CEMP.

Reason

To promote sustainable development and to manage the risk of pollution.

Response: We did not ask for this condition and have no comment.

6. The carriageway, footways and footpaths shall be designed, constructed, drained and lit to a standard suitable for adoption by the Highway Authority and in this respect further details, including longitudinal and cross sections, and a programme of phasing for future management and maintenance *shall have been submitted to and approved in writing by the Planning Authority prior to the base course of any part of the highway being laid. The works shall be constructed in accordance with the approved details and the scheme of phasing as agreed with the Planning Authority.*

Reason

*To ensure that in the interests of the safety of highway users and pedestrians a suitable standard of access for the development exists at all times.*

**Response: We would object to the discharge of this condition because we still await further details.**

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We are not yet in a position where we can recommend discharge of this condition. In particular we cannot confirm the drainage details at this point in time because the drainage strategy has not assured us that surface water and highway flooding will not occur so is subject to change. This may have implications if there need to be revisions to any components that may be placed on the carriageway, footways and footpaths.

In summary then I am unable to recommend discharge of the conditions”

Cumbria County Council dated 16/02/16

“Yes I was aware of the SPZ1. My view was that there are two sides to this coin, the groundwater must be protected from pollution but equally the groundwater has to be able to recharge by having clean water infiltrating into the ground. I feel that a well designed SuDS scheme is the best way of achieving the dual objective and in my view the driveway water could be made safe by applying multiple SuDS treatment stages. I do concede that United Utilities are a more appropriate authority to comment on this risk than ourselves. UU would prefer drive drainage to go to a sewer and as you say this presumably applies to the highway drainage as well. I don't think this will apply to the roof drainage either so even if you accept UU's comments in full then most aspects of my comments are still also applicable.

My response to condition 6 was split across the page but it is not about securing a s.38 agreement. This objection also relates to drainage which is an important feature of road construction and maintenance, with impacts on road safety. The drainage strategy is not acceptable therefore drainage details within the carriageway, footways and footpaths are subject to change (I suppose my wording was a bit soft and maybe I should have stated that the submitted details are not suitable for adoption). This is likely to mean that materials used, points of connection, particular drainage components used, scheme of phasing for maintenance, etc, within the carriageway, footways and footpaths will need to be significantly amended.

The carriageway, footways and footpaths cannot be viewed in isolation from other aspects of the site layout. This seems to have been the way it was done in the past leading to inconsistent responses from different departments within CCC and creating problems for planners and developers who had to resolve this inconsistency and for residents who had to live with the consequences. The new set up of our team is supposed to address this issue.”

Cumbria County Council 16.02.16

“Re our call about Thorncliffe South the other day. I have now seen the comments from United Utilities and whilst it appears that driveway drainage should not be infiltrated, this does not seem to be the case for roof drainage.

We would advise that you should investigate which SuDS components, are suitable for the site and use them to the fullest in order to keep as much surface water as possible out of the public sewerage system. Other than infiltration, the agreed FRA included ground level rills (i.e. 1 2) collecting water from downpipes and water butts with overflows (i.e. rainwater harvesting) both of which should be pursued.

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The ground investigation for infiltration really does need to take place soon. Results from a dry period would have to be treated with caution.”

### Cumbria County Council 22/04/16

“Thank you for the opportunity to provide your authority with Cumbria County Council’s comments on this application. Now that UU have confirmed their position much of the mitigation detailed within the FRA cannot be delivered. We objected to the application partly because the ultimate drainage destination had not been resolved and the situation we are left with should highlight how the drainage strategy is not an appropriate matter to be resolved by condition.

*4. Prior to the construction or laying out of any part of the foul or surface water drainage, details of the foul and surface water drainage schemes (inclusive of how the schemes shall be managed after completion) shall be submitted to and approved in writing by the local planning authority.*

*The drainage schemes shall include a quantitative and qualitative risk assessment and mitigation strategy with respect to groundwater protection details of any extra protection measures necessary to manage the risk of pollution to public water supply and the water environment. The risk assessment should be based on the source pathway-receptor methodology. It shall identify all possible contaminant sources and pathways for the life of the development and provide details of measures required to mitigate any risks to groundwater and public water supply from the development. The mitigation measures shall include the highest specification design for the new foul and surface water sewerage system (pipework, trenches, manholes, pumping stations and attenuation features).*

