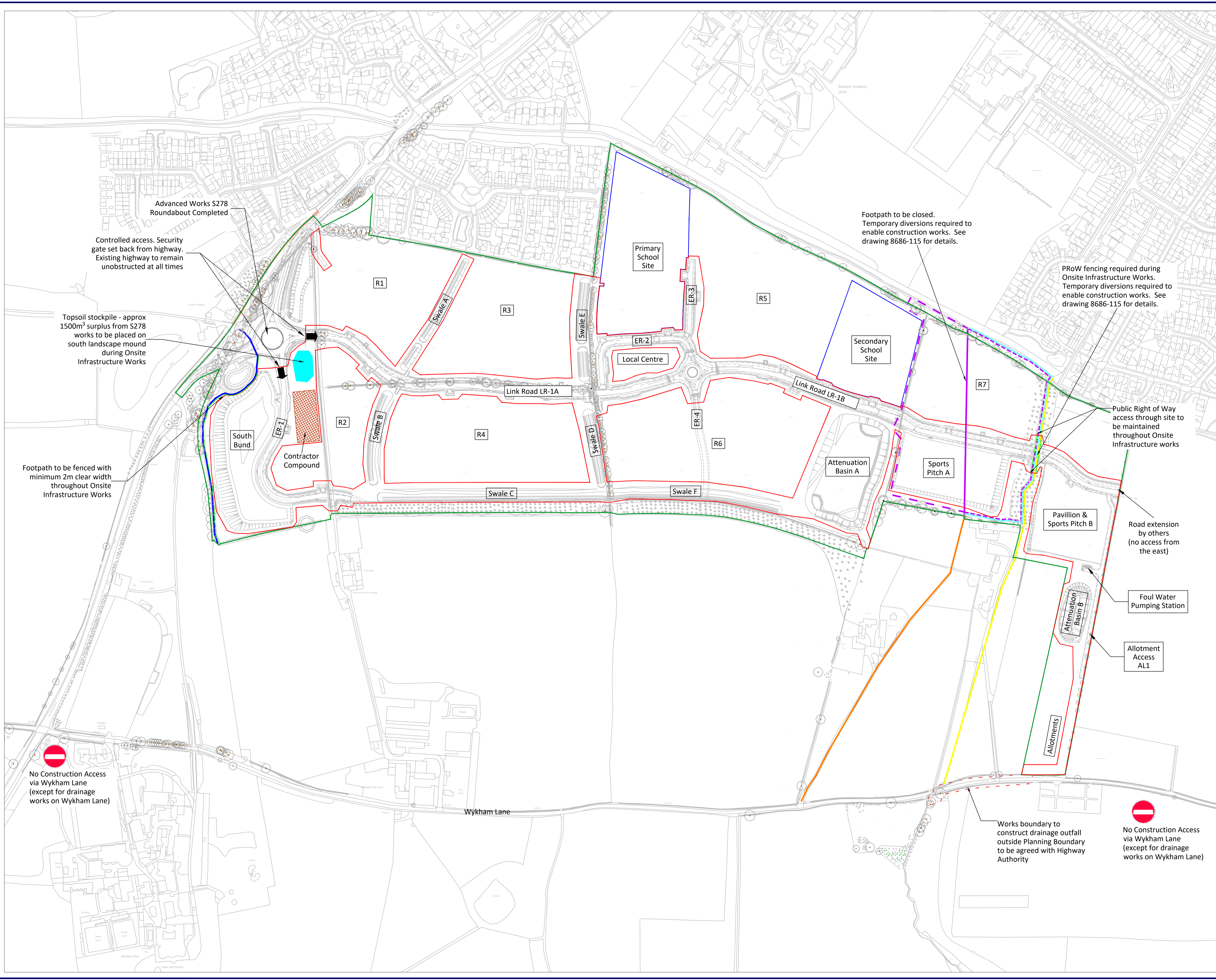


Only figure dimensions are to be taken from this drawing. Do not scale. Any discrepancy must be reported to the Company before proceeding. The location of statutory undertakers apparatus is for guidance only. No guarantee is given as to its accuracy. This drawing is copyright and shall not be reproduced or used in any form except by written permission. Crown Copyright. All rights reserved. License number 100026481 and 10002972.

