Legend

- Lawn
- Native Tree Planting to Boundaries e.g. Birch and Similar
- Native Shrub Planting
- Ornamental Tree Planting. Flowering Species e.g. Cherry

0 CASCADE 100m

Note: All locations are approximate
Drawing Source: LUC Landscape Plan

Project Title: Richmond Education and Enterprise Campus Development

Figure Title: Illustrative Landscape Plan Part 2

For Information Only

Figure Number:	Date:
Figure 5.3	June 2015

Parameters

Development Layout

5.2.2 The layout of the REEC development consists of the proposed Development Zones as shown on the **Development Zones Parameter Plan (PL-03)**, the building zones and heights shown in the **Building Zones Parameter Plan (PL-04)** and **Building Height Parameter Plan (PL-05)** respectively, the proposed routes as shown on the **Site Access Parameter Plan (PL-02)** and the open space provision as shown in the **Site External Space Parameter Plan (PL-06)**. A series of **Detailed Access Plans** (**30713/AC/038; 30713/AC/040; 30713/AC/041; 30713/AC/042**) show the proposed access arrangements along Langhorn Drive following the proposed junction improvements on the A316 Chertsey Road.

5.2.3 A series of detailed parameter plans for each of the building zones and the playing fields development zone are also provided:

College Building Zones Parameter Plan 1 (PL-07) and 2 (PL-08)

Playing Field Development Parameter Plan (PL-16)

Tech Hub Building Zone Parameter Plan 1 (PL-09) and 2 (PL-10)

Schools Building Zones Parameter Plan 1 (PL-11) and 2 (PL-12)

Residential Development Building Zones Parameter Plan 1 (PL-13), 2 (PL-14) and 3 (PL-15).

5.2.4 The Parameter Plans and Detailed Access Plans are contained in **Appendix 5.1.**

Development Heights, Lengths and Widths

5.2.5 The allowance made within the parameter plans for the maximum height, length and widths of the buildings are provided in **Table 5.2**. Minimum values are also shown on the parameter plans (see **Appendix 5.1**).

Table 5.2 Maximum Building Heights, Lengths and Widths

Development Zone	Building Height Zone	Maximum Length	Maximum Width	Maximum Height*
College 1 main building	Height Zone 9	112m	51m	23.5m / 32.7 mAOD (5 storeys)
College 2 Sports Centre	Height Zone 8	53m	39m	20m / 29.2mAOD (4 storeys)
College 2 STEM Centre	Height Zone 9	59m	39m	23.5m / 32.7mAOD (5 storeys)
Tech Hub	Height Zone 6	45m	31m	16m / 25.2mAOD (3 storeys)
Schools	Height Zone 5	108m	22m	14.5m / 23.7mAOD (3 storeys)
	Height Zone 7	108m	29m	18.5 m / 27.7mAOD (4 storeys)
Residential 1	Height Zone 1	81.5 m	(min 20m)	3m / 12.2mAOD (1 storeys)
	Height Zone 3	20m	58.5m	10m / 19.2mAOD (3 storeys)
	Height Zone 4	81.5m	19.25m	13m / 22.2mAOD (4 storeys)
	Height Zone 6	81.5m	19.25m	16m / 25.2mAOD (5 storeys)
Residential 2	Height Zone 2	103m	17.25m	6m / 15.2mAOD (2.5 storeys)
Residential 3	Height Zone 1	35.2 m	(min 20m)	3m / 12.2mAOD (1 storey)
	Height Zone 4	35.2m	19.25m	13m / 22.2mAOD (4 storeys) -
	Height Zone 6	35.2 m	19. 25 m	16m / 25.2mAOD (5 storeys) -
Residential 4	Height Zone 2	11.5m	63.4m	6m / 15.2mAOD (2.5 storeys)

*Maximum heights are to roof parapets or eaves and are shown in metres above ground level and metres Above Ordinance Datum (AOD).

5.2.6 The minimum set back of buildings from the external boundaries are shown on **Building Zones Parameter Plan PL-04**. The building zones are defined by an easting and northing at each corner, which are presented on the parameter plans (see **Appendix 5.1**).

Education Provision

5.2.7 The REEC development will deliver a suite of new educational facilities on one site. The number of staff and students to be accommodated, compared to the existing, is identified in **Table 5.3**.

Table 5.3 Staff and Student Numbers: Existing and Proposed

	College	Secondary School	SEN
Existing			
Staff (FTE)	291	-	-
Students (FTE)	3,150	-	-
Proposed			
Staff (FTE)	300	80	60
Students (FTE)	3,000	750	115

Sport Upgrade and Improvements

5.2.8 To accommodate the college redevelopment, and allow the existing facility to function whilst the new buildings are being built, the northern playing field (adjacent to the A316) will be lost.

5.2.9 However, there will be a replacement on-site sports centre of up to 3,900m² GEA and a floodlit multi-use games area (MUGA) on the main site which will serve the college, schools and wider community. The SEN school will also have a multi-purpose sports pitch within the main site.

5.2.10 The College playing fields south of Craneford Way will be upgraded for use by the college, schools and wider community. The playing fields will be upgraded to allow for one all-weather sports pitch and one grass pitch, with an unfenced grass warm up area. The pitches will be fenced for Health and Safety (as the current unfenced pitch has risks from dog fouling and broken glass) with Sport England compliant fencing of 3.5-4m in height. The goal ends of both pitches will have retractable nets (up to 10m high for rugby) which will only be raised during games. Neither of the pitches will be floodlit. The all weather pitch will be permeable to facilitate drainage.

5.2.11 The change in provision of sports pitches is shown in **Table 5.4**.

Table 5.4 Sports Pitch Provision: Existing and Proposed (Indicative based on Illustrative Masterplan)

Open Space Type	Main Site		College Playing Fields south of Craneford Way		TOTAL	
	Existing	Illustrative	Existing	Illustrative	Existing	Illustrative
Grass sports pitch	7,420m²	0	10,400m²	5,208m²	17,820m²	5,208m²
All weather sports surface	0	3,397m²	920m² (2,787m² derelict)	8,439m²	920m² (2,787m² derelict)	11,836m²

Source data in **Appendix 5.4**

Tech Hub

5.2.12 A new Tech Hub is proposed for the Haymarket Media group[1], with provision for up to 20 staff to be on site. The facility will house Haymarket's digital labs, studios, video editing suites and gallery space. It is proposed that the media company share its expertise with students through career forums, lectures, mentoring and work experience placements.

Residential Mix

5.2.13 The REEC development will deliver up to 180 dwellings in a range of types and unit sizes. At the time this OPA is made, the exact mix of dwellings is unknown but there will be a minimum of 15% affordable housing tenures within the mix. 10% of the housing mix will have wheelchair access or be adaptable for wheelchair access.

5.2.14 The overall target dwelling mix for the OPA Site[2] is provided in **Table 5.5**.

Table 5.5 Target Dwelling Mix for Residential Development Zone

Type	Number (and %) by Unit		
	Phase 1	Phase 2	Total
1 bed flat (2 person)	30	15	45 (25%)
2 bed flat/maisonette (4 person)	41	40	81 (45%)
3 bed flat/house (5 person)	16	20	36 (20%)
4 bed flat/house (6 person)	16	2	18 (10%)
Total	103	77	180 (100%)

Source data in **Appendix 5.2**

5.3 VEHICULAR AND CYCLE ACCESS, AND PARKING

Vehicular Access

5.3.1 Vehicle access is shown on the **Site Access Parameter Plan (PL-02)** and the **Detailed Access Plans (30713/AC/038; 30713/AC/040; 30713/AC/041; 30713/AC/042).** Vehicular access to the College Development Zone will be from Langhorn Drive. The Tech Hub Development Zone will also be accessed from Langhorn Drive, via the College Development Zone. The Secondary School within the Schools Development Zone will be accessed from the A316 north of the existing barrier on Egerton Road as shown in **Detailed Access Plan 30713/AC/040**. The SEN School within the Schools Development Zone will be accessed from Egerton Road south of the existing barrier as shown in **Detailed Access Plan**

[1] Provision of the Tech Hub may be slightly later than assumed in the Haymarket Media's Teddington Studios application (14/0914/FUL) and if this is the case, a variation may need to be submitted to the S106 agreement for that application.
[2] It should be noted that the OPA sets a maximum floorspace and number of units. If a residential developer wishes to increase this, then they will be required to either demonstrate that their alternative proposals falls within the scope of what has been assessed within the OPA or submit a further planning application.

30713/AC/041. This will allow separation of the Secondary School traffic entrance and the SEN School traffic entrance. The existing junctions to / from Egerton Road will be amended as shown in **Detailed Access Plan 30713/AC/041**.

5.3.2 The Residential Development Zone will also be accessed from Langhorn Drive, which will be widened from the mini–roundabout to the Site access. The junction between Langhorn Drive and the A316 Chertsey Road will be altered to an at grade signalised junction allowing vehicles to turn right out of Langhorn Drive onto the A316 as shown on **Detailed Access Plan 30713/AC/038.**

5.3.3 Where the Marsh Farm Lane footpath from the north reaches Craneford Way, the existing College vehicle access bell mouth will be removed and the footway reinstated as shown on **Detailed Access Plan 30713/AC/042**.

