



YTL Arena Complex, Bristol

ES Volume 3: Updated Non-Technical Summary

January 2020

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For and on behalf of GVA Grimley Limited t/a Avison Young

1. Introduction

1.1.1 YTL Developments (UK) Limited (the 'Applicant') is seeking approval for the change of use and refurbishment of the Brabazon Hangar building at Filton along with associated development in order to deliver the Bristol Arena Project ('the Project'). In order to deliver the Project, there are four planning applications being submitted which are assessed through this ES, including:

- **Application A – Arena Complex:** *"Hybrid planning application comprising: the demolition of existing ancillary buildings and structures; full details associated with the change of use of, and associated external alterations to, the Brabazon Hangar buildings from Class B8 use to a mixture of Class D1, D2, A1, A3, A4 and B1a uses, along with outline details associated with infrastructure works including: revised vehicular access arrangements; redevelopment and reorganisation of the former aircraft apron to provide parking, servicing and associated infrastructure provision; plus associated landscaping, service infrastructure and other associated works and improvements."* Application Site: Brabazon Hangar and surrounding land, West Way, Bristol, BS34 7DU. A site location plan is presented at **Appendix 1**.
- **Application B – West Way:** *"Amendments to existing highway and highway junction at Charlton Road and West Way"* Application Site: Charlton Road and West Way, Bristol. A site location plan is presented at **Appendix 2**.
- **Application C –Temporary Car Park:** *"Application for temporary planning permission for the parking for up to 2,000 vehicles along with car and taxi drop off areas, bus stopping areas on the eastern end of the former Filton Airfield and associated uses"* Application Site : former Filton Airfield, South Gloucestershire, BS99 7AR. A site location plan is presented at **Appendix 3**.
- **Application D –Pedestrian Bridge:** *"Construction of a new pedestrian bridge linking the former Filton Airfield and the Brabazon Hangar site over the Henbury Loop railway line, including earthworks and associated development"* Application Site: former Filton Airfield, South Gloucestershire, BS99 7AR. A site location plan is presented at **Appendix 4**.

1.1.2 These developments are linked and are therefore deemed to constitute a single 'Project' in EIA terms. The environmental effects of the Project are assessed throughout this ES. A holistic location plan defining the site boundary of each planning application is provided at **Appendix 5**.

1.1.3 As part of the detailed planning application an Environmental Impact Assessment (EIA) was undertaken. EIA is a formal procedure that must be followed for certain types and scales of development, where the likely significant environmental effects of the development are systematically assessed and reported. The purpose is to ensure that appropriate information regarding the likely significant effects of the Project in question is available for consideration by the relevant Local Planning Authority (LPA), consultees and the public, and that the LPA have this information prior to determining the application for development. The EIA process can also identify ways in which the Project can be modified, or likely significant adverse effects mitigated, so to reduce or remove likely significant effects and to create and enhance beneficial effects. The legislation

relevant to EIA is the Town and Country Planning Act (Environmental Impact Assessment) (England and Wales) Regulation, 2017 (the 'EIA Regulations').

- 1.1.4 From an early stage the Applicant recognised that the planning application required an EIA and commissioned Avison Young (AY) to undertake the EIA for the Project. The findings of the EIA are reported in the Environmental Statement (ES), which has been prepared to accompany the planning applications. The likely significant environmental effects of the Project, both during the enabling, demolition and construction phases (the 'Works'), and once completed and operational, have been assessed. This document provides a summary of the findings in the EIA in non-technical language and replaces the Non Technical Summary submitted in November 2019.

2. The Project Team

2.1.1 The Applicant appointed a project team in 2019 to bring forward the new world class events arena and supporting development and prepare the November 2019 planning application. **Table 1** confirms the core project Team and their role in preparing the planning application including the ES.

Table 2.1: The Core Project Team

Project Team	Role
YTL Developments (UK) Limited	The Applicant.
Grimshaw	Architectural Team.
Hoare Lea	Energy Consultants.
Avison Young	Planning Consultant and Lead EIA Consultant.
Momentum	Transport Planning Consultants
OPS Structural Engineering	Surface Water Drainage and Flood Risk Consultant.
Stantec	Townscape and Visual
DHVA Architects	Built Heritage
Avison Young	Community, Economics and Social Consultant.
Stantec	Air Quality Consultant.
Stantec	Noise and Vibration Consultant,
Architectural Aerodynamics	Wind Microclimate Consultant.
Atkins	Contamination Consultant.
Stantec	Ecologist.
Lighting	Stantec / Hoare Lea
Greenhouse Gases and Climate Change	Hoare Lea

