**From:** Goddard, Andrew - E&E [mailto:Andrew.Goddard@Oxfordshire.gov.uk]
**Sent:** 22 February 2017 10:58
**To:** Matthew Parry
**Cc:** White, Joy - E&E; Kelman, Gordon - E&E; Hunt, Gordon - E&E
**Subject:** RE: Longford Park - Surface Water Drainage Scheme (Condition 23 of 05/01337/OUT)

Matthew

Longford Park - Surface Water Drainage Scheme (Condition 23 of 05/01337/OUT)

Following the provision of these further calculations and information from the applicant , OCC (drainage) do not object to the approval of the condition 23 of 05/01337/OUT.

Andrew Goddard

Engineer

Highways & Transport

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**From:** Jake Poulton [mailto:Jake.Poulton@m-ec.co.uk]
**Sent:** 17 February 2017 10:58
**To:** Goddard, Andrew - E&E
**Cc:** 'Steven Neal - TW Oxfordshire' (Steven.Neal@taylorwimpey.com); White, Joy - E&E; 'Matthew Parry' (Matthew.Parry@Cherwell-DC.gov.uk) (Matthew.Parry@Cherwell-DC.gov.uk); Kelly Allsopp; Kelman, Gordon - E&E; Hunt, Gordon - E&E
**Subject:** RE: Longford Park - Surface Water Drainage Scheme (Condition 23 of 05/01337/OUT)

Hi Andrew,

Following your email below please find attached the latest drainage strategy and design calculations for Parcel F.

The strategy for surface water remains the same as previously discussed, in that it is all routed down to the swales running parallel to the canal. This new network then connects into the existing network designed by M-EC and utilises the balancing ponds prior to outfall.

The swales are designed as 0.5m deep with 1:3 slopes as per the drawing. These swales have been modelled in the drainage calculations starting at Pipe number 1.004 through to Pipe number 1.025, with all of the other parts of the network connecting in at the various locations. As you can see from the simulation results, the whole network including the swales only reach a worst case of ‘Flood Risk’ in the 1 in 1, 1 in 30 and 1 in 100  + 30% storms. This ‘Flood Risk’ in the simulation is simply highlighted as the simulated water level above a pre-set depth above invert (450mm). This ‘Flood Risk’ in the calculations confirms that there will be no actual ‘Flood’ in the network and would therefore never overtop the swales in the 1 in 100 year + 30% climate change storm.

The designs will also be going through full detailed design in the near future to be adopted. Therefore, if anything, the designs will be further refined and the scenario approved.

I trust that the above and attached is clear and sufficient for you to provide discharge to Condition 23, however, should you have any queries please do not hesitate to get in touch.

Best Regards,

**Jake Poulton**

Assistant Engineer

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**From:** Goddard, Andrew - E&E [mailto:Andrew.Goddard@Oxfordshire.gov.uk]
**Sent:** 23 January 2017 12:46
**To:** Jake Poulton
**Cc:** 'Steven Neal - TW Oxfordshire' (Steven.Neal@taylorwimpey.com); White, Joy - E&E; 'Matthew Parry' (Matthew.Parry@Cherwell-DC.gov.uk) (Matthew.Parry@Cherwell-DC.gov.uk); Kelly Allsopp; Kelman, Gordon - E&E; Hunt, Gordon - E&E
**Subject:** RE: Longford Park - Surface Water Drainage Scheme (Condition 23 of 05/01337/OUT)

Good Afternoon Jake

Thank-you very much for providing these details, and it was a pleasure to talk to you this morning.

There remains a further outstanding concern, which I hope can be speedily cleared up and I’m seeking your help. I am having a problem checking the capacity of the swales by the canal to ensure that they can accept the flows from the pipes.

Typically swales can be designed up to 1 in 30 year design storm, but perhaps because these particular ones are in such close proximity to the canal a question has arisen whether they should be designed to store a larger quantity of water, perhaps allowing for the 1 in 100 year storm. I have spoken to Gordon Hunt, the County Drainage Engineer, and the risk of flows overtopping the swale and flowing directly into the canal down the slope was discussed, and his suggestion was that these be designed to accept a 1 in 100 year storm given the close proximity of the canal.