Car Parking Provision

5.3.4 The current and proposed parking provision for each Development Zone is detailed in **Table 5.6**. The parking provision will change from an existing total of 570 to 420, with the College, Schools and Tech Hub Development Zones containing 230 spaces and the Residential Development Zone containing 190 spaces. The college parking will be able to be used by Harlequins out of college hours for event parking on match days. The community will be able to use college parking out of college hours for sports and community use; the parking for playing pitch/sports hall use will be in the car park directly adjacent to the sports hall while parking for weekend use of the main building fitness suite and the spa and beauty areas will be in the main car park adjacent to the A316.

5.3.5 Parts of the College and Tech Hub access roads parking areas will be permeable to aid site drainage.

Table 5.6 Car Parking Provision: Existing and Proposed (Indicative based on Illustrative Masterplan)

	College	Schools		Tech Hub	Residential
		Secondary School	SEN		
Existing					
Standard	274	-	-	-	-
Visitor	4	-	-	-	-
Disabled	2	-	-	-	-
Minibus/Light Goods Vehicle (LGV)		-	-	-	-
Offsite (Harlequin and Craneford Way East)	290				
Total Existing	**570**				
Proposed					
Standard	133	35	25	8	160
Visitor	8	2	2	1	20
Disabled	8	2	2	1	20
Minibus/LGV	1	1	1	-	
Total Proposed	**150**	**40**	**30**	**10**	**190**

Cycle Access and Provision

5.3.6 Cycle access will be available through the main accesses from Langhorn Drive and Egerton Road and via a shared cycle way/footpath along the upgraded Marsh Farm Lane (off both the A316 and Craneford Way). Cycle parking will be provided in accordance with the London Plan (as amended, 2015), approximately 142 spaces will be provided at the College and 106 spaces adjacent to the Secondary School car park (**Figure 5.2**).

Pedestrian Access

5.3.7 There will be improved pedestrian access via the upgraded shared footpath and cycleway along Marsh Farm Lane, which runs from Craneford Way in the south to the A316 in the north. This route will connect to Twickenham Station via the existing River Crane footpath and bridge, and a new length of footpath being built on the south bank of the River Crane as part of the Twickenham Rough development (Land to the West of the Former Royal Mail Sorting Office, Twickenham - Ref 13/1147/FUL) and access to Twickenham and the rail station being put in as part of the Sorting Office development (Former Royal Mail Sorting Office, Twickenham - Ref 12/3650/FUL).

5.3.8 This will form a new pedestrian route to the College, but because it will not be lit (for safety and conservation reasons) and it is understood will be locked at night, it will only be suitable for use during daylight hours. The other main pedestrian routes to the station for students and staff will be along Marsh Farm Lane and either via the

A316 or Craneford Way/Court Way.

5.3.9 A new gateway will be provided for pedestrians to access the eastern end of the College playing fields on Craneford Way, making a circular walk around the new pitches. The existing footpath across the College playing fields, the wall between Craneford Way East and West playing fields, and the existing bridge over the River Crane will be retained, but will be upgraded / refurbished as part of the REEC development.

Servicing and Deliveries

5.3.10 The servicing and delivery accesses for both the main college building and the secondary school will be via the A316 junction with Egerton Road, north of the barrier. All deliveries will utilise the delivery bay between the college and the secondary school building. Deliveries to the SEN school will be via the access on Egerton Road, south of the barrier, into the drop off area. Deliveries to the Tech Hub will be via the A316/Langhorn Drive junction to the rear of the Tech Hub building. Deliveries to the residential site will be via the access from Langhorn Drive.

5.4 EDUCATIONAL AND COMMERICAL SHARED CAMPUS

5.4.1 The College Development Zone will incorporate a large entry plaza adjoining Marsh Farm Lane, some perimeter landscape areas and a portion of the shared central open space. The Tech Hub Development Zone will share entry off the plaza. The Schools Development Zone will incorporate entry areas, perimeter landscape areas and portions of the shared central open space. The entrance area of the SEN school within the Schools Development Zone will be a multi-functional hard landscape that will be available as a games space as well as a pick-up and drop-off area.

5.4.2 The College and Schools will share the sports centre and pitches, and the two schools will share the MUGA within the main site. The secondary and SEN school will be within a combined building and will share some facilities within it, for example kitchens, learning resource space, SEN facilities and science rooms.

5.4.3 The College has an agreement with Haymarket to utilise some accommodation within the Tech Hub for creative and media technologies by way of an informal partnership. The College will not lease or own the Tech Hub accommodation, but will instead use some space for the curriculum.

5.5 RESIDENTIAL AMENITY SPACE AND PLAY SPACE

5.5.1 Every residential unit will have access to private amenity space, either in the form of a garden or a balcony. Indicative minimum areas for the dwelling mix in the Illustrative Masterplan (based on GLA Minimum Housing Standards for balcony

sizes and LBRuT Development Management Plan for garden sizes) are shown in **Table 5.7**. A different mix could be proposed by the residential developer but would still need to comply with the relevant planning guidance[3].

Table 5.7 Calculation of Minimum Private Outdoor Space (based on dwelling mix in Illustrative Masterplan)

Type	Phase 1		Phase 2		Total
	Balcony	Garden	Balcony	Garden	
1 bed	150m²	n/a	75m²	n/a	225m²
2 bed	105m²	1,040m²	168m²	640m²	1,953m²
3 bed	n/a	1,120m²	64m²	840m²	2,024m²
4 bed	n/a	1,120m²	18m²	n/a	1,138m²
TOTAL	**255 m²**	**3,280m²**	**325m²**	**1,480m²**	**5,340m²**

Source data in **Appendix 5.3**

5.5.2 Additional shared communal amenity space for residents totalling a minimum of 2,500m² - will be provided at ground floor or podium level. (The Illustrative Masterplan in **Figure 5.1** indicates that shared amenity space could be up to 3,400m²). This shared space will be more readily accessible from those residents of Residential Building Zones 1 & 3, as it is in these zones where the majority of dwellings without access to private gardens will be situated. Ground floor dwellings will be provided with private gardens in all Residential Building Zones.

5.5.3 **Table 5.8** shows the number of children calculated to determine the required play space within the residential development. The calculations use the GLA Shaping Neighbourhoods SPG formulæ, and are based on 15% of the dwelling mix being affordable and that 100% of this affordable housing is social rent (as a worst case scenario). Any increased proportion of intermediate housing would reduce the numbers of children and the area of play space required.

Table 5.8 Calculated Number of Children to Determine Required Play Space (Indicative as based on Illustrative Masterplan)

Type	Phase 1				Phase 2			
	0-4	5-10	11-15	16-18	0-4	5-10	11-15	16-18
1 bed	1.0	0	0	0.4	0.4	0	0	0.1
2 bed	6.5	2.3	0.8	0.6	6.4	2.2	0.8	0.6
3 bed	5.3	2.9	1.6	0.5	5.9	4.0	2.1	0.7
4 bed	9.6	6.8	4.4	1.3	0.4	1.2	1.3	0.4
TOTAL	**22**	**12**	**7**	**3**	**13**	**7**	**4**	**2**

Note numbers do not sum exactly due to rounding. Source data in **Appendix 5.3**

[3] Including: *GLA The London Housing SPG* (2012) and *LBRuT Development Management Plan* (2011)

Table 5.9 Minimum Children's Play Space (Indicative as based on Illustrative Masterplan)

Type	Phase 1				Phase 2			
	0-4	5-10	11-15	16-18	0-4	5-10	11-15	16-18
Minimum Total Play Space (m²)	225	120	69	28	131	74	42	19
TOTAL (m²)	**441**				**267**			

Note numbers do not sum exactly due to rounding. Source data in **Appendix 5.3**

5.5.4 Based on the GLA's Shaping Neighbourhoods SPG formulæ, a minimum play space provision total of 356m² is required for children under 5; 194m² for children aged 5 to 10 (inclusive); and 158m² for children aged 11 and over, totalling 708m² (summed from **Table 5.9**). The minimum shared amenity space provision for the residential elements of the REEC development of 2,500m² exceeds this total calculated minimum play space requirement.

5.5.5 This is based on the Illustrative Masterplan to demonstrate that adequate play space can be provided within the development; a different layout could be proposed by the residential developer but would still need to comply with the relevant planning guidance. If a mix with more flats than houses was proposed, this would reduce the number of children and the minimum area requirement for children's play space, hence the illustrative masterplan (which maximises the number of houses) is likely to represent a worst case scenario.

5.6 LANDSCAPING AND OPEN SPACE

5.6.1 The **Design Code** provides a remit to which the landscaping for the Reserved Matters Applications will need to adhere. An Illustrative Landscape Plan is provided in **Figure 5.2.**

5.6.2 The landscaping principles set out in the Design Code are to strengthen the vegetated boundaries of the site with native species to provide wildlife corridors and improve amenity. The line of mature trees along the college frontage on the A316, which are partly within and partly outside the red line, will be retained and gaps filled by planting new trees within the red line area. Some mature trees along Marsh Farm Lane will be retained, with new planting along the shared access route to improve the footpath/cycleway and make it more appealing to users than it is at present. Additional trees will also be planted in staggered blocks along the new residential access road, with the blocks acting as a traffic calming measure.