- KEY**
- Works Boundary
  - Planning Boundary
  - Fenced School Sites
  - Contractor Compound
  - Topsoil stockpile from S278 contract
  - High visibility plastic mesh fencing, supplemented by Heras fencing, where required, to be installed around Public Rights of Way
  - PRoW 120-49
  - PRoW 120-46
  - PRoW 137-11 (Bridleway)
  - PRoW 136-16
  - PRoW 120-47 (existing)
  - PRoW 120-47 (permanent diversion)
  - PRoW 120-47 (temporary diversion)



Advanced Works S278 Roundabout Completed

Controlled access. Security gate set back from highway. Existing highway to remain unobstructed at all times

Topsoil stockpile - approx 1500m<sup>3</sup> surplus from S278 works to be placed on south landscape mound during Onsite Infrastructure Works

Footpath to be fenced with minimum 2m clear width throughout Onsite Infrastructure Works

Footpath to be closed. Temporary diversions required to enable construction works. See drawing 8686-115 for details.

PRoW fencing required during Onsite Infrastructure Works. Temporary diversions required to enable construction works. See drawing 8686-115 for details.

Public Right of Way access through site to be maintained throughout Onsite Infrastructure works

Road extension by others (no access from the east)

Foul Water Pumping Station

Allotment Access AL1

No Construction Access via Wykham Lane (except for drainage works on Wykham Lane)

Works boundary to construct drainage outfall outside Planning Boundary to be agreed with Highway Authority

No Construction Access via Wykham Lane (except for drainage works on Wykham Lane)