3. The Existing Site and its Surrounds

- 3.1.1 **Appendix 5** shows the extent of each application area and the relationship between the planning applications.
- 3.1.2 **Application Site A – Arena complex** includes the Brabazon Hangars which is a commercial unit comprising of three joined Hangars built in the 1940s for the construction of the Brabazon aircraft. Within the immediate vicinity of these Hangars are a number of outbuildings and hardstanding areas. The site is bound by a railway line to the north, industrial and commercial buildings used by Airbus to the east, Filton Golf Club to the south and further commercial buildings used by Airbus to the west. The site boundary extends to the west to provide vehicular access for service vehicles via West Way. The site area amounts to 13.72ha.
- 3.1.3 **Application Site B – West Way** covers an area of land encompassing the junction of West Way and Charlton Road. The site area amounts to 0.45ha.
- 3.1.4 **Application Site C – Temporary Car Park** covers an area of the existing runway associated with the Former Filton Airfield. The site area amounts to 9.07ha.
- 3.1.5 **Application Site D –Pedestrian Bridge** covers an area of land connecting from the Brabazon Hangars into the Airfield north of the railway. This will create a pedestrian connection from the committed Brabazon Development and the proposals for the Arena Complex. The site area amounts to 0.34ha.

The Brabazon Development

- 3.1.6 The Former Filton Airfield (FFA) site to the north is subject to an implemented planning permission (ref. PT14/3867/O) for its comprehensive redevelopment to deliver a large scale residential-led mixed-use development. This development is known as the 'Brabazon Development'. The planning application was approved on 1 March 2018 for the following:

"Mixed use development on 143.73 hectares of land comprising: residential development for up to 2,675 dwellings and apartments (comprising 2,635 x Use Class C3 and 40 x Live Work Units - Sui Generis); 24ha of stand-alone employment land (comprising up to 12ha Use Class B1a and a minimum of 12ha Use Class B1b/c, B2) ; 120 Bed Hotel up to 3,800 sqm (Use Class C1); Rail Station (0.45ha Use Class Sui Generis); Education provision to include a Secondary School (8.31ha), 2 no. Primary Schools (total 5ha) and 2 no. Childrens Nurseries (total 0.8ha) (all Use Class D1); Community Centre incorporating Library, Built Sports facilities and Doctors surgery up to 3,400 sqm (Use Classes D1 & D2); Dental Surgery up to 800sqm; (Use Class D1); 70 Bed Extra Care Facility up to 12,500sqm (Use Class C2); Shops/Financial Services/Food and Drink facilities up to 4,787sqm (Use Classes A1, A2, A3, A4 and A5) - comprising Retail Supermarket up to 2,787sqm gross maximum (Use Class A1); Business Offices up to 500sqm (Use Class B1) together with; supporting infrastructure and facilities including demolition, ground works and remediation, highways, utilities, landscaping, sustainable urban drainage system, wildlife water basins and public open space. Outline application including access, with all other matters reserved."

Inter-relationship with the Brabazon Development

- 3.1.7 The operation of the Project relies upon components within the outline planning permission PT14/3867/O for the redevelopment of the FFA. The following Brabazon Development highway infrastructure is to be relied upon to support the Project:
- New junction (approved under the outline permission) on the A38, the Brabazon and Blenheim roundabouts;
 - The north-south link road connecting the Brabazon Development with the Project; and
 - New highways within the Brabazon Development connecting the A38 to the Railway Station.
- 3.1.8 To date the following has been approved by SGC:
- The design codes for geographic phases 1 and 2 have been submitted to, and approved by, SGC. An Addendum to Design Code 01 will also be submitted to include the North-South Link and the extension of the U-Road that leads to it.
 - Reserved matters for the Spitfire Quarter (R-04) and 'U Road' (linking the Brabazon and Blenheim roundabouts), which is under construction. This will form part of the baseline when the Project begins construction.
- 3.1.9 In addition to the above it is also intended that as the implementation of the Brabazon Development continues a multi-storey car park (MSCP) will be constructed within the Brabazon Development. Part of this MSCP will be used for visitors and workers to the Brabazon Development (granted under planning permission PT14/3867/O) but it is also intended that part of the capacity may be taken up by visitors to the Arena and this will operate in conjunction with the use of park and ride sites in due course.
- 3.1.10 The A38 and Blenheim access junctions and some internal roads will be constructed by 2021 and these will be used for construction access to the north side of the railway line. The Brabazon and Blenheim roundabouts are subject to a reserved matters application (ref. PT18/2274/RM).
- 3.1.11 The arena is anticipated to be permitted in 2020 and under construction in 2021 with Brabazon roundabout and associated access roads across the airfield also under construction and completed along with the arena in 2023.
- 3.1.12 The Arena use will become operational after the MetroBus services to the Brabazon Development and the new Filton North railway station, which lies adjacent to the Arena, have become operational. The Railway Station is being delivered by Network Rail and is intended to be operational by 2021. The MetroBus is to be delivered at the same time as the opening of the railway station. Both of these rely on the above highway infrastructure being in place to enable their operation. Further detail is provided below.
- 3.1.13 The programme of delivery of the Brabazon development also introduces potential new, additional receptors in the form of what will be newly completed residential development to the south of the Blenheim roundabout. These residential receptors are anticipated to be occupied by 2021 and will therefore be receptors for the construction and operation of the Arena.