5.6.3 Soft and hard landscaping within the main site will be appropriate to its function for schools and college use. Sections of native hedgerow will be planted between the school and college grounds, providing screening of the school entrance and play

areas. Mature trees along Craneford Way will also be retained where possible and part of the soft landscaping areas, for example the College playing field south of Craneford Way, will be enhanced for nature conservation by native planting and retaining unmown areas of longer grass.

5.6.4 The street and path network across the Site will be designed to give priority to pedestrians and cyclists, and where possible these will be separated from vehicle accesses. The streets and paths will be well lit, appropriate to their use, with the exception of the footpath along the River Crane (being built by others) which will be kept unlit as it is an important biodiversity corridor, and also from a safety perspective to discourage use after dark. Streets will be bordered by a tree planting zone where possible, again with use of native species.

5.6.5 An indication of the existing and proposed provision of landscaped areas (based on the Illustrative Masterplan) is provided in **Table 5.10** below. Based on the parameter plans, the minimum possible area of open space (i.e. the development zone area (87,244m²) less the building zone area (23,299m²)) would be 63,945m².

Table 5.10 Comparison of Existing and Illustrative Open Space

Open Space Type	Main Site (m²)		College Playing Fields on Craneford Way (m²)		TOTAL (m²)	
	Existing	Illustrative	Existing	Illustrative	Existing	Illustrative
Grass sports pitch	7,420	0	10,400	5,208	17,820	5,208
Soft landscaping	16,167	9,809	12,383	12,350	28,550	22,159
All weather sports surface	0	3,397	920 (2,787 derelict)	8,439	920 (2,787 derelict)	11,836
Hard landscaping	5,854	12,757	214	330	6,068	13,087
Marsh Farm Lane	692	1,359	275	749	967	2,108
Private gardens	0	5,167	0	0	0	5,167
Roads/ car parking	10,648	12,253	98	0	10,746	12,253
Total (open space)	40,781	44,740	27,076	27,076	67,857	71,817
Open space as % total area	68%	74%	100%	100%	78%	82%

Source data in **Appendix 5.4**

5.7 COMMUNITY USE

5.7.1 The REEC partnership is committed to providing community use for a wide range of facilities and activities. These include use of the following;

- College sports hall – Community use of the sports hall will be provided out of

main College hours of use; after 5.30pm to closing time (governed by planning regulations) and on Saturdays and Sundays. In addition, use of the sports hall will be provided during College holiday periods when it is closed.

- College restaurant and catering – The principle of development is to provide the College with industry standard, real work environments. The College restaurant will be open to the community for hire and for dining both during College standard hours and through evening classes.

- College fitness gym - Within the main building (separate to the sports building) the College will provide access to a fitness gym both during College daytime operational hours, evening and weekends.

- Hair and Beauty – the College wish to actively encourage the community to book treatments within the hair and beauty salons during daytime and evening opening.

- Sports Pitches – the College is committed to the provision of bookable use of the sports pitches in the evenings (in the summer, due to the absence of floodlighting) and at weekends and will commit to a community use agreement.

- School sports hall – Community use of the sports hall will be provided out of main school hours of use; after 5.30pm to closing time (governed by planning regulations) and on Saturdays and Sundays. In addition use of the sports hall will be provided when the school is closed during holiday periods.

- School dining room and catering – the school dining space will be open to the community for hire outside normal school hours (governed by planning regulations).

- School halls and drama spaces – the school halls and drama spaces will be open to the community for hire outside normal school hours (governed by planning regulations).

- School Multi-Use Games Area – Community use of the school MUGA will be provided out of main school hours of use; after 5.30pm to closing time (governed by planning regulations) and on Saturdays and Sundays. In addition use of the MUGA will be provided when the school is closed during holiday periods.

6 DEMOLITION AND CONSTRUCTION

6.1 INTRODUCTION

6.1.1 This chapter describes the anticipated programme of works and the key activities that will be undertaken on Site during demolition and construction in relation to the REEC development. It identifies the demolition and construction phasing sequence in general terms and summarises the sources of potentially significant environmental effects associated with the demolition and construction activities, outlining where necessary, proposals for their mitigation.

6.1.2 The consideration of effects during demolition and construction are also provided within each relevant topic chapter of the ES (refer to Chapters 8 to 18).

6.1.3 Planning for demolition and construction of the REEC development is necessarily broad at this time and will be subject to modification prior to commencement of works on Site. It is however considered that it is sufficient to identify all likely significant environmental effects relating to the demolition and construction works, and assess a 'worst-case' situation. Mitigation measures identified are considered sufficiently flexible to account for potential modifications.

6.1.4 Further to this, in many cases the demolition and construction issues and effects which could potentially arise on a day-to-day basis can be controlled or limited through good site management procedures. The contractor will be expected to be registered with Considerate Constructors Scheme and best practice[1] as set out by the scheme will be implemented to minimise the effect of the demolition and construction of the REEC development and avoid detrimental effects as far as is possible.

6.1.5 An Outline Construction Environmental Management Plan (CEMP) has been prepared for the REEC development which describes relevant environmental management controls necessary for environmental protection during the demolition and construction works. The Outline CEMP is provided in **Appendix 6.1**.

6.1.6 An Outline Construction Management Plan (CMP) and an Outline Construction Logistics Plan (CLP) have been prepared in parallel to the Outline CEMP. The Outline CMP sets out proposed measures to ensure safety and minimise disruption to local residents, businesses, the general public, the College and the workforce employed during the construction and demolition process. The Outline CLP is a primary tool for controlling the movement of freight associated with the demolition and construction phase. These plans aim to minimise disturbance to receptors and

[1] https://www.ccscheme.org.uk/index.php/ccs-ltd/what-is-the-ccs/best-practice-hub

the environment, reduce emissions and congestion and to improve safety. Mechanisms may include construction routing, improving site operation and access, supply chain management and the use of a construction staff travel plan. The Outline CMP is provided as **Appendix 6.2** and the Outline CLP is provided in **Appendix 6.3**.

6.2 APPROACH AND IDENTIFICATION OF POTENTIALLY SENSITIVE RECEPTORS

6.2.1 There is currently no specific guidance for assessing the construction effects of developments. In lieu of such guidance, the approach has drawn on The Highways Agency's Design Manual for Roads and Bridges (DMRB) Guidelines[2], which defines how 'disruption to construction' should be assessed for road schemes to determine the key areas for consideration.

6.2.2 It is also appropriate to take any relevant legislative and planning controls into account when assessing effects. For example, emissions to air will be subject to controls under legislation which addresses environmental protection and the responsible authority would therefore implement such controls. Regardless of this, the ES considers such effects and any required mitigation.

6.2.3 **Table 6.1** below defines locations and key sources, which may be affected by demolition and construction activities in the vicinity of the REEC development.

[2] Department for Transport (2012). *Design Manual for Roads and Bridges (DMRB)*. Available online at www.dft.gov.uk/ha/standards/dmrb

Table 6.1 Potentially Sensitive Receptors to Demolition and Construction Activities

Receptor	Nearest approximate distance from the Site Boundary
Residents in the immediate vicinity of the Site, including the Heatham Estate, properties on Craneford Way, Challenge Court, Dene Estate and properties north of the A316 Chertsey Road	Gardens of properties on Egerton Road to the east and Craneford Way to the south are immediately adjacent to the Site boundary
Existing Site users who will remain on Site during construction as part of the 'decant' strategy.	On-site
Future on Site schools staff and students, residents and workforce in the Tech Hub	On-site
Vehicle and cycle users of the adjacent road network, including Egerton Road, Craneford Way, Langhorn Drive, and the wider strategic network, including A316 Chertsey Road	10m
Workforce at Twickenham Stoop, Nuffield Health Club and Council depot	10-100m
Network of PRoW, cycle networks and nearby open spaces: Craneford Way playing fields (designated Metropolitan Open Land) Craneford Way West playing fields and the area south east of Challenge Court (both public open space) A PRoW (Marsh Farm Lane) runs down the western boundary of the Site and provides access to the Craneford Way playing fields and River Crane to the south of the Site	 Partly on-site Adjacent to the Site boundary to the west and south west On-site
Users of College Playing Fields	On-site
LBRuT Air Quality Management Area	On-site
The Site overlies Kempton Park Gravel shallow principal aquifer and is in proximity to the River Crane and Duke of Northumberland's River. The majority of the Site is within low risk Flood Zone 1 and part of the College playing fields is located in medium risk Flood Zone 2.	Groundwater on-site and rivers are adjacent to the Site boundary to the south and west respectively.
Non-statutory designated conservations sites, including Sites of Borough Importance for Nature Conservation (Duke of Northumberland's River, River Crane at St Margaret's) and Sites of Local Importance for Nature Conservation (SINC) (Twickenham Junction Rough).	10m from Twickenham Junction Rough Local SINC south of the Site to 450m from River Crane at St Margaret's Borough SINC to the east of the Site
Rosecroft Gardens Conservation Area and in the wider area Hamilton Road, Twickenham Green, Queen's Road, Amyand Park, Pope's Avenue and Twickenham Riverside.	50m to Rosecroft Gardens Conservation Area.
Grade 1 Listed All Hallows Church and Pope's Garden, a Registered Park and Garden.	490m
Locally listed views and protected vistas	None in proximity. The nearest protected vista is between Richmond Park and St Paul's Cathedral to the east of the Site.
Crane Valley Archaeological Priority Area	On-site

6.3 PROGRAMME AND PHASING WORKS

Approximate Overall Site Activity Programme

6.3.1 Given the scale of the REEC development, the current expectation is that the construction programme will commence in 2015 in a phased manner over a 4 year period, and complete in in 2019. Whilst full details regarding the demolition and construction works are not finalised, it is possible to provide general information about the likely timing of likely activities, as provided below.