REV	DATE	DESCRIPTION

PROJECT:- Wykham Park Farm, Banbury

TITLE:- Onsite Infrastructure Works

Extent of Works

SCALE:- 1:2500 @ A1	DATE:- 23-07-2021	DRAWN:- KS
STATUS:- DRAFT	DRAWING No:- 8686-137	REVISION:-

**GALLAGHER ESTATES** | Part of the L&Q Group

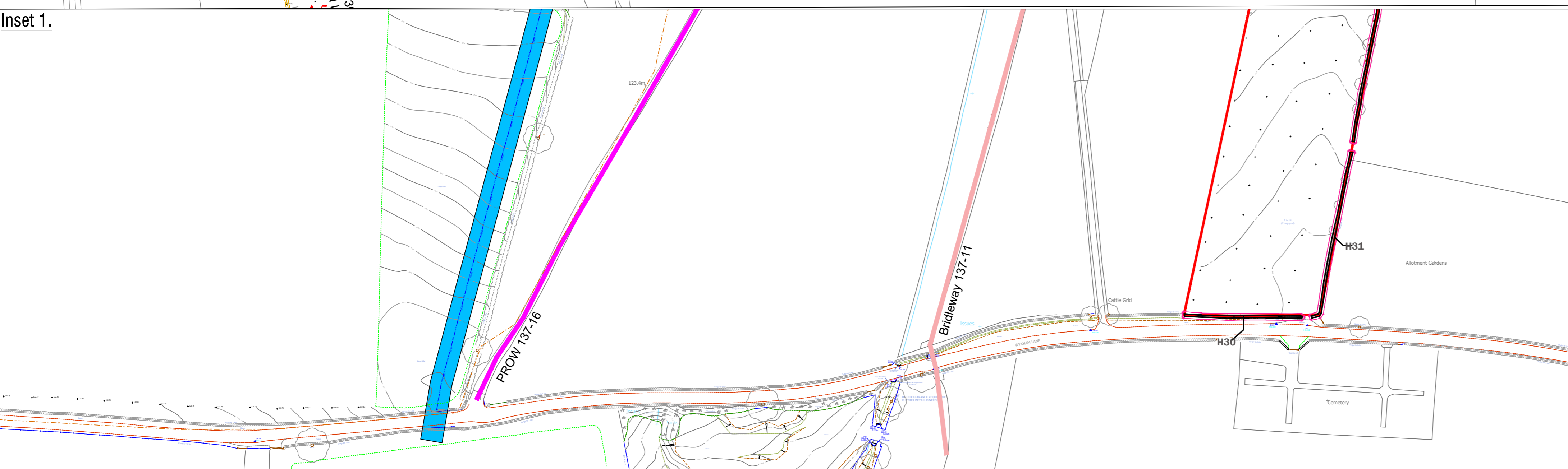
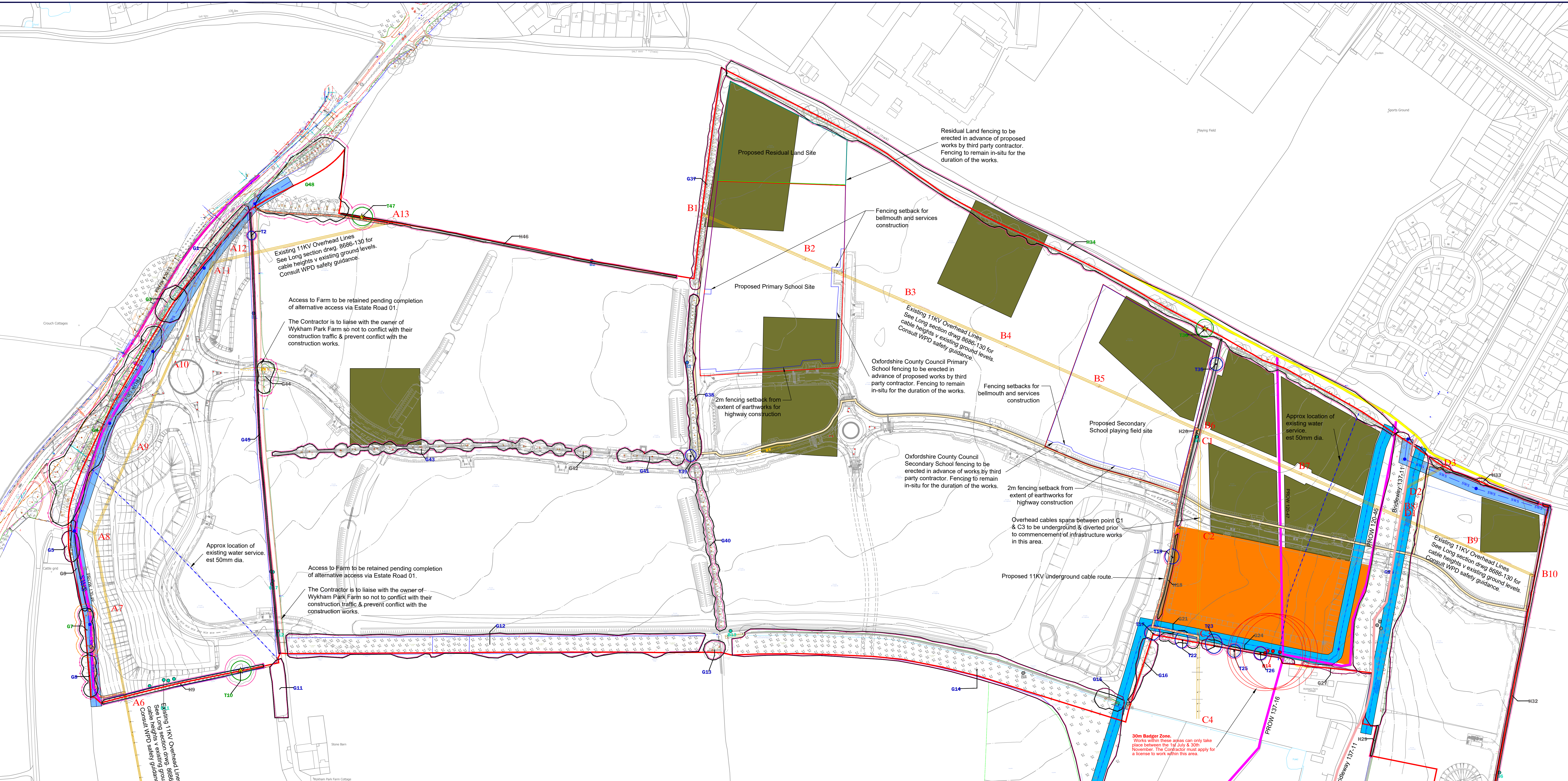
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## **APPENDIX C**