*The surface water drainage scheme must be in accordance with the Non-Statutory Technical Standards for Sustainable Drainage Systems (March 2015) or any subsequent replacement national standards and unless otherwise agreed in writing no surface water shall discharge to the public sewerage system. The peak surface water runoff rate from the development for the 1 in 1 year rainfall event and the 1 in 100 year rainfall event must be as close as reasonably practicable to the greenfield run-off rate from the development for the same rainfall event, but in accordance with the submitted flood risk assessment should never exceed the rate of discharge (including 30% betterment) from the development prior to redevelopment for that event.*

*The drainage schemes shall demonstrate that any overland flows from the sewerage system for rainfall events greater than 1 in 30 are directed away from the public water supply borehole.*

*The development shall be completed, maintained and managed in accordance with the approved details.*

### *Reason*

*To promote sustainable development, secure proper drainage and to manage the risk of flooding and pollution. This condition is imposed in light of policies within the NPPF and NPPG and takes account of the location of the development within a Ground Water Source Protection Zone 1 (SPZ1).*

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**Response: This condition should not be discharged as the details submitted are not in line with the approved application.**

For clarity, I am not commenting on the second paragraph above from "*The drainage schemes...*" to "*...and attenuation features*)." This paragraph was not introduced at our request.

The drainage strategy is **not in line with the parts of the agreed Flood Risk Assessment that are still valid** after UU have altered their advice. UU now advise that they would prefer all run-off to discharge to the public surface water sewer in Thorncliffe Road to protect groundwater. This runoff **should still be attenuated before it discharges into the surface water sewer** so that it does not cause flooding elsewhere and there are many non infiltration methods by which this can be done.

House roof water cannot now be infiltrated as described in the FRA but **the agreed FRA listed other ways to manage this water which have not been pursued**. This included ground level rills (i.e. 1 2) collecting water from downpipes and water butts with overflows (i.e. rainwater harvesting) both of which should be pursued. The water butt design should include a controlled outflow to provide flood risk benefits.

The developer should **investigate the full range of non infiltrating SuDS components**, to determine which are suitable for the site and use them if appropriate or explain why they are not appropriate if that is the case. There are many options other than the attenuation ponds, swales, infiltration and soakaway systems, that are considered in the drainage strategy and many of which should be reasonably practicable. **Any source control components that can be delivered are likely to reduce the volume needed in site control components**. SuDS components will need to be designed so as to protect the groundwater just as the conventional pipework has to be designed in this way.

Of the Non-statutory technical standards for sustainable drainage systems, standards S3, S5, S7, S8, and S9 are relevant to the hydraulic design of this site.

It is very difficult to validate the MicroDrainage printouts without a commentary describing how the designer believes the printout shows that the standards have been met, but the MicroDrainage printouts for the 1 in 100 year event appear to show that standard S3 has been met. **Information to allow verification of the design for the 1 in 1 year event should also be provided** but, as the 1 in 100 year event is more demanding to design for, it is likely that the design will be acceptable for the 1 in 1 year event

For **S5** the developer needs to calculate the runoff volume from the development in the 1 in 100 year, 6 hour rainfall event both pre and post development and either infiltrate the difference in volume or store it in Long Term Storage, discharged to the receiving water at very low flow rates (less than 2l/s/ha), so as to minimise the risk of exacerbating flooding. In this situation, the normal attenuation discharge limit (15l/s in this case) should be adjusted to take account of the discharge rate taking place from the Long Term storage. **This has not been done.**

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The developer seems to be referring to S7 and S8 where he states that *“there is no objection, in principal, to storing surface water surcharge within hard paved areas on the understanding that the levels are not high and will be contained in the areas for only a short period”*. This is not quite accurate but very similar and no flooding is shown from the drainage system in the 30 year event or the 100 year event so S7 and S8 have been met.

**S9** refers to the fact that it is impossible to design a drainage system that can never flood. All drainage designs can be exceeded and this should be planned for and mitigated for as much as is reasonably possible. Even if the system was designed for the 1 in 1000 year event, flooding would occur if the 1 in 1001 year event happened. A design should be provided to show that flows resulting from rainfall in excess of the design event are managed in **exceedance** routes that minimise the risks. **This still needs to be done.**

Flood risk can be increased elsewhere whilst within the maximum rate permitted by United Utilities into the sewer network because discharge at the maximum rate for a longer duration than would otherwise be the case results in a larger volume of water than would otherwise be the case. The sewer network outfalls into rivers and streams so while sewers might pass flows without causing sewer flooding, it can cause flooding when the rivers and streams receive more flow than they otherwise would have. Sewers are designed so that there should be no flooding from the sewer network up to the 1 in 30 year event rather than the 1 in 100 year event. The drainage design must meet both the UU requirements and the Non-statutory technical standards for sustainable drainage systems to avoid causing flooding elsewhere.

