

Planning Obligations re Drainage

Condition 29 Submission and approval of scheme for sewerage improvement

No reserved matters applications shall be submitted pursuant to the outline application until a scheme for the improvement of the existing main sewerage system has been submitted to and approved in writing by the local planning authority. The scheme shall be implemented as approved. No occupation of dwellings approved by this permission shall occur until the scheme for improvement of the existing sewage system has been completed

Reason - To protect the water quality of the Gallos brook

Condition 30 Submission and approval of drainage strategy

Operational Development shall not commence until a drainage strategy detailing any on and/or off site drainage works, has been submitted to and approved by, the local planning authority in consultation with the sewerage undertaker. No discharge of foul or surface water from the site shall be accepted into the public system until the drainage works referred to in the strategy have been completed

Reason - The development may lead to sewage flooding; to ensure that sufficient capacity is made available to cope with the new development; and in order to avoid adverse environmental impact upon the community

Background

The site at Upper Heyford is a former RAF and USAF base. The site was first used by the Royal Flying Corps in 1916 and was active during the Second World War. The airfield was used by the RAF up to 1950 when the United States Air Force first arrived at the site. At this point the runway was extended by 700m and the infrastructure on the base was extended on an ad-hoc basis to facilitate the needs and requirements on the service men/women stationed there.

In response to the changing needs and the somewhat organic growth of the base the drainage systems have been modified over the last 97 years which has resulted in a number of cross connections and aging assets.

The redevelopment of the site brings an opportunity to address many of the deficiencies and improve the drainage systems

General

The scheme proposals are multifaceted and look to make improvements to address a number of issues as discussed in more detail below

Strategy, Design and Procurement Philosophy

Surface Water Drainage

The strategic surface water network has been designed in accordance with the approved FRA and catchments as per the attached Woods Hardwick sketch.

Surface water discharge will be restricted to rates as specified within the FRA and attenuation, provided either within parcels or in strategic attenuation facilities.

Design of surface water drainage to residential parcels shall be undertaken in accordance with the FRA and strategy detailed above. Each planning application will be accompanied by a detailed drainage layout and FRA compliance note. This has already been undertaken for early development parcels and will continue to be done as future parcels come forward.

Diversion of Storm Drainage

The flying field surface water drainage currently traverses the site in a north south direction and in a number of locations. These sewers pass through both proposed and existing residential areas

Three new diversion schemes have been developed to positively manage the surface water from the flying field, diverting existing sewers through the proposed and existing development within new largely adoptable sewers. These diversions will ensure there are no cross connections into the existing foul system and will reduce the potential for leakage into the ground (and possibly into the foul sewers)

These schemes are shown upon Woods Hardwick drawing HEYF/5/142, which indicates

- Introduction of a petrol interceptor to the west and north of Camp Road, installed to intercept flows from the Flying Field and provide replacement for an existing interceptor to be removed.
- An attenuation tank to the centre and north of Camp Road, installed to hold flows as part both of a diversions strategy and a flood mitigation strategy, known to exist adjacent to the southern-most high bay hangars
- Direct isolation of the storm system from the foul system. Due to the organic growth of the base there are instances where storm connections have been made to the foul system. Diversion of these sewers will provide a dedicated storm sewer allowing connection of all known existing surface water outfalls.

The drawing separately identifies the proposed construction timeline and phasing for the proposed works

New Foul Infrastructure and Diversion of Foul Drainage

As with the storm drainage, a number of existing foul assets obstruct proposed development parcels and will have to be diverted.

Separately, a new foul sewer network has been designed, with the objective of replacing life expired and defective mains, improving capacity and conveyance and reducing storm water ingress into the foul system.

Both the diversions and new infrastructure are shown upon Woods Hardwick drawing HEYF/5/ 139B

The drawing separately identifies the proposed construction timeline and phasing for the proposed works

Existing Residential Development Infrastructure

The existing bungalows to the south and north of Camp Road were constructed in the early years of the base's history. The existing sewers are known to be in suboptimal condition, with damaged pipe runs likely to result in ingress of ground water and increase in demand on the sewerage treatment plant. Large scale CCTV surveys have been undertaken to ascertain condition of these assets.

Improvement works will be undertaken in line with the refurbishment of the bungalows, a long term project likely to last in the region of ten years

Sewage Treatment Plant (STP)

The site is somewhat remote from the existing public sewer network. As a result the existing foul network terminates at a private sewage treatment plant before discharging clean water to Gallos Brook. The existing infrastructure is aged and requirements improvements.

The existing assets have been surveyed in depth and an improvement scheme formulated with EPS Ireland Ltd, a recognised and significant treatment plant operator. Improvement works have been commissioned by the landowner through EPS, with a view to progressively bringing the plant up to adoptable standard. The current plan is this

1. Phase 1 works, underway and designed to immediately address urgent health and safety issues and to remedy known operational deficiencies. The works are planned to be complete by end of February 2013
2. Further phases of work, yet to be specified in detail, to address issues of capacity, reliability and monitoring. These works will be phased throughout 2014 to 2017

In parallel with this, discussions are in hand with Albion Water, a regulated water company capable of entering into an inset agreement. Albion have shown appetite to adopt the foul, storm and potable water assets and should these discussions come to fruition, we will enter into an inset agreement with them with a view to them adopting the STP and associated foul water infrastructure

Whichever option is pursued, the STP will be completely refurbished over the short / medium term to deliver an asset constructed to adoptable standard

Summary

The above works will see significant replacement of life expired assets that will reduce the ingress of ground water into the foul network. Large areas of the site will be redeveloped and with it new infrastructure constructed to modern day adoptable standard. This will further reduce cross connections and subsequently surface water within the foul network. Finally the sewerage treatment works will be upgraded to adoptable standard addressing capacity and efficiency.