Sequence, Approximate Programme and Works Summary

6.3.2 The assumed programme of likely works and the overall likely sequence for the demolition and construction activities is divided into three phases. **Table 6.2** sets out the phasing activities in order of their anticipated sequence, and includes the approximate duration of the works. A series of phasing plans showing the sequencing of works is given in **Appendix 6.4**. It should be noted that in order to achieve the demolition and construction programme and due to the complexity and size of the Site, a number of these phases are expected to overlap where works will continue from one stage after commencement of the next. See also **Figure 3.2** in Chapter 3 which provides further detail on the existing college layout.

6.3.3 The detailed demolition and construction programme up until operation of the completed development, will be determined by the main contractor selected to carry out the works and will be dependent on the construction techniques ultimately employed following detailed design.

6.3.4 Leading up to and prior to the start of any demolition or construction on-site there will be extensive dialogue with Transport for London, London Underground, London Bus Service and the local highway authority at LBRuT regarding the interface between the construction site, adjacent property, highway and transport infrastructure to ensure that continuity and safe operation is maintained. Further to this, there will be on-going dialogue with utility service providers regarding the existing network of utilities on and around the Site.

Table 6.2 Indicative Demolition and Construction Phases, Activities and Anticipated Duration

Phase / Sub-Phase	Activities	Anticipated Timescales (and Duration)
Phase 1		
1a (enabling works*)	• Existing buildings to be taken out of use (Music, LRC, Science, A block and Z block) and space allocated.	July 2015 (2 weeks)
1b (enabling works*)	• Internal refurbishment of existing Workshop Q and E block • Line out two grass pitches on College playing fields south of Craneford Way • College decant to refurbished rooms • Construction of haul road and preparation of access off Langhorn Drive and Egerton Road • Demolition of Music, LRC, Science, Z block and A block.	July 2015 – March 2016 (9 months)
1c	• Construction of main college building • Construction of Secondary and SEN School • Removal of hardstanding and seeding of playing fields.	March 2016 – August 2017 (18 months)
1d	• Phased move of college departments and facilities into the new college blocks and refectory • Schools open • Installation of temporary changing facilities for the Sports Hall.	August 2017 (1 month)
1e	• Demolition of KLM, sports changing facility and blocks B, C1, C, D, LSW, T, E and E1, refectory, caretaker building and telephone mast • Demolition of outbuildings and pumping station.	September 2017 – October 2017 (2 months)
Phase 2		
2a	• Construction of Sports Centre and pitches on main site and College playing fields • Construction of STEM and completion of schools external area • Marsh Farm lane upgrade commences.	September 2017 – August 2018 (12 months)
2b	• Commencement of Phase 1 of residential work • Construction of residential access road	October 2017 – September 2018 (12 months)
2c	• Decant of Sports Hall and temporary changing buildings into new Sports Centre • Decant into STEM.	September 2018 (1 month)
2d	• Demolition of the existing sports hall and removal of changing rooms • Demolition of remaining college workshops / teaching buildings. • Temporary access route for Phase 1 residential established.	October – December 2018 (2 months)
Phase 3		
3a	• Construction of Tech Hub; • Junction amendments on A316 Chertsey Road and Langhorn Drive road realignment; • Completion of Marsh Farm Lane from STEM to Sports Centre • External works for Sports Centre car parking and SEN School MUGA pitch.	November 2018 – September 2019 (10 months)
3b /3c	• Construction of Phase 2 of the residential development • Permanent residential access established • Marsh Farm Lane upgrade completed.	December 2018 – November 2019 (12 months)

* These works do not form part of the application but are included in the assessment for completeness

6.3.5 The following section outlines the general sequence of demolition and construction

works from the first enabling works commencing July 2015 (which do not form part of the planning application) to the expected completion at the end of 2019 and should be read in conjunction with the Indicative Demolition and Construction Programme in **Appendix 6.5** of the ES.

Enabling Works (including Pre-commencement Surveys)

6.3.6 Secure hoarding will be erected at site entrances prior to excavation and foundation works as required for each relevant phase, the design of which will be agreed with LBRuT. Other boundaries will be hoarded as necessary to reduce noise impacts from the enabling works, as set out in Chapter 9 – Noise and Vibration. All other boundaries will be fenced. The main contractor will be required to maintain the hoarding and fencing to provide full security and safety for the general public and to minimise adverse visual and noise effects.

6.3.7 Separate vehicular and pedestrian access and egress for workers will be created, to facilitate the demolition and construction works.

6.3.8 The following pre-commencement surveys will be carried out prior to the commencement of the demolition works:

- Utilities and services, including penetrating radar. Residents will be informed of any service disruption that would affect them;
- All buildings will be surveyed following vacant possession to establish the location and quantity of asbestos containing material. Surveys will be undertaken strictly in accordance with the Control of Asbestos Regulations3 and the appropriate Health and Safety Executive (HSE) guidance in Asbestos: The Survey Guide[4];
- Structural surveys; and
- Site investigation surveys.

Service Diversions

6.3.9 Any existing utility and other services identified by the pre-commencement surveys as being problematic to the works will be diverted as necessary prior to works commencing. The need for such diversions is generally due to services being found to encroach beneath the footprint of the proposed building works. In addition to any diversion works, existing services entering the Site that are redundant will be appropriately terminated and capped.

[3] DCLG (2012). *Control of Asbestos Regulations*. Available online at: http://www.legislation.gov.uk/uksi/2012/632/contents/made

[4] HSE (2012). *Asbestos: The Survey Guide*. Available online at: http://www.hse.gov.uk/Pubns/priced/hsg264.pdf

Site Preparation, Demolition and Construction

6.3.10 It is anticipated that the Development will be undertaken in three phases, the first comprising site enabling works and phases 2 and 3 comprising the main demolition and construction works. All demolition and construction activities will be carried out using methods which minimise dust and noise with regard to the impact on the local community. Site preparation, demolition and construction associated with each phase (and sub-phase) is detailed below. See **Appendix 6.4** for illustrative phasing plans.

Phase 1

Phase 1a (Enabling Works)

- In order to expedite development the College intend to commence the redeployment of Music, LRC, Science and those classes using (part of) A block and Z block. Existing rooms in these blocks will be taken out of use and allocated to rooms within the retained buildings (the Workshop and Q and E Blocks) to facilitate early demolition of these areas once consent is granted.

Phase 1b (Enabling Works)

- Accommodation for the relocated classes will be refurbished;
- The College decant will commence over the Christmas break 2015 / 2016 following the refurbishment of the Workshop and Q and E blocks;
- Construction of a haul road from Langhorn Drive through the Site onto Egerton Road to allow access for the construction traffic and to continue to provide access for Harlequin FC through the site;
- Following the completion of an asbestos survey of the buildings (with any asbestos removed as necessary) phased demolition of the existing Music, LRC Science and A block and Z block will then commence; and
- Two pitches will be lined out on the College playing fields south of Craneford Way.

Phase 1c

- Once the demolition and clearing of all buildings during phase 1b is complete, the construction of the main College building, School and the SEN school will commence;
- Completion of the school and SEN will include their permanent entrances, two MUGA pitches and the front external works area; and
- Removal of the hardstanding and reseeding on the College playing fields south of Craneford Way.

Phase 1d

- On completion of the College main building, the College will decant from Buildings KLM, B, C1, C, D, LSW, T, E, E1 and the Refectory into the new building;
- The School and the SEN will open; and
- A temporary sports changing facility will be installed to enable the demolition of the current sports changing facility.

Phase 1e

- Buildings KLM, B, C1, C, D, LSW, T, E, E1, the Refectory, the Sport changing rooms, the out-buildings / pumping station and the telephone mast will be demolished.

Phase 2

Phase 2a

- Following demolition of the KLM, sports changing rooms and the out-buildings, construction will continue on the Phase 2 educational buildings, to complete the STEM building, the Sports Centre and the Schools' external area, consisting of two further MUGA pitches, Clarendon external play area and boundary fencing;
- Marsh Farm Lane upgrade commences;
- The entrance to SEN and the turning area will be constructed; and the
- All weather pitch will be created on the College playing fields south of Craneford Way.

Phase 2b

- Construction of the first phase of residential development will commence, following the demolition of the buildings within Phase 1e;

Phase 2c

- Following completion of Sports and STEM buildings, the College will decant from the Sports Hall, brickwork, workshops and Q Block.