The **ultimate drainage destination** seems to have been resolved and UU are now accepting surface water into their sewer.

No consideration of **flows originating from offsite** has been made. If any existing flows from elsewhere are ignored this will add to the flood risk on site. If any existing flows from elsewhere are simply not permitted to enter the site this will increase the flood risk along the new route that they take. An assessment of any flows originating from off site needs to be made and any such flow identified must be managed so as not to increase flood risk either on site or elsewhere.

**Clear arrangements must be in place for ongoing maintenance over the lifetime of the development.** If all drainage components are designed and constructed to be maintainable this should ensure that standards S10 to S 14 are met. The applicant has applied to United Utilities to have the main drainage system adopted. **I would not recommend discharge of this condition until the question of adoption is resolved.**

There may be elements of the drainage system that UU are unwilling to adopt. There should be source control components submitted as part of a revised drainage strategy and these **components are likely to be in the control of the residents.** The developer should submit for planning approval a maintenance pack which is to be provided to the homeowner outlining their responsibilities so that we can be assured that clear arrangements are in place for this purpose.

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*5. No development shall take place until a Construction Environmental Management Plan (CEMP), for construction of the proposed development, is submitted to and approved by the Local Planning Authority. The statement shall outline the potential impacts from all construction activities on both groundwater, public water supply and surface water and identify mitigation measures to protect and prevent pollution of these waters. The development shall be undertaken in accordance with the approved CEMP.*

*Reason*

*To promote sustainable development and to manage the risk of pollution.*

**Response: We did not ask for this condition and have no comment.**

*6. The carriageway, footways and footpaths shall be designed, constructed, drained and lit to a standard suitable for adoption by the Highway Authority and in this respect further details, including longitudinal and cross sections, and a programme of phasing for future management and maintenance, shall have been submitted to and approved in writing by the Planning Authority prior to the base course of any part of the highway being laid. The works shall be constructed in accordance with the approved details and the scheme of phasing as agreed with the Planning Authority.*

*Reason*

*To ensure that in the interests of the safety of highway users and pedestrians a suitable standard of access for the development exists at all times.*

**Response: We do not think that this condition should be discharged because we still await further details.**

The drainage strategy has not assured us that surface water and highway flooding will not occur so is subject to change. This may have implications if there need to be revisions to any components that may be placed on the carriageway, footways and footpaths. For example if a revised drainage design results in further storage beneath the road layout or revised connections into the sewers under the road this could affect the materials that can be used, the depths of base layers, and especially the drainage details and in turn this could affect whether the standard is suitable for adoption by the Highway Authority.

You asked specifically by email about the lighting details. We can confirm that the proposed lighting arrangement is of a standard suitable for adoption. In summary then I am unable to recommend discharge of the conditions.

If you have any queries over this response, please do not hesitate to contact me.”

### OFFICERS REPORT:

#### 1. SITE AND LOCALITY

1.1 Thorncliffe School (south/centre block site) now demolished

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### 2. PROPOSAL DETAILS

2.1 Application to discharge conditions of planning permission 2015/0642 (erection of 29 houses). This application relates to conditions 4, 5 & 6 which I shall take in turn.

### 3. RELEVANT HISTORY

3.1 2015/0642 Permission granted for the erection of 29 houses

### 4. RELEVANT POLICIES AND GUIDANCE

4.1 Relevant policies seek to avoid harm to ground water and to ensure highways are delivered to an adoptable standard.

### 5. PLANNING ISSUES/CONCLUSIONS

5.1 This application has been subject of a considerable amount of correspondence involving the applicant's engineers, United Utilities (UU) and the County Council mainly in their role as Local land Drainage Authority (LLFA) and to a lesser extent as Highway Authority. Not all of this correspondence has been included (consultations section) with the entries limited to the more formal consultation responses.

5.2 The details have been amended since submission and the differences between the parties have been reduced considerably though there are still outstanding matters. These are identified in the report below and for which further information is expected in time for your meeting. The intention being for this further information to be included in the extra information booklet.

#### **5.3 Condition 4 Foul and surface water drainage (sw)**

5.4 This condition required a scheme to be agreed which took account of the site's location within a special groundwater protection zone together with how the scheme would be managed. Condition 3 required that the development be drained on the separate system.

5.5 The applicant was notified on the 16/12/15 that the scheme did not meet the requirements of condition 3 as the foul and sw, while separate within the site, were shown to connect to the combined sewer in Thorncliffe Road. Condition 4 also sought to prevent sw being discharged to the public sewer at all without written agreement. While a sw public sewer is located in Thorncliffe Road 62m to the east) the applicant was unwilling to amend the scheme at that stage pending a response from UU.