Constraints Plan

Drawing 8686-113





**Note:**

- For full details of Tree Protection Measures see report 480378\_011 to Arborescultural Impact Assessment.
- For further details on Archaeological constraints refer to report 480378\_011d Written Scheme of Investigation & Method Statement for Archaeological Preservation.
- For further details of constraint related to the badger sets refer to report 480378\_010a Badger Mitigation Strategy.
- For details of PRoW temporary diversions refer to the CMP.
- For details that have been installed as part of the S278 works please refer to S278 drawings.

See Inset 1. for lower part of site.

Key:	Existing Water Service	11kV HV Overhead Cable with span reference	11kV HV Overhead Cable with span reference	Tree/Group number
Site Boundary	Thames Water Main with 10m Easement	Proposed 11kV HV underground diversion route to be complete in advance of works starting on site.	Proposed 11kV HV underground diversion route	Tree/Group Canopy
Proposed Highway Works	Thames Water Surface Water Sewer with 10m Easement	Existing BT	Existing BT	Tree Stem
Badger Set	Covered Watercourse	Existing 11kV HV Overhead Lines	Existing 11kV HV Overhead Lines	Root Protection Area
Badger sub sett	Proposed 11kV HV easement route	Existing 11kV HV Overhead Lines	Existing 11kV HV Overhead Lines	Category A: Trees of high quality & value
Badger set	Existing 11kV HV Overhead Lines	Existing 11kV HV Overhead Lines	Existing 11kV HV Overhead Lines	Category B: Trees of Moderate quality & value
30m Badger Zone	Existing 11kV HV Overhead Lines	Existing 11kV HV Overhead Lines	Existing 11kV HV Overhead Lines	Category C: Trees of Low quality & value
Existing BT	Existing 11kV HV Overhead Lines	Existing 11kV HV Overhead Lines	Existing 11kV HV Overhead Lines	Category U: Trees of Poor quality & value
Existing BT	Existing 11kV HV Overhead Lines	Existing 11kV HV Overhead Lines	Existing 11kV HV Overhead Lines	Archaeology Preservation in situ Area
Existing BT	Existing 11kV HV Overhead Lines	Existing 11kV HV Overhead Lines	Existing 11kV HV Overhead Lines	No Excavation permitted within this area.
Existing BT	Existing 11kV HV Overhead Lines	Existing 11kV HV Overhead Lines	Existing 11kV HV Overhead Lines	Veteran Tree
Existing BT	Existing 11kV HV Overhead Lines	Existing 11kV HV Overhead Lines	Existing 11kV HV Overhead Lines	Veteran Tree Buffer