- 3.1.14 In the long term, the nearest residential receptors within the Brabazon Development are located approximately 100m north of Site A.

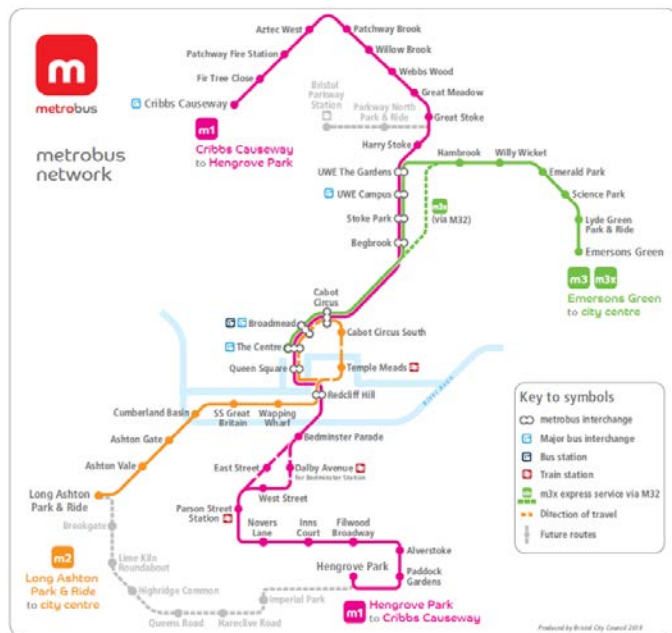
Committed Sustainable Transport Schemes

- 3.1.15 The sustainable transport measures set out within this section do not form part of the Project, but they form key elements of the transport measures which will be in place to service site users of the Project.

Metrobus

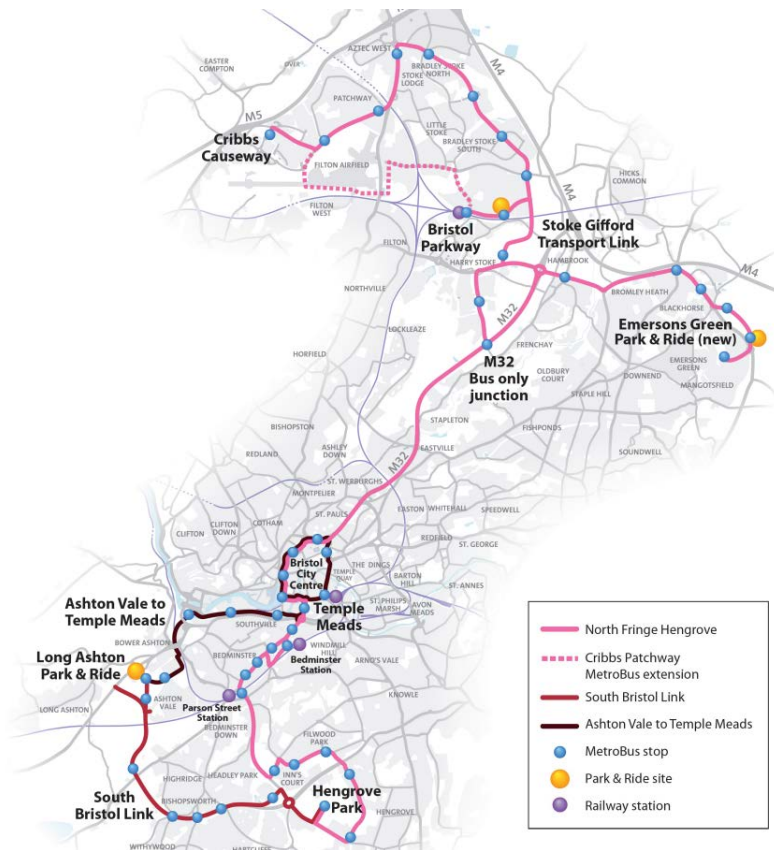
- 3.1.16 The Metrobus is a bus network that connects central Bristol with the outer parts of the city. The network currently consists of three routes; m1, m2 and m3.
- 3.1.17 The m1 is an express bus service and it currently connects the south with the northern areas of Bristol. The existing m1 bus network does not pass through the Sites' but serves areas to the north of the Project, including Aztec West and Cribbs Causeway.
- 3.1.18 The bus currently operates between 06:00 to 01:08 between Monday to Saturday and 09:00 – 01:11 on Sundays and Bank Holidays.
- 3.1.19 Currently, there are six buses every hour. The extent of the existing bus network is shown below ON **Plan 3.1**.