5.6 UU responded towards the end of the 8 week period on 8/02/16. Their lengthy response reproduced above included several objections namely

- 1, opposed to drive drainage going to ground infiltration
- 2, opposed bedding pipes in concrete and require a clay lined approach – usual method is to backfill with crushed stone
- 3, opposed connection of sw to combined sewer
- 4, raised the need to agree sw discharge rates

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5, required a CEMP (condition 5)

5.7 The County had responded on the 29/01/16. There were differences between UU and the County's response as LLFA. The LLFA sought some ground infiltration and it was unclear at that time what UU position was on roof water. UU clarified this on 3/3/16 when they confirmed that roof water should also go to the sw sewer. This advice was also sent to the LLFA.

5.8 In response an amended surface water drainage strategy was submitted on the 18/04/16. This shows a true sw layout with a new length of off site sw sewer laid along Thorncliffe Road to connect with the existing sw public sewer.

5.9 Flow rates into the sewer are as agreed by UU in their email dated 3/03/16 namely 15 l/s.

5.10 Roof water, drive and highway drainage all directed to the sewer i.e. no ground infiltration.

5.11 The remaining issues of dispute are as detailed in County's consultation response dated 22/04/2016 reproduced above. I have commented on these remaining matters in the sequence in which they appear in the County's response using their comments as the sub headings where possible :

**A. This condition should not be discharged as the details submitted are not in line with the approved application.**

5.12 This makes the point that the scheme as now proposed differs from the details submitted with the original planning application. The fact there are differences is not in dispute. The original intention had been to rely on a degree of ground infiltration whereas UU are insistent upon as much SW as possible being directed to the sw sewer. The scheme has been amended to accord with UU requirements. The LLFA are not objecting to this in principle having stated that priority should be given to the views of UU given the site's location with a Special Groundwater Protection zone.

5.13 The wording of the condition allows for flexibility in terms of how the matter is addressed as part of the submission to discharge this condition. In other words it does not need to limit itself to the intentions described at planning application stage but can change to take account of more detailed information which has become available post decision. There is as a consequence no grounds to refuse to discharge the application simply because it is not in line with the earlier expressed intentions.

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### B. Amount/method of attenuation

5.14 The scheme has been designed to provide additional sw attenuation than usual based on a 1 in 100 flood event. This combined with little reliance on ground infiltration results in the scheme having increased capacity compared to an equivalent scheme located outside a Special Groundwater Protection Zone. This capacity is to be provided below ground in over sized sw sewer pipes. In other words the attenuation is provided within the sewer. The LLFA consider that attenuation should be provided before sw enters the sewer and advises that the developer should investigate the full range of non infiltrating SuDs components. Water butts have been added to the scheme but these will provide limited attenuation in times of prolonged or heavy rain. The reply from the LLFA suggests the developer should be doing more. However in the context of the need to minimise ground infiltration the proposed method of attenuation appears reasonable.

### C. Calculations for a 1 in 100 year event should also be provided.

5.15 Calculations for a 1 in 100 year have been provided and the LLFA do acknowledge that as this is more demanding to design for that is likely to be acceptable for the 1 in 1 year event. The applicant's engineer has agreed to provide this further information.

### D. Calculations for a 1 in 100 year, 6 hour rainfall event both pre and post development are required.

5.16 The applicant's engineer has agreed to provide this further information.

### E. Information of what would happen in the event of a 1 in 1000 year event is required.

5.17 The applicant's engineer has agreed to provide this further information.

### F. Consideration should be given to any flows originating off site

5.18 This is a matter of dispute between the applicant's engineer and the LLFA. It essentially relates to storm water flowing from higher ground onto the site. The applicant's engineer is of the view the exercise is complex as it would involve topographic surveys of adjacent land and associated calculations to determine water flows in different storm conditions. They are of the view that given the limited elevated ground that such flows will be modest and are likely to be exceeded by flows off site. They also make the point that this was not required for the north site. I tend to concur with the applicant's engineer on this point.

### G. On going maintenance of system

5.19 The LLFA note that the applicant has now formally applied for the adoption of the sewers by UU under Section 104 of the Water Act (as of the 31/03/2016). However the LLFA note this has yet to be concluded and until then there is no guarantee that the sewers will be adopted. As a result the LLFA advise that the condition should not be discharged until the 104 agreement has been formally signed. The 104 process is however complicated in that UU can issue preliminary approvals which allow works to commence on site in advance of a full approval. Furthermore the Council has not refused to discharge a condition on this basis before although the fact that the developer could abandon the process at any time before the 104 process is complete is a fair one.