<p><b>Key:</b></p> <ul style="list-style-type: none"> <li>Site Boundary</li> <li>Proposed Highway Works</li> <li>Badger Set</li> <li>Badger sub sett</li> <li>Badger set</li> <li>30m Badger Zone</li> <li>Existing BT</li> <li>Existing BT</li> <li>Existing BT</li> </ul>	<p><b>Existing Water Service</b></p> <ul style="list-style-type: none"> <li>Thames Water Main with 10m Easement</li> <li>Thames Water Surface Water Sewer with 10m Easement</li> <li>Covered Watercourse</li> </ul>	<p><b>11kV HV Overhead Cable with span reference</b></p> <ul style="list-style-type: none"> <li>Proposed 11kV HV easement route</li> <li>Proposed 11kV HV underground diversion route to be complete in advance of works starting on site.</li> </ul>	<p><b>Bridal Way 137-11</b></p> <ul style="list-style-type: none"> <li>Existing Bridleway</li> <li>Existing Public Right of Way</li> <li>Archaeology Strip Area</li> <li>Areas of Potential archaeological sensitivity which have previously been excavated &amp; backfilled</li> <li>Archaeology Preservation in situ Area</li> <li>No Excavation permitted within this area.</li> </ul>	<p><b>Tree/Group number</b></p> <ul style="list-style-type: none"> <li>Tree/Group Canopy</li> <li>Tree Stem</li> <li>Root Protection Area</li> <li>Category A: Trees of high quality &amp; value</li> <li>Category B: Trees of Moderate quality &amp; value</li> <li>Category C: Trees of Low quality &amp; value</li> <li>Category U: Trees of Poor quality &amp; value</li> <li>Archaeology Preservation in situ Area</li> <li>Veteran Tree</li> <li>Veteran Tree Buffer</li> </ul>					
<p>PROJ: Wykham Park Farm, Banbury</p> <p>TITLE: Constraints Plan</p> <p>SCALE: 1:500</p> <p>DATE: 28/07/2021</p> <p>DRAWN: P1</p> <p>ISSUED:</p> <p>DRAWING NO: 339339</p> <p>REVISED:</p>	<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>REV-DESC</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REV	DATE	REV-DESC				<p>PROJECT: Wykham Park Farm, Banbury</p> <p>TITLE: Constraints Plan</p> <p>SCALE: 1:500</p> <p>DATE: 28/07/2021</p> <p>DRAWN: P1</p> <p>ISSUED:</p> <p>DRAWING NO: 339339</p> <p>REVISED:</p>	<p><b>GALLAGHER ESTATES</b> Part of the L&amp;Q Group</p> <p>Gallagher House, Gallagher Way Warwick CV34 6AF</p> <p>e: mail@gallagherestates.com</p> <p>www.gallagherestates.com</p> <p>t: 01926 339339</p>
REV	DATE	REV-DESC							

## **APPENDIX D**

### Earthworks Technical Note

Project name	Wykham Park Farm, Banbury		
Design note title	Preliminary Earthworks Strategy		
Document reference	WPF_HYD_XX_XX_RP_C_0002		
Author	Sean Mitchinson		
Revision	005		
Date	20 October 2020	Approved	✓

## 1.1 Introduction

The purpose of this document is to address the requirements of Planning Condition 50 (Reference 14/01932/OUT) which calls for information pertaining to the implementation of the strategy for preliminary earthworks.

The main earthworks at Wykham Park Farm involve the creation of the site wide drainage network, including two attenuation basins and a swale system. In addition to this there is the creation of two platforms suitable for use as sports pitches and a landscaping mound in the south west area referred to in the report and drawings as the Southern Gateway Landscaping Mound. Other sources of material generation include the construction of the main spine road, Section 278 works and local centre bus loop. The intention of the earthwork's strategy is for all site won material and topsoil generated from the above works to be moved within the site boundary and for a cut & fill balance to be achieved.

## 1.2 Cut & Fill Analysis

Full cut & fill analysis details can be seen on drawing WPF\_HYD\_XX\_XX\_DR\_C\_2400. This details sources of all topsoil strip, suitable reusable cut material and where the stripped topsoil and cut material is to be reused.

### 1.2.1 Topsoil

Table 1 on the drawing above identifies the sources of Topsoil strip shown in figure 1 below. The Hydrock site investigation report WPF\_HYD\_XX\_XX\_RP\_G\_1001 identifies topsoil depths ranging from 0.15m to 0.4m across the site. For the purpose of the cut & fill analysis an average topsoil depth of 0.3m has been assumed. Where topsoil has been reused a thickness of 0.2m is specified. 0.2m of topsoil has been proposed as a typical value and is subject to detailed landscaping design.

For the purposes of this cut & fill analysis it has been assumed that no topsoil strip shall be taken from the proposed development parcels, in addition to this a zero-topsoil strip approach has been applied under Sports Pitch A due to archaeological restrictions.

A total topsoil strip volume of 24343m<sup>3</sup> is generated from the various areas as shown in Figure 1.