Phase 2d

- The remaining buildings (the Sports Hall, temporary changing facilities, brickwork, workshops and Q block) will be demolished. Phase 1 residential completed and temporary access route established past STEM/Sports

Phase 3

Phase 3a

- Once the demolition of the sports building and connecting buildings is complete, the construction of Tech Hub will commence. This will enable the external works / car park between the College and the Technical Hub and the frontage of the College to be completed;
- Upgrade of junction to A316;
- Langhorn Drive road will be realigned; and
- The external works for the Sports Centre car parking and SEN School MUGA pitch will be completed.

Phase 3b

- Construction of the second phase of the residential development will commence.

Phase 3c

- The remaining pathway to Marsh Farm Lane will be completed to the rear of the residential site, enabling the college students to access the College via Marsh Farm Lane.

Public Realm and Landscaping

6.3.11 Landscape details are reserved within the outline planning application. The landscape details for each development zone will be provided as reserved matters. Minimum areas of open space are defined by the parameters plans (see **Appendix 5.1**) and will be informed by the Design Code submitted as part of the OPA which will set out the rules and aspirations for the overall landscaping scheme. An Illustrative Landscape Plan is shown in **Figures 5.2** and **5.3** in Chapter 5- Proposed Development.

Access and Transport

6.3.12 The A316 will be used as the main approach for all demolition and construction delivery vehicles. The site access will be from Langhorn Drive, with a limited amount of egress to the northern end of Egerton Road. Temporary access for the residential Phase 1 development will be provided past the Sports / STEM block and to the most southern point of the site to the rear of the existing Q block. Due to the mix of residential and construction traffic, management systems will be put in place to ensure construction traffic does not affect the residential traffic. The permanent residential access will be provided following the completion of the residential Phase 2 development.

6.3.13 For the development of the College playing fields south of Craneford Way and the second phase of the residential development, there will be some minor use of Craneford Way which will be accessed and egressed from Langhorn Drive using the vehicular link with some localised traffic management.

6.3.14 Vehicular access routes to the Site will be regularly monitored and reviewed during the course of the demolition and construction works. All vehicles will be required to keep to designated routes and follow instructions issued by the main contractor appointed on-site.

6.3.15 Modern construction management methods allow 'just-in-time' deliveries ensuring that relatively constrained sites operate efficiently with limited on-site storage of materials. This leads, where appropriate, to the use of smaller delivery vehicles and shorter delivery times.

6.3.16 Construction access routes will be implemented to take into account current legislation, Police, Fire Authority and HSE Guidance, Local Authority Transport Schemes and Neighbourhood Lorry Restrictions.

6.3.17 Construction personnel will be encouraged to travel to the Site by public transport and limited car parking will be provided on-site for on-site contractors and associated LGVs.

6.3.18 Detailed access information is provided in the Outline CLP in **Appendix 6.3**, for agreement with LBRuT, and will be provided to all Site personnel and contractors. The passage of vehicular traffic to and from the Site will adhere to the environmental procedures contained within the Outline CMP (such as wheel washing) and is applicable to all contractors involved in the REEC development.

6.4 INDICATIVE DEMOLITION AND CONSTRUCTION MATERIALS

Materials and Soil to be Exported Off-site for the Development

6.4.1 It is envisaged that up to approximately 45,279m^3 (including additional 30% bulk factor*) of demolition material derived from existing buildings and hardstanding will require storage or removal from the Site following demolition. **Table 6.3** below outlines what this figure comprises.

Table 6.3 Indicative Volumes of Demolition Materials

Demolition Material	Total Volume (m^3)
External walls	4,998
Internal walls	1,499
Ground floors	8,349
Intermediate floors	6,006
Roofs	4,241
Hardstanding areas	6,106
External foundations	1,815
Internal foundations	1,815
Total volume of material	**34,830**
Total factored volume of material (including 30% bulk factor)*	**45,279**

*The integrity of the walls would be disturbed which would in turn increase the volume of material that would need to be stored or removed. The total volume has therefore been increased by 30% to account for this.

6.4.2 A number of assumptions were made when calculating the total volume of demolition material. The main building types were identified using drawings of existing buildings and site photos and as such, using professional judgement, the approximate area, perimeter and height were estimated for each existing building on Site. The construction type and construction of individual elements of existing buildings was also assumed.

6.4.3 The following outlines the major types of materials likely to arise from demolition;

- Concrete (substructure, superstructures, floor slabs, walls and columns);
- Brick (external and internal walls);
- Glass and cladding (cladding);
- Metal components (windows, plant, superstructures, sub-assemblies);
- Timber and plasterboard (partitions and ceilings);
- Hard-standing / tarmac (internal pathways, car parks); and
- Asbestos (internal structure, as per the RuTC Reinspection Survey undertaken in 2011[5]).

6.4.4 Soil will also be exported offsite to allow construction of levels for foundations and approximately 150mm of topsoil will be removed from all landscaped areas. **Table 6.4** below provides a breakdown of the approximate volume of soil to be removed from the Site. An additional volume of contaminated soil will need to be removed to a depth of 0.75m from garden areas in the residential development zone, the exact volume of this material cannot be calculated in the absence of defined garden layouts. Based on the Illustrative Masterplan, this could be up to $700m^3$.

6.4.5 Excavation for new foundations will be required to a depth of up to 1.5m. The ground conditions on Site, as provided in the Ground Investigations Report (provided as **Appendix 6.6**), would enable the REEC development to be supported on traditional

[5] Manestream (2011) Richmond Upon Thames College Asbestos Reinspection Report

shallow strip and pad foundations. As such, it is not envisaged that piling at depth will be required.

6.4.6 There are no basements proposed as part of the REEC development.

Table 6.4 Approximate Volume of Soil to be Removed from Site

Soil Excavations	Total Volume (m^3)
Foundations	4,431
Topsoil	10,316
Total volume	**14,747**
Total factored volume of soil (including 30% bulk factor)	**19,171**

6.4.7 It is envisaged that of the total demolition material provided in **Table 6.3** (45,279m^3), up to approximately 5,329m^3 (including brick and concrete from external walls and internal partitions) will be recycled, crushed, graded and used as a sub-base for new foundations (as detailed in **Table 6.5** below). These demolition materials will be stockpiled on-site prior to re-use on Site.

Table 6.5 Total Approximate Volume of Demolition Material Suitable for Recycling on Site

Material to be Recycled	Total Volume (m^3)
External wall volume	3,902
Internal wall volume	1,427
Total volume to be recycled	**5,329**

6.4.8 The contractor's site compounds will be located to accord with the demolition and construction activities at various phases, as set out below.

- **Phase 1b:** The compound and stockpile is likely to be located on the existing College playing field to the south of the A316
- **Phase 1c:** The compound is likely to be to the rear of the existing sports centre adjacent to the A316 for the college building and / or to the north / east of the existing KLM building for the school building
- **Phase 1d / 1e:** There are likely to be two stockpile locations; one will be located to west of the Brickwork building and the second to the east of Block T adjacent to Egerton Road on the existing greenspace
- **Phase 2a:** The compound and spoil storage will be located to the east of the proposed Sports / STEM building until external works are to be undertaken
- **Phase 2b:** The compound is likely to be located east of the Site along Egerton Road to enable a barrier between the existing residential and construction of the new residential development
- **Phase 2c / 2d** – There are likely to be two stockpile locations; one will be located to the west of the proposed Brickwork building and the second in the north-west corner of the Site on the existing playing fields.

- **Phase 3a onwards:** The compound is likely to be located to the north west of the Site to allow the contractor to restrict access through the site.

6.4.9 Due to the outline nature of this application, this will require further detail, discussion and agreement with LBRuT and the appointed contractor.

Materials to be Imported on-Site for the Development

6.4.10 A total of approximately 73,584m^3 of construction materials (for new buildings and landscaping) will require importing onto the Site, as set out in **Table 6.6**.

Table 6.6 Volumes of Material to be Imported on Site

Construction Material	Total Volume (m^3)
Material for superstructures (slabs, columns, walls and beams)	49,977
Material for substructure	4,431
Material for landscaping	19,176
Total volume to be imported on Site	**73,584**

6.4.11 A number of assumptions were made in order to calculate the above approximate total volume of materials to be imported on Site as the scale and mass of the REEC development are not available due to the outline nature of the application. As such, the first key assumption is that each component of the REEC development will be built out to its maximum footprint and height, as per parameter plans provided in **Appendix 5.1**. The approximate total volumes are therefore considered to be approximate maximum volumes to be imported on Site.

6.4.12 Based on professional judgement and project experience, a number of other assumptions were made in order to calculate the total volume of materials required on Site for the REEC development, for the superstructure, substructure and landscaping elements.

6.4.13 Materials required for the construction of the development are expected to included those listed below:

- Concrete;
- Steel;
- Glass;
- Timber and plasterboard; and
- Brick and block.

6.4.14 Fuels, lubricants, and chemicals required during demolition and construction operations will be stored in secure bunded compounds, with refuelling restricted to these areas to prevent spillages.