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5.20 To address the situation I have asked for the SW drainage strategy to be amended to include a statement that the 104 agreement will be achieved by a certain date. If it is not then the development will be in breach of the approved details and action could be taken. This is simpler than seeking to correlate the discharge of condition application to the consent process of another Authority. UU have confirmed that they consider the scheme acceptable in principle.

### H. Need for a householder information pack

5.21 This has now been provided.

### **Condition no 5 Construction Environmental Management Plan**

5.22 A particular feature of CEMP was subject of an objection from UU in relation to the backfilling of sewers in concrete together with the matters raised under condition no 4 above. A clay lined approach as advised by UU is now proposed. The CEMP report was revised on the 12/04/16 (rev B).

### **Condition no 6 Highway details condition**

5.23 CCC as highway authority are not raising any highway issues apart from any consequences arising from the additional drainage matters raised by them. In other words if there are any knock on consequences as a result of providing further drainage calculations and assessments.

5.24 Whether there are any consequences should be clear in time for your meeting.

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## **RECOMMENDATION:**

I recommend that;

- A. That the Construction Environment management Plan Revision B dated 12<sup>th</sup> April 2016 be approved for the purposes of condition 5.**
- B. That subject to the receipt of the satisfactory information in relation to Conditions 4 and 6 that the relevant details be approved in relation to both conditions. These are likely to consist of in relation to condition no 4:**
  - i. Drainage Layout Ref 15115/06.1 Revision A**
  - ii. Surface water drainage strategy revision ?**

In relation to condition no 6

- i. Road Layout - Ref 15115/01**
- ii. Carriageway levels - 02**
- iii. Carriageway sections - 03.1**
- iv. Carriageway sections - 03.2**
- v. Construction details - 04.1**

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**vi. Construction details - 04.2**

**vii. Adoption plan (highways) - 05 rev A**

**viii. Outdoor Lighting Report, Lighting Reality Ltd dated 9/09/2015**

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**Hydro-Brake Information and Details (at S10)**

Technical Specification	Head (m)	Flow (l/s)
Control Point	1.525	14.992
Primary Design	0.446	14.983
Flush-Flø™	0.967	12.090
Kick-Flø®		13.004

Hydro-Brake Optimum  
SHE-0167-1500-1525-1500

Head (m)	Flow (l/s)
0.000	0.000
0.053	1.893
0.105	6.468
0.158	11.325
0.210	13.655
0.263	14.287
0.316	14.674
0.368	14.886
0.421	14.974
0.473	14.974
0.526	14.916
0.578	14.817
0.631	14.687
0.684	14.523
0.736	14.313
0.789	14.035
0.841	13.657
0.894	13.142
0.947	12.447
0.999	12.277
1.052	12.577
1.104	12.870
1.157	13.155
1.209	13.434
1.262	13.707
1.315	13.974
1.367	14.236
1.420	14.493
1.472	14.744
1.525	14.992



Notes:  
All adoptable drainage works shall be in accordance with Sewers for Adoption 6th Edition and United Utilities Standard Details

Please See DWG 15115/06.2 for manhole and pipe schedule

All drains to be set in pipe bed and surround

Within the site:

- \* Trench excavations beneath roadways for both foul and surface water drainage will be lined with a 1 metre thick engineered clay layer beneath the pipework, including regularly spaced clay stanks
- \* Trenches beneath gardens and plots for foul and surface water drainage will be lined with a 0.5 metre thick engineered clay layer beneath pipework and wrapped in an impermeable HDPE liner
- \* The concrete surface water attenuation tank excavations will also be lined with a 1 metre thick engineered clay layer beneath the tank



Notes:  
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Rev.	Date	Notes	Init.
A	10-03-16	General Amendments	RB

Client/Project:  
Robinson New Homes Ltd  
New Housing Development  
Thornciffe Road  
Barrow in Furness

Drawing Title:  
Drainage Layout

Status:		
Design Phase		
Date	Drawn	Scale
29/06/15	RB	1:200 - A0
Drawing No.	Revision	
15115/06.1	A	

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2	2015/0860	Thornccliffe School South Site, Thornccliffe Road Barrow-in-Furness	Application for approval of details as reserved by condition No. 4 (foul and surface water drainage details) No. 5 (Construction Environmental Plan) and No. 6 (highway design details) of planning permission 2015/0642 (Erection of 29 detached houses)