**1. Topsoil**

Volumes of 0.3m topsoils strip from each parcel, basins and swales, including volumes of topsoil reuse (assuming 0.2m reuse thickness except where indicated)

	Area (m <sup>2</sup> )	Topsoil Strip Volume (m <sup>3</sup> )	200mm Topsoil Reuse Volumes
Parcel R1	28500		
Parcel R2	29000		
Parcel R3	34300		
Parcel R4	41600		
Parcel R5	40076		
Parcel R6	46600		
Parcel R7	20000		
Local Centre	8000	2400	
Secondary Sch	18300		
Primary Sch	30300		4545
Sports Pitch A	12386		2477
Sports Pitch B	11237	3371	2247
South Gate Landscape Mound	17053		3410
Storage Area A	4641		781
Basin 1	13556	4067	2711
Basin 2	2850	855	570
Highway	17590	5277	
Swales	27913	8373	5421
Allotment	9014		2181
<b>Total</b>	<b>408707m<sup>2</sup></b>	<b>24343m<sup>3</sup></b>	<b>24343m<sup>3</sup></b>

Figure 1: Table of topsoil strip and re-use volumes (taken from dwg WPF-HYD-XX-XX-DR-C-2400)

A total volume of topsoil re-use at 22162m<sup>3</sup> has been identified using the proposed thickness of 0.2m as previously stated. The remaining 2181m<sup>3</sup> has been used to improve topsoil thickness at the proposed allotment area to the south east corner to ensure a minimum topsoil thickness of 0.4m. This provides a total topsoil reuse volume of 24343m<sup>3</sup> providing a net balance.

## 1.2.2 Suitable Cut Material

The main sources of cut within the site include the swale infrastructure, attenuation basins and spine road network. The swale infrastructure produces 22819m<sup>3</sup> of cut material, the attenuation basins produce 20234m<sup>3</sup> and excavation of the spine road to the proposed formation level produces 13888m<sup>3</sup> of material. This derives a total volume of site won cut material of 66018m<sup>3</sup> (Including an allowance for arisings from drainage trenches). Figure 2 below highlights the separate sources of cut material and volume generated by each.

**2. Sources and volumes of fill material**

Volumes of suitable fill material after 0.3m topsoil strip

	Area (m <sup>2</sup> )	Cut Volume (m <sup>3</sup> )
Swale 1A	1590	2848
Swale 1B	14961	5277
Swale 2A	2890	4240
Swale 2B	2441	2330
Swale 2C	5225	8124
Basin 1	13556	16943
Basin 2	2850	3291
Highway	17590	13888
Drainage Arisings		1083
<b>Total</b>	<b>67605m<sup>2</sup></b>	<b>58023m<sup>3</sup></b>
<i>Total including Marlstone</i>		<i>66018m<sup>3</sup></i>

Figure 2: Table cut material sources

This site won material is to be used to generate the two proposed sports pitches, the Southern Gateway Landscape platform and material storage areas in the north west corner of the site.

The volumes of material required to generate these features is shown in the Figure 3 below.

<b>3. Cut &amp; Fill Volumes</b>		
<u>Where reusable fill is generated the following areas have been adjusted to reduce the volume of site won material</u>		
Total reusable fill material available taken from table 2 = 66018m <sup>3</sup>		
	Area (m <sup>2</sup> )	Fill Volume required (m <sup>3</sup> )
Sports Pitch A	12368	9108 (4125 Marlstone Rock)
Sports Pitch B	13595	2936
South Gate Landscape Mound	11941	51286 (3870 Marlstone Rock)
Storage Area 1a	2262	2688
<b>Total</b>	<b>109216m<sup>2</sup></b>	<b>66018m<sup>3</sup></b>
An allowance for a 0.2m topsoil layer has been allowed for in the above volumes		
Total volume of fill material taken from Table 2 = 66018m <sup>3</sup>		
66018 - 66018 = <u>0m<sup>3</sup></u>		

Figure 3: Site won material re-use table

The volume of material required to generate the features shown in Figure 3 is 66018m<sup>3</sup> as shown in Figure 2 the total volume of cut generated is 66018m<sup>3</sup> allowing a balance of the site won material to be achieved. Refer to drawing WPF\_HYD\_XX\_XX\_DR\_C\_2400 for locations of the features listed above. Cross sections of each of the features can also be found on the following drawings.