I have turned to the microdrainage calculations dated 28.10.16 and attempted to find out which reference numbers on the calculations relate to the swales so that the capacity can be checked. However, this is not aided by the fact that the drawing you sent does not contain the pipe reference numbers of the pipes or swales so they cannot be cross referenced to the calculations.

Could you please supply some commentary about the capacity of the swales and how they have been designed for capacity, can you also reference these commentaries to the microdrainage calculations, to assure us that the swales will not overtop into the canal in the 1 in 100 year storm + Climate Change condition.

Andrew Goddard

Engineer

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**From:** Jake Poulton [mailto:Jake.Poulton@m-ec.co.uk]
**Sent:** 19 January 2017 11:20
**To:** Goddard, Andrew - E&E
**Cc:** 'Steven Neal - TW Oxfordshire' (Steven.Neal@taylorwimpey.com); White, Joy - E&E; 'Matthew Parry' (Matthew.Parry@Cherwell-DC.gov.uk) (Matthew.Parry@Cherwell-DC.gov.uk); Kelly Allsopp; Kelman, Gordon - E&E; Hunt, Gordon - E&E
**Subject:** RE: Longford Park - Surface Water Drainage Scheme (Condition 23 of 05/01337/OUT)

Morning Andrew,

We have carried out infiltration testing at the site as requested. Attached are copies of the results, along with a copy of a plan showing the locations of where each test was carried out.

The results have come up as not feasible for infiltration, due to the clayey soils. We ensured that we provided an even spread across Parcel F, inclusive of where the proposed swale will be located and, an additional test in close proximity to the existing balancing ponds (SA09). This test also failed, which subsequently supports the specification of impermeable attenuation ponds and swales.

Despite the fact that infiltration isn’t a feasible option in Parcel F, the proposed swale will be designed to accommodate any additional overland flows, that are not picked up by the proposed drainage network. Therefore, the design will consider all possible events and the current flooding/ponding issue in this area will be fully resolved.

Due to steep gradients and levels in the Country Park area, there will not be a viable option to specify drainage routes here. In addition, the proposed use of the Country Park will incorporate very limited hardstanding (if any) and would therefore not propose an additional flood risk to developed parcels. All levels in the Country Park area fall towards the attenuation ponds, which have additional capacity than required (freeboard) which can accommodate any additional flows.

I trust that the above and attached provide suitable information in order to discharge Condition 23. However, should you wish to discuss anything further feel free to get in touch.

Best Regards,

**Jake Poulton**

Assistant Engineer

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**From:** Goddard, Andrew - E&E [mailto:Andrew.Goddard@Oxfordshire.gov.uk]
**Sent:** 21 December 2016 15:08
**To:** Jake Poulton
**Cc:** 'Steven Neal - TW Oxfordshire' (Steven.Neal@taylorwimpey.com); 'Matthew Parry' (Matthew.Parry@Cherwell-DC.gov.uk) (Matthew.Parry@Cherwell-DC.gov.uk); White, Joy - E&E; Kelly Allsopp; Kelman, Gordon - E&E; Hunt, Gordon - E&E
**Subject:** RE: Longford Park - Surface Water Drainage Scheme (Condition 23 of 05/01337/OUT)

Hi Jake

The testing should be in accordance with BRE 365.

The testing should be carried out in the remaining sites that are to undergo reserved matters application. To my knowledge these are Site F and the site containing the balancing ponds and public open space – the so called community park. I am told these are the remaining unapproved sites.

We want to take particular care over Site F as there is a known problem with ponding after storms.

There should be a ‘spread’ of tests through  the site , to include the area where the swale is located.

Andrew Goddard

Engineer

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**From:** Jake Poulton [mailto:Jake.Poulton@m-ec.co.uk]
**Sent:** 21 December 2016 10:13
**To:** Goddard, Andrew - E&E
**Cc:** 'Steven Neal - TW Oxfordshire' (Steven.Neal@taylorwimpey.com); 'Matthew Parry' (Matthew.Parry@Cherwell-DC.gov.uk) (Matthew.Parry@Cherwell-DC.gov.uk); White, Joy - E&E; Kelly Allsopp; Kelman, Gordon - E&E; Hunt, Gordon - E&E
**Subject:** RE: Longford Park - Surface Water Drainage Scheme (Condition 23 of 05/01337/OUT)

Hi Andrew,

We are going to be organising soakage testing for the site and just need confirmation on a few things before we put a scope of works together.