6.4.15 The requirement for de-watering of excavations is still to be established, however if

dewatering is required, appropriate guidance will be followed[6]. The Environment Agency will be consulted and appropriate abstraction and discharge licenses will be obtained if necessary. An indicative management system for the protection of controlled waters is provided as **Appendix 6.7**.

6.5 ESTIMATES OF CONSTRUCTION VEHICLE MOVEMENTS

6.5.1 The indicative demolition and construction programme and broad order estimates of the likely quantities of construction materials and waste outlined previously have informed a prediction of the expected number of constructions vehicles visiting the Site. The demolition and construction programme and number of vehicles will be confirmed once a main contractor is appointed on-site.

6.5.2 The average volume of HGVs movements associated with demolition and construction activities has been assessed to be approximately 8 HGV movements per day (16 vehicle trips per day) up until completion, over the 4 year demolition and construction programme. A worst case assumption has been made that there is no back loading for vehicles and therefore each movement represents two journeys - to and from the point of delivery.

6.5.3 This additional volume is however considered insignificant in relation to the volume of existing traffic flows on the surrounding local highway network. The estimated construction vehicle movements and related impact on the surrounding highway network are considered in further detail in Chapter 8 -Transport.

6.5.4 It is anticipated that construction vehicles are likely to peak during Phase 1 of the demolition / construction programme, and average approximately 12 HGV movements per day to / from the Site (24 vehicle trips per day), owing to the large volume of construction materials required to be imported on Site at this time.

6.5.5 During Phase 1, there will be a peak of approximately 150 operatives travelling to / from the Site by car or LGVs. A large number of these trips would be via public transport and by shared vehicles. This detail will be confirmed following detailed design of the REEC development and appointment of the main contractor on-site.

6.5.6 Construction traffic will be of a temporary nature and controlled and managed through the CLP with agreement with LBRuT. It is acknowledged that construction traffic will give rise to short-term environmental effects, such as increased noise, vibration, dust and air pollution. Control of these effects will be enforced via planning conditions, health and safety regulations and a Code of Construction Practice to form part of the contractors final CEMP.

[6] Environment Agency (2013) *Regulatory position statement: Temporary water discharges from excavations*

6.6 ROAD CLOSURES AND DIVERSIONS

6.6.1 The delivery of materials and removal of spoil and construction waste will be carried out so as to minimise any inconveniences on the users of local and main roads from construction traffic. There are no diversions anticipated, however localised traffic management may be required for the occasional large delivery, such as steel. The planning and programming of such temporary closure and / or restrictions will be agreed with LBRuT at detailed matters stage.

6.6.2 It is envisaged that existing PRoW along Marsh Farm Lane will be maintained. Where temporary closures may be required, this will be agreed with LBRuT and the necessary permissions and licenses will be obtained.

6.7 CONSTRUCTION EMPLOYMENT

6.7.1 The Applicant will work with LBRuT to promote the employment of local people for construction and the patronage of local businesses. The College will by way of adding into the employers requirements, have an obligation on the proposed building contractors tendering for the works to take on a set amount of apprentices from the local population to ensure a commitment to training local young people.

6.8 WORKING HOURS

6.8.1 Prescribed working hours will be agreed with LBRuT. It is however anticipated that the normal working hours for the demolition and construction works will be as set out below, in accordance with LBRuT's Considerate Contractor's Advice Note[7]:

- 08:00 – 18:00 hours Monday to Friday (with a one hour period of mobilisation / demobilisation at the start and end of the day);
- 08:00 – 13:00 hours Saturday (with a one hour period of mobilisation / demobilisation at the start and end of the day); and
- No working on Sundays or Bank Holidays.

6.8.2 The hours of working will be as agreed with LBRuT Environmental Health Department prior to the commencement of works. It is possible that certain works such as delivery of abnormal loads, assembly of tower cranes, etc. may have to be undertaken outside these periods. Any works which are required to be undertaken out of these prescribed working hours will be subject to the prior agreement and reasonable notice with LBRuT.

[7]London Borough of Richmond Upon Thames (date unknown). *Considerate Contractor Advice Note*. Available online at: http://www.richmond.gov.uk/construction.pdf.

6.9 PLANT AND EQUIPMENT

6.9.1 Consideration has been given to the types of plant and equipment likely to be used during the demolition and construction works. An indication of the likely types of plant and equipment associated with the demolition and construction phases are identified in **Table 6.7**.

Table 6.7 Indicative Plant and Number to be Used During Demolition and Construction

Plant Type	Phase 1	Phase 2	Phase 3
Site Preparation / Demolition			
40t Excavator Mounted Breaker	1	2	1
20t Excavator Mounted Bucket	1	2	1
Wheeled Loading Shovel	1	2	1
Tracked Crusher	1	2	1
Cutters, Drills and Small Tools	Numerous	Numerous	Numerous
Hydraulic Benders and Cutters	Numerous	Numerous	Numerous
Temporary Supports	Numerous	Numerous	Numerous
Temporary Floodlights	Numerous	Numerous	Numerous
Wheel Washers	1	1	1
Excavation / Pad Foundations			
40t Tracked Excavator	2	1	1
33t Tracked Excavator	1	1	1
Cutters, Drills and Small Tools	Numerous	Numerous	Numerous
Hydraulic Benders and Cutters	Numerous	Numerous	Numerous
Temporary Supports	Numerous	Numerous	Numerous
Temporary Floodlights	Numerous	Numerous	Numerous
Wheel Washers	1	1	1
Construction / External Works			
Tower Crane	2	1	1
Mobile Cranes	2	1	1
10t Drum Roller and road surfacing	1	1	1
Hydraulic Benders and Cutters	Numerous	Numerous	Numerous
Wheel Washers	1	1	1
Temporary Supports	Numerous	Numerous	Numerous
Cutter, Drills and Small Tools	Numerous	Numerous	Numerous
Scaffolding and Hydraulic Access Platforms	Numerous	Numerous	Numerous
External Hoists	Numerous	Numerous	Numerous
Temporary Floodlights	Numerous	Numerous	Numerous

6.10 DECANTING STRATEGY

6.10.1 A Decanting Strategy for relocating users of the existing College facilities into the new buildings has been defined and is set out in the programme described in para 6.3.10 above. This will be refined as necessary and agreed with LBRuT at detailed matters stage.

6.11 POTENTIAL IMPACTS AND MITIGATION MEASURES

6.11.1 The individual topic chapters of this ES (Chapters 8 to 18) address the specific environmental impacts of the demolition and construction phase and set out in

further detail the mitigation measures that will be adopted to address the impacts. Mitigation of construction phase impacts will be implemented through the Outline CEMP provided in **Appendix 6.1**.

Management of Contractors

6.11.2 Individual trade contracts will incorporate appropriate requirements in respect of environmental control, based largely on the standard of 'good working practice' provided in the CEMP (to be agreed with LBRuT) as well as on statutory requirements. Contractors will be required to demonstrate how they will achieve the provisions of the CEMP, how targets will be met and how potential adverse effects will be minimised.

Management of Construction Works

6.11.3 All contractors will participate in the Considerate Constructors Scheme (CCS)[8] which sets stringent targets for environmental management, neighbourhood liaison and workers welfare facilities.

6.11.4 The Project Environmental Manager (or an alternative designated person) will be named at the Site entrance with a contact telephone number, and will be identified to LBRuT, the Community Liaison Forum and other community groups prior to the start of construction, and whenever a change of personnel occurs.

6.11.5 The CEMP will specify the roles and responsibilities of the The Project Environmental Manager and LBRuT, in respect of breaches or complaints from the public. The required actions will respond to specific circumstances and might include monitoring or investigation, alteration of the operation, equipment or location, or application of additional control measures.

6.11.6 The Project Environmental Manager will deal with complaints and any enquiries. Complaints will be recorded on-site, and reported to the Project Environmental Manager and LBRuT as soon as practicable (see **Appendix 6.1**, Section 3.8).

6.11.7 Where possible, advance notice will be given to LBRuT and to other relevant parties where unusual activities or events are planned.

6.11.8 A procedure will be implemented for audits to be carried out at stages relevant to construction works occurring on Site. These audits would identify any incidents of non-conformance that may have taken place, and identify any corrective measures required.

[8] London Borough of Richmond Upon Thames (unknown). *Considerate Contractor Advice Note.* Available online at: http://www.richmond.gov.uk/construction.pdf

6.11.9 The Project Environmental Manager would ensure that all Site staff are regularly briefed on the environmental control obligations. Training requirements and procedures for monitoring and recording the implementation of the training programme would be identified in the CEMP.

6.12 SUMMARY AND CONCLUSIONS

6.12.1 This chapter has set out an indicative demolition and construction programme and outlined the methods and logistics for constructing the REEC development. The chapter has also described how the environmental effects of these works, where significant, would be controlled and mitigated through measures set out in the Outline CEMP. The following chapters of this ES detail the specific impacts of the demolition and construction phase, and set out in further detail the mitigation measures that would be adopted to address the impacts identified.

7 PLANNING POLICY

7.1 INTRODUCTION

7.1.1 This chapter of the ES summarises the planning policy context that applies to the REEC development. It provides a brief explanation of the national regional and local planning policies with which it needs to conform and how the policies relate to environmental issues. This chapter can be read in conjunction with the supporting Planning Statement, which sets out a comprehensive analysis of the Proposed Development against planning policy.