Southern Gateway Landscaping: Refer to drawing **WPF-HYD-XX-XX-DR-C-0212**

Sports Pitch A: Refer to drawing **WPF-HYD-XX-XX-DR-C-0210**

Sports Pitch B: Refer to drawing **WPF-HYD-XX-XX-DR-C-0211**

### 1.2.3 Contaminated Material

The Ground Investigation report (Ref WPF\_HYD\_XX\_XX\_RP\_G\_1001) identifies the presence of elevated levels of arsenic within the Marlstone Rock formation found within the site boundary. Drawing WPF-HYD-XX-GI-DR-G-1002 shows the geological zonation plan, which displays the areas where the Marlstone Rock formations are outcropping (green hatch to the very eastern edge of the site.) The Ground investigation report concludes that any excavated Marlstone Rock material should be capped with a 600mm layer of clean cover where Marlstone Rock formations are deposited.

The proposed swale network cuts through these areas of Marlstone Rock formation. Swale 1B, Swale 2B and the proposed foul drainage along the southern boundary generated the volumes of Marlstone Rock as shown in Figure 4

<b>4. Marlstone Rock Volumes</b>	
<u>Volumes of contaminated material removed through swale excavation and topsoil strip</u>	
	<b>Volume (m³)</b>
Swale 1B	5619
Swale 2B	1542
Southern Foul Drainage Network	834
<b>Total Volume</b>	<b>7995m³</b>
Volume stored in Sports Pitch A	4125
Volume Stored in Leap	3870
<b>Total</b>	<b>7995m³</b>
This contaminated fill has been placed within the Leap and Sports Pitch A with a minimum of 600mm cover.	

Figure 4: Sources of Marlstone Rock Excavation

The total excavated volume of Marlstone Rock is 7995m<sup>3</sup>. It is proposed that this contaminated material be placed in the build up of the Southern Gateway Landscaping area and Sports Pitch A. Figure 3 shows the volumes of Marlstone Rock material to be lost in each of these areas 4125m<sup>3</sup> in Sports Pitch A and 3870m<sup>3</sup> in the Southern Gateway Landscaping area. A minimum of 600mm of cover is provided in these two areas over the Marlstone Rock deposits. The cross-sectional drawings HYD WPF-HYD-XX-XX-DR-C-0212 and WPF-HYD-XX-XX-DR-C-0210 shows the locations where the Marlstone Rock material is to be deposited.

An additional plan and note by EDP which also supports this discharge of conditions submission, has been produced to demonstrate the impact of the proposed earthworks on the existing tree root protection areas. This can be seen on drawing WPF-HYD-XX-XX-DR-C-2510. This plan highlights the areas of tree planting that will be removed as part of the earthworks/infrastructure as well as those areas avoided along swale routes.

## 1.3 Conclusions

- The cut & fill analysis shows that a balance of materials can be achieved without the need for materials to be taken off-site. However, the cut and fill analysis has made some assumptions on topsoil thicknesses and bulking factors. The southern gateway mound could be used as a balancing area for additional fill material with a tolerance of approximately +/- 200mm. These details are to be approved as a subsequent landscape reserved matters submission.
- A 0.3m topsoil strip generates a calculated volume of 24343m<sup>3</sup> with all the stripped material being used within the site boundary
- Cut material generated from the creation of the green infrastructure (basins & swales) and grey infrastructure (Spine Road) can be fully utilised to generate the sports pitches and Southern Gateway Landscape area, resulting in a net balance and zero cart-away materials.
- Where contaminated material is to be excavated from the marlstone rock outcrops it will be covered with a 600mm capping layer of clean material in line with recommendations from the Ground Investigation.
- Contaminated Marlstone Rock material is to be deposited in the Southern Gateway Landscape area and Sports Pitch A platform providing a minimum 600mm of clean cover.