Firstly, can you confirm what spec you would expect the testing to be in accordance with?

Secondly, can you confirm where you would expect the testing to be carried out? Obviously there are Parcels that are already designed and constructed, or well under construction. Do you require testing in Parcel F only or are there other Parcels that need investigating as well?

We need to provide our scope of works to the developers by the end of this week, with a view to the work being carried out straight into the new year. Therefore, if you could confirm the above asap that would be greatly appreciated.

If you wish to discuss anything or have any queries feel free to get in touch.

Best Regards,

**Jake Poulton**

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**From:** Goddard, Andrew - E&E [mailto:Andrew.Goddard@Oxfordshire.gov.uk]
**Sent:** 20 December 2016 13:11
**To:** Jake Poulton
**Cc:** 'Steven Neal - TW Oxfordshire' (Steven.Neal@taylorwimpey.com); 'Matthew Parry' (Matthew.Parry@Cherwell-DC.gov.uk) (Matthew.Parry@Cherwell-DC.gov.uk); White, Joy - E&E; Kelly Allsopp; Kelman, Gordon - E&E; Hunt, Gordon - E&E
**Subject:** RE: Longford Park - Surface Water Drainage Scheme (Condition 23 of 05/01337/OUT)

Hi Jake

I have spoken to Gordon Hunt, County Drainage Engineer, yesterday, and his advice was clear – the developer should do the soakage tests. The tests are important not only to establish the infiltration potential for the site , but also an important drainage design parameter. For example, are the swales to be designed as wet or dry?

With regard to the submitted drawing attached, for the site Parcel F, It shows a typical surface water gravity drainage system for the highway but does not appear to show where the private roof water drainage is collected and how this outfalls. The drains outfall to a swale by the canal , but it appears that the same symbol ( blue dotted line) for the pipe is shown in the swale, which raises the question is there a pipe under the swale? Are the drainage arrangements consistent with the requirements of any potential adopting authority?

We want to ensure that Parcel F and the community park reserve matters ( both remaining applications)  are acceptable in sustainable drainage terms.

If you feel it would be beneficial to have a meeting with Gordon, and this would help better explain the proposals and clear up any outstanding issues, then I would welcome this but would suggest that the first step is to obtain the soakage test results.

Andrew Goddard

Engineer

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**From:** Jake Poulton [mailto:Jake.Poulton@m-ec.co.uk]
**Sent:** 20 December 2016 10:46
**To:** Goddard, Andrew - E&E
**Cc:** 'Steven Neal - TW Oxfordshire' (Steven.Neal@taylorwimpey.com); 'Matthew Parry' (Matthew.Parry@Cherwell-DC.gov.uk) (Matthew.Parry@Cherwell-DC.gov.uk); White, Joy - E&E; Kelly Allsopp
**Subject:** RE: Longford Park - Surface Water Drainage Scheme (Condition 23 of 05/01337/OUT)

Hi Andrew,

I trust that you were able to access the information I sent over last week? I am just wondering if you had a rough timescale as to when we could expect a response with regard to Condition 23?

I know that all involved are keen to find an acceptable and suitable solution, therefore we would welcome any further comments you may have. Although, if you feel that a meeting would be the most appropriate way forward, this can be arranged.

Best Regards,

**Jake Poulton**

Assistant Engineer

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**From:** Jake Poulton
**Sent:** 14 December 2016 10:39
**To:** 'Goddard, Andrew - E&E'
**Cc:** Scott, Kevin; 'Roy Fullerton'; 'Steven Neal - TW Oxfordshire'; 'Stroud, Rob'; 'Matthew Parry' (Matthew.Parry@Cherwell-DC.gov.uk); White, Joy - E&E; Kelly Allsopp; Cameron Green
**Subject:** RE: Longford Park - Surface Water Drainage Scheme (Condition 23 of 05/01337/OUT)

Good Morning Andrew,

Thank you for your email below. With regard to infiltration testing, it is believed that testing was carried out back in 2006 but the company that carried out the works has since dissolved and the information is no longer available. Subsequent Ground Investigation works have highlighted that the site is predominantly underlain with Mudstone to around 1.6-1.8m deep, with a layer of clay strata below that to around 2.2m below existing ground level. The water table is also quite high in places.