7.1.2 Environmental planning policies are also addressed separately in each topic chapter within the ES, setting out the detail of each policy relevant to that topic. Legislation and guidance governing the EIA process is described in Chapter 2 – EIA Methodology.

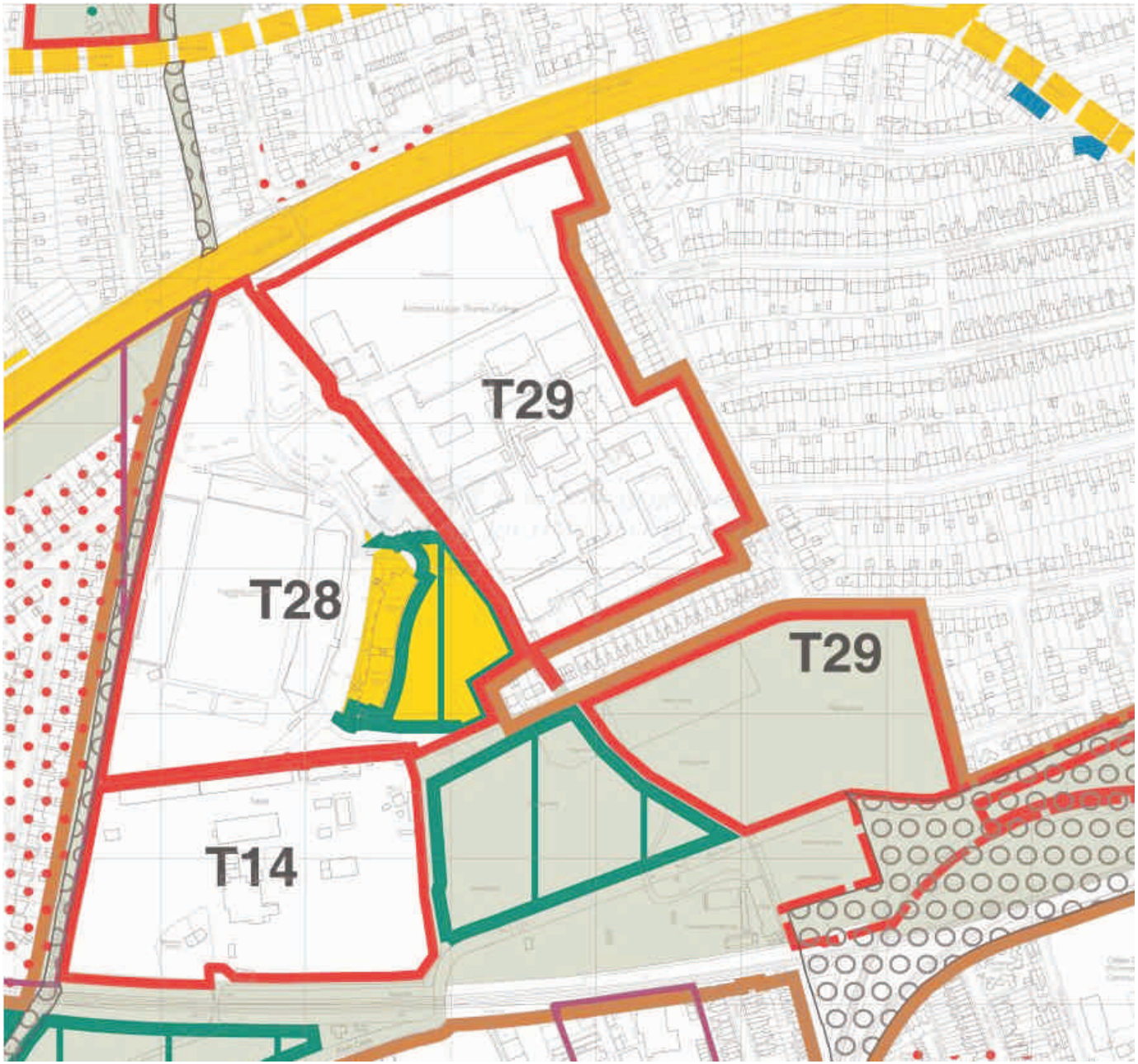
7.1.3 The OPA for the REEC development will be determined in accordance with the statutory development plan, and other relevant policy and guidance. **Figure 7.1** illustrates the location of the proposed development and key planning and environmental designations in its vicinity.

7.1.4 National policy and guidance comprises:

- National Planning Policy Framework (2012); and
- National Planning Practice Guidance (2014).

7.1.5 The statutory development plan covering the REEC Site within LBRuT consists of the following:

- London Plan – The Spatial Development Strategy for London Consolidated with Alterations since 2011 (March 2015);
- London Borough of Richmond upon Thames Core Strategy (2009);
- London Borough of Richmond upon Thames Development Management Plan (2011);
- Saved Policies of the LBRuT Unitary Development Plan (2005); and
- Relevant adopted GLA Strategies and Supplementary Planning Guidance documents.



Legend

- Conservation Area (as at July 2013) DM HD 1
- Key Shopping Frontage DM TC 3
- Local Distributor Road/Crown Road
- Metropolitan Open Land DM OS 2
- Other Open Land of Townscape Importance DM OS 3
- Other Site of Nature Importance CP 4
- Primary or Secondary Road
- Proposed Area for Tree Planting DM DC 4
- Public Open Space DM OS 6
- River Crane Area of Opportunity
- T14 Craneford Way Depot
- T28 Harlequins Rugby Ground
- T29 Redevelopment
- TW1 Former Sorting Office
- Twickenham Area Action Plan Boundary TW1, TW2, TW3, TW4

N

0 CASCADE 100m

Note: All locations are approximate

Source: Local Plan - Proposals Map (Adopted July 2013)

Project Title:

Richmond Education and Enterprise Campus Development

Figure Title:

Local Plan Proposals Map

For Information Only

Figure Number:	Date:
Figure 7.1	June 2015

7.1.6 Other policy documents that are also relevant to the determination of the OPA are:

- Draft LB Richmond-on-Thames Site Allocations development plan document (2013);
- The Richmond Upon Thames College Planning Brief (2008); and
- Crane Valley Planning Guidelines (2005).

7.1.7 Each of the national, regional and local policy documents and guidance is reviewed briefly below, with particular reference to environmental considerations.

7.2 NATIONAL PLANNING POLICY

National Planning Policy Framework (NPPF) (2012)

7.2.1 The NPPF was published in March 2012, replacing the previous planning policy guidance notes and planning policy statements. The NPPF is based upon a presumption in favour of sustainable development, incorporating economic, social and environmental considerations. Local planning authorities are required to apply the presumption in favour of sustainable development when assessing and determining development proposals.

7.2.2 The NPPF identifies land use policy principles that should underpin both plan making and decision taking. It sets out Government policy relating to infrastructure, climate change and flood risk, nature conservation, protection of the historic environment, good design and healthy communities, and other policies that have informed the design of the REEC development.

7.2.3 The NPPF also highlights other relevant policies such as the Planning for Schools Development, Waste and Sustainable Drainage Systems (SUDs) policies.

National Planning Practice Guidance (NPPG) (2014)

7.2.4 In March 2014, the Department for Communities and Local Government published revised and updated National Planning Practice Guidance that provides web-based guidance on how the policies outlined in the NPPF can be applied and implemented.

7.2.5 Guidance is provided on topics including:

- Air quality;
- Climate change;
- Conserving and enhancing the historic environment;
- Environmental impact assessment (EIA);
- Flood risk and coastal change;
- Hazardous substances;
- Health and wellbeing;

- Land affected by contamination;
- Light pollution;
- Natural environment;
- Noise;
- Open space, sports and recreation facilities, PRoW and local green space;
- Renewable and low carbon energy;
- Travel plans, transport assessments and statements in decision-taking;
- Tree Preservation Orders and trees in Conservation Areas;
- Waste; and
- Water supply, wastewater and water quality.