Plan 3.1: Existing metrobus Network Map



- 3.1.20 An extension to the Metrobus service is proposed that will connect Bristol Parkway to Cribbs Causeway via the Brabazon Development. Planning applications to build the supporting infrastructure for the route extension have been submitted and approved. These highway works are scheduled to commence in February 2019, with anticipated completion and operation by 2022. **Plan 3.2** below shows the proposed extension of the M1 bus service.

Plan 3.2: Proposed Extension of the metrobus Network



North Filton Rail Station

- 3.1.21 The MetroWest project aims to improve rail services within the West of England region. As part of Phase 2 of the project, the Henbury Spur Rail Line will be reopened. As part of this project, a new train station, North Filton Station, will be constructed. This is approximately 500m east of the Arena.
- 3.1.22 The re-opening of the Henbury Spur line will connect the Sites' to Bristol Temple Meads Station.
- 3.1.23 When opened, one train per hour will serve North Filton Station in each direction. It is expected that this will increase as the Brabazon Development and other committed projects are built out.
- 3.1.24 It is expected that North Filton Station and the Henbury Spur line will be open in 2022, prior to the opening date of the Arena. **Plan 3.3** below shows the proposed extension of the rail network.

Phase 2

Severn Beach

St Andrews

Avonmouth

Shirehampton

Sea Mills

Clifton Down

Redland

Montpelier

Henbury

North Filton

Cardiff

Pilning

Patchway

Bristol Parkway

Filton Abbey Wood

Ashley Down

Stapleton Road

Lawrence Hill

Bristol Temple Meads

Portishead

Pill

Worle

Weston Milton

Weston-super-Mare

Yatton

Nailsea & Backwell

Parson Street

Bedminster

Keynsham

Oldfield Park

Bath Spa

Freshford

Wiltshire Towns

London

Gloucester

Yale

Midlands

South West

Legend:

- Phase 2 half hourly service
- Phase 2 hourly service
- Possible extension to Gloucester
- New station

travelwest

Both North East Somerset, Bristol, North Somerset and South Gloucestershire councils working together to improve your local transport

Location and Setting

Location and Setting

- ## Site B – West Way

Location and Setting

- 3.1.28 Site B is located within SGC's administrative area in the ward of Charlton & Cribbs. The extent of the site is illustrated on **Appendix 2** and occupies an area of approximately 0.4ha.
- 3.1.29 The Site is located to the west of Sites A and D, and southwest of Site C. The Site forms an irregular shape at the T-junction of Charlton Road and West Way. The extent of Site B's red edge extends south along West

Way to provide a connection with Site A, and extends south west along Charlton Road and north east where the road provides access to a temporary car park south of the Airfield.

- 3.1.30 The road is predominantly enclosed from view with dense vegetation in the form of trees and shrubs located along the majority of the road.

Site C – Temporary Car Park

Location and Setting

- 3.1.31 Site C is located within SGC's administrative area in the wards of Charlton & Cribbs, and Filton. The extent of the Site is illustrated on **Appendix 3** and occupies an area of approximately 9.6ha.
- 3.1.32 The Site is located to the north of Sites A and D, and north east of Site B. The Site is generally rectangular in shape and extends to the full width of the runway over much of its length and is approximately 1km in length. Access to the Site is currently gained at the eastern end of the Site via an unnamed access road which connects with a four arm roundabout, providing access along New Road and then subsequently onto the A38 Gloucester Road North.
- 3.1.33 The land encompassing the Site predominantly comprises managed grassland to the north and south, whilst the runway continues to the west beyond the Site boundary, and to the east of the Site is an aircraft turning circle and managed grassland which acts as a buffer between the aircraft turning circle and the A38 Gloucester Road North.