The site-wide drainage strategy is based on the approved FRA which doesn’t consider any sort of infiltration method, as it wasn’t completed at the time of writing. Despite this however, based on the information above it is unlikely that infiltration will be a feasible option anyway. I have attached a link below to the FRA and the most recent GI report which summarises current and previous works – if you have any problems accessing these files let me know.

<https://www.dropbox.com/sh/oofb15x5ydoyo4l/AAALK4KM2j5Am9J78fTX9Hpba?dl=0>

In terms of your comments on the drainage for Parcel F, this particular area of the site is currently being designed for drainage. I have attached a copy of the current proposals for reference.

The principle is that all surface water drainage from the Parcel will be directed to a new swale which runs roughly parallel to the canal. Any overland flood flows will also naturally route towards the swale. This new network will connect onto the existing swale and pond network which forms part of the sitewide strategy. All new surface water drainage on Parcel F will be designed to avoid the current ponding situation that occurs.

With reference to the effect of fill across the site as a whole, levels are being raised generally but the topography remains the same. Therefore, any flood routing will not be obstructed or limited by fill across the site. Any other overland flows will naturally route towards the balancing ponds at a low-point and the swales which act as a collector, where there is a designed freeboard to cater for these additional flows.

I trust that I have addressed your comments suitably in order for you to provide a discharge to the condition, however, if you have any further queries or wish to discuss in more detail I would be more than happy to do so.

Matthew,

I am trying to reduce the size of the files for the drainage drawings so I will send those over ASAP if I have any luck.

Best Regards,

**Jake Poulton**

Assistant Engineer

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**From:** Goddard, Andrew - E&E [mailto:Andrew.Goddard@Oxfordshire.gov.uk]
**Sent:** 29 November 2016 15:31
**To:** Kelly Allsopp; Cameron Green
**Cc:** Scott, Kevin; 'Roy Fullerton'; 'Steven Neal - TW Oxfordshire'; 'Stroud, Rob'; 'Matthew Parry' (Matthew.Parry@Cherwell-DC.gov.uk); White, Joy - E&E
**Subject:** RE: Longford Park - Surface Water Drainage Scheme (Condition 23 of 05/01337/OUT)

Kelly / Cameron

I am following up on Matthew’s email, and I wonder if you have had a chance to consider whether there are any soakage tests for the site?

It has also been reported that Site F is known to suffer from drainage problems due to the fact that it slopes down from Bankside towards the Oxford Canal – pools of water are seen lower down the site along the canal after heavy rain.

How will the proposals deal with this problem? Could fill across the site affect the natural drainage flow paths and make the situation worse or divert these flows elsewhere to another area?

Are there any low points where surface water will collect?

I would be glad to discuss this with you and if you would prefer a face to face meeting I can arrange one with myself and the County Drainage Engineer, Gordon Hunt , here at County Hall, Oxford.

Andrew Goddard

Engineer

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**From:** Matthew Parry [mailto:Matthew.Parry@Cherwell-DC.gov.uk]
**Sent:** 28 November 2016 11:09
**To:** Kelly Allsopp; 'Cameron Green'
**Cc:** Scott, Kevin; 'Roy Fullerton'; 'Steven Neal - TW Oxfordshire'; 'Stroud, Rob'; Goddard, Andrew - E&E
**Subject:** Longford Park - Surface Water Drainage Scheme (Condition 23 of 05/01337/OUT)

Kelly/Cameron

I have been in some correspondence with the drainage engineers at Oxfordshire County Council who are the lead local flood authority. Andrew Goddard is the engineer involved in this case and he is happy to have some correspondence with you regarding the drainage scheme. He has raised concerns about the lack of soakage tests that could identify where infiltration on a large site such as this is feasible. Also, the drainage drawings are very large files that are proving difficult for both us and OCC to navigate around to check the details – is there any way these can be improved to make them more accessible as arguably at the moment they are barely readable?

Andrew Goddard’s details are set out below:

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Kind regards

**Matthew Parry**

**Principal Planning Officer**

Development Management

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