7.2.6 The topic chapters in this ES provide an analysis of the relevant guidance in relation to the REEC development.

7.3 REGIONAL PLANNING POLICY

London Plan – The Spatial Development Strategy for London consolidated with Alterations since 2011 (2015)

7.3.1 At the strategic level, planning policy is set out in the London Plan which was adopted by the Greater London Authority (GLA) in July 2011 and consolidated with alterations in March 2015. Key policies from the adopted London Plan of relevance to this assessment are detailed below:

- Policy 2.18: Green infrastructure: the network of open and green spaces
- Policy 5.1: Climate change mitigation
- Policy 5.2: Minimising carbon dioxide emissions
- Policy 5.3: Sustainable design and construction
- Policy 5.6: Decentralised energy in development proposals
- Policy 5.7: Renewable energy
- Policy 5.9: Overheating and cooling
- Policy 5.10: Urban greening
- Policy 5.11: Green roofs and development site environs
- Policy 5.12: Flood risk management
- Policy 5.13: Sustainable drainage
- Policy 5.14: Water quality and sewerage infrastructure
- Policy 5.15 Water use and supplies
- Policy 5.16: Waste self-sufficiency
- Policy 5.17: Waste capacity
- Policy 5.18: Construction, excavation and demolition waste
- Policy 5.20: Aggregates
- Policy 5.21: Contaminated land

- Policy 6.3: Assessing effects of development on transport capacity
- Policy 6.9: Cycling
- Policy 6.10: Walking
- Policy 6.13: Parking
- Policy 7.1 Lifetime neighbourhoods
- Policy 7.2 An inclusive environment
- Policy 7.6 Architecture
- Policy 7.7 Location and design of tall and large buildings
- Policy 7.8: Heritage assets and archaeology
- Policy 7.13: Safety, security and resilience to emergency
- Policy 7.14: Improving air quality
- Policy 7.15: Reducing and managing noise, improving and enhancing the acoustic environment and promoting appropriate soundscapes
- Policy 7.17 Metropolitan Open Land
- Policy 7.18 Protecting open space and addressing deficiency
- Policy 7.19: Biodiversity and access to nature
- Policy 7.21: Trees and Woodlands
- Policy 7.28: Restoration of the Blue Ribbon Network

7.3.2 Policies relevant to each topic in this ES are described in more detail in the relevant topic chapters.

Mayor of London Strategies and Supplementary Planning Guidance

7.3.3 The Mayor of London has produced a number of strategies and Supplementary Planning Guidance (SPG) documents to provide further detail on particular policies in the London Plan. Those of relevance to the REEC development and environmental considerations include:

- **Accessible London: Achieving an Inclusive Environment SPG (2014)** – this provides guidance on the implementation of London Plan policy 7.2 - An Inclusive Environment and of other policies in the Plan with specific reference to inclusive design.
- **Draft Social Infrastructure SPG (2014)** - the Mayor has published for public consultation draft SPG on Social Infrastructure. Social infrastructure includes a wide range of services and facilities, including health, education, community, cultural, play, recreation and sports facilities, faith, emergency facilities and many other local services and facilities that contribute to quality of life.
- **Shaping Neighbourhoods: Character and Context SPG (2014)** - this guidance sets out an approach and process to help understand the character and

context of a place so that its results can inform the planning and design process, and guide change in way which is responsive to individual places and locations.

- **Shaping Neighbourhoods: Play and Informal Recreation SPG (2012)** – this supports the implementation of policies in Chapter 7 of the London Plan regarding shaping neighbourhoods. It therefore promotes an approach that supports the presence of children and young people in the built environment.
- **Sustainable Design and Construction SPG (2014)** - this provides guidance on the implementation of London Plan policy 5.3 - Sustainable Design and Construction, as well as a range of policies that deal with matters relating to environmental sustainability.
- **The Control of Dust and Emissions During Construction and Demolition SPG (2104)** - this SPG provides guidance on the implementation of London Plan policy 7.14 Improving Air Quality, as well as a range of policies that deal with environmental sustainability, health and quality of life.
- **Green Infrastructure and Open Environments: The All London Green Grid SPG (2012)** – this provides guidance on the implementation of London Plan Policy 2.18 to protect, conserve and enhance London's strategic network of green and open natural and cultural spaces; encourage greater use of, and engagement with, London's green infrastructure, and secure a network of high quality, well designed and multifunctional green and open spaces.

7.3.4 The Mayor's strategies, including those on Transport (2010); Air Quality (2010); Ambient Noise (2004); Climate Change Mitigation and Energy (2011); Waste (2011); Water (2011) are also relevant to the REEC development.

7.4 LOCAL PLANNING POLICY

Saved Policies of the LBRuT Unitary Development Plan (2005)

7.4.1 The College site, including the playing fields adjacent to the A316 and south of Craneford Way, was designated for redevelopment under Policy T29 of the Adopted Unitary Development Plan (2005). Policy T29 remains a 'saved' policy for the application site. It will remain material to determination to any application until it is replaced by a new policy in the emerging Site Allocations Development Plan Document (see below) and provides one of a number of site-specific policies relevant to the application site.

7.4.2 Saved policy T29 states:

'*Redevelopment to provide a new college and enabling residential development on the site of the existing college and playing field south of the A316. Retention and upgrading of Craneford Way East Playing Field*'.

7.4.3 The supporting text to this policy states:

'*To provide rationalisation, expansion and improvements to the College (either on the site of the current buildings and/or on the College playing field to the immediate south of the A316) with enabling development and associated open space. If development takes place on the College playing field south of the A316 the College Craneford Way playing field to be upgraded. All College facilities to have increased public use reflecting the Council's dual use policy. Access to the trunk and local road network will be addressed at the development control stage'.*

7.4.4 Saved policies T28 and T14 relate to redevelopment of the Twickenham Stoop (continued use as sports ground with associated facilities, enabling development, new access road) and the Council Depot (Council depot facilities/residential use).

Draft LB Richmond Local Plan Site Allocations Development Plan Document (2013)

7.4.5 The Council is currently preparing a Site Allocation Development Plan Document, which when adopted will replace the current Local Plan Proposals Map, and it will be read in conjunction with the already adopted Core Strategy and Development Management Plan. It will contain site specific policies for the whole borough, other than Twickenham Town Centre, which is covered by the Twickenham Area Action Plan.

7.4.6 The College Site is identified in the 'pre-publication' consultation draft of the Site Allocations development plan document issued in October 2013 as draft designation TW10 – Richmond College. The draft designation for the site states:

'*Redevelopment to provide a new college, offices, secondary school and special school, residential including affordable and open space*'.

7.4.7 The draft supporting suggests that a new College building and headquarter offices (should be located) fronting the A316 on the existing playing fields. If development takes place on the College playing field south of the A316 the College's Craneford Way playing fields is to be upgraded. All College and School facilities to have public use reflecting the Council's dual use policy. Access to the trunk and local road network to be assessed at the development control stage. Any vehicular access through Heatham Estate must take account of residential amenity.

London Borough of Richmond upon Thames Core Strategy (2009)

7.4.8 A number of policies in the Core Strategy are relevant to the REEC development. In para. 4.1.22, RuTC is identified as one of the locations where new development is likely to be concentrated over the Plan period (2009-2026).

7.4.9 Policy CP18.B outlines that land in educational use will be '*safeguarded*' and the '*potential of existing educational sites will be maximised through redevelopment, refurbishment or re-use to meet educational needs'*.

7.4.10 The College site also forms part of the 'River Crane Area of Opportunity' designated under Policy CP12 – River Crane Corridor of the LB Richmond Core Strategy. Policy 12A states that:

'*The Council will improve the strategic corridor to provide an attractive open space with improvements to the biodiversity. Developments in and adjacent to the River Crane Corridor will be expected to contribute to improving the environment and access, in line with planning guidance*'.

7.4.11 Reference is made to the Council's commitment to provide an attractive walk and open wedge with improvements to the biodiversity between the London Borough of Hounslow and the River Thames and, in doing so, form part of the much larger West London Green Chain between Harrow and Isleworth.

7.4.12 The policy refers to the Crane Valley Planning Guidelines for the main area of potential change, which includes Twickenham Stoop Memorial Ground, the College playing fields on Craneford Way, the Council Depot, the Richmond upon Thames College and the Post Office Sorting Office. Objectives of the guidelines are to enhance the open space, historic landscape and the associated linkages, improving sports facilities and providing for possible improvement to the College. Also included are improvements to the banks of the River Crane to enhance their ecological interest and provision of a through pedestrian/cycle route along the River Crane.

7.4.13 The policy recognises that there are limited vehicular access points into the area and this would need to be fully taken into account.

7.4.14 Reference is made to the significance of FORCE in implementing improvements to the Crane Valley.

London Borough of Richmond upon Thames Development Management Plan (2011)

7.4.15 The playing fields south of Craneford Way (see **Figure 7.1**) are designated as MOL and subject to Policy DM OS 2. At a local level this designation is supported by Development Management Plan Policy DM OS 2. It is also supported by London Plan Policy 7.17.

7.4.16 Policy DM OS 2 states that MOL will be protected and retained in predominately open use. Appropriate uses are:

- Public/private open spaces;

- Playing fields;
- Open recreation & sport; and
- Biodiversity.

7.4.17 It also states that improvement and enhancement of the openness and character of the MOL, and measures to reduce visual impact will be encouraged where appropriate. When considering development outside the MOL, any possible visual impacts on the character and openness of the MOL will be taken into account.

Richmond upon Thames Sports, Open Space and Recreation Needs and Opportunities Assessment (2015) and Playing Pitch Strategy

7.4.18 This study considers open-space, playing pitches and outdoor sports as well as indoor sports facilities providing detail regarding provision, condition, distribution quality and value of facilities. The findings of the assessments are used to inform the Strategy. The Playing Pitch Strategy identifies three overarching objectives:

1. *'to protect playing pitches and ancillary facilities from loss as a result of redevelopment'* (Objective 1);
2. *'to enhance existing playing pitches and ancillary facilities through improving their quality, accessibility and management'* (Objective 2); and,
3. *'to provide new playing pitches and ancillary facilities that are fit for purpose to meet demands for participation now and in the future'* (Objective 3).

7.4.19 This document includes a range of recommendations that have been compiled to assist in achieving these objectives.