Site D – Pedestrian Bridge

Location and Setting

- 3.1.34 Site D is located both within BCC's and SGC's administrative areas in the wards of Henbury & Brentry (BCC) and Charlton & Cribbs (SGC). The extent of the Site illustrated on **Appendix 4** and occupies an area of approximately 0.4ha.
- 3.1.35 The Site boundary extends into Site A to the south and extends over the railway line, providing a connection to the approved Brabazon Development. The redline boundary is irregular in shape as it extends to the east to provide a disabled access ramp, further detail is provided in **ES Volume 1, Chapter 5: The Project**.
- 3.1.36 In view of the above, the area in which the Sites' are located is currently undergoing considerable change. This is evident from the range of new developments ('Approved Projects') under construction within the vicinity of the Sites'. Such Approved Projects provide the context for wholesale redevelopment and regeneration of the area, including the Sites'.

4. The Development and its Implementation

- 4.1.1 The planning applications include a set of plans, elevations and other information drawn in detail, forming a set of planning application drawings, which have been submitted to the BCC and SGC for approval.
- 4.1.2 As set out within Chapter within **ES Volume 1, Chapter 1: Introduction**, there are four planning applications which form this Project. Overall, the Project comprises the following:
- Change of use, refurbishment and external alterations to the Brabazon Hangar building, demolition of existing ‘buildings’ around the hangar and alternations to existing hard-standing areas;
 - Construction of a pedestrian bridge over the Henbury railway line, connecting the Hangar to Filton Airfield;
 - Alternations to the Charlton Road / West Way road junction; and
 - Temporary car parking provision on the airfield site.

Application A – YTL Arena Complex

Amount of Development

- 4.1.3 The total amount of floorspace and quantum of development proposed for Application A is set out within **Table 5.1**.

Table 5.1: Proposed Floorspace

Hangar	Proposed Use	Net Internal Area (NIA) (sqm)
Central	Arena	41,581
East	Festival Hall	11,000
West	The Hub	18,450
Total		71,031

- 4.1.4 The Central Hangar – Arena will be restricted to a capacity of 17,000 patrons.
- 4.1.5 The Hangars are divided into three components:
- Central Hangar ‘Arena’ will comprise of world class events and music arena with front of house and back of house facilities.
 - East Hangar ‘Festival Hall’ will comprise a multi-venue centre providing a flexible event and exhibition space.

- West Hangar 'the Hub' will comprise of a complementary venue to the Arena but also provide office, food and beverage, retail and leisure facilities accommodating a wide range of activities.

Structures to be Removed

4.1.6 There are three aspects of demolition in relation to Application A, including the following:

- Demolition of existing 'out' buildings and structures;
- Removal of external elements of the Brabazon Hangars; and
- Removal of internal elements of the Brabazon Hangars.

Demolition of Existing 'out' Buildings and Structures

4.1.7 The **Demolition Site Plan (ref. ARN-YTL-001-XX-DR-A-PS204)** submitted with the planning application sets out which buildings within Site A will be subject to demolition as part of the site clearance and preparation activities. Land clearance activities will also be undertaken and the extent of these zones is indicated on the **Demolition Site Plan (ref. ARN-YTL-001-XX-DR-A-PS204)**. The sequencing of demolition to be completed as part of the Works is included within **ES Volume 1, Chapter 6: The Works**.

Removal of External Elements of the Brabazon Hangars

4.1.8 To achieve the proposed elevation treatment on the Brabazon Hangars, select elements of the existing building are proposed for removal:

- **Central Hangar North Elevation:**
 - The existing cladding;
 - The existing envelope frame and the concrete portal gallery structure is proposed to be removed to accommodate the new arena levels, openings, access and circulation.
- **Central Hangar South Elevation:**
 - The esavian doors;
 - The area of existing cladding above the doors forming the arch.
- **East / West Hangar North / East / West Elevation:**
 - The existing cladding;
 - The existing envelope secondary structure is proposed to be removed to accommodate the new floor levels for the east/west respectively, and associated openings, access and circulation.

Car Parking

- 4.1.9 In the long term, car parking spaces will be provided within the Brabazon Development once the MSCP has been built. It is intended this will provide 1,700 spaces within a single MSCP.
- 4.1.10 In the interim period, 2,000 car parking spaces are proposed on Site C to support the initial car parking demand. Over time, it is anticipated there will be a modal shift to sustainable transport measures as the phased closure of the temporary car park occurs over the 10 year period.
- 4.1.11 A total of 56 car parking spaces are proposed for staff and these will be located at the rear of the West Hangar, accessed via West Way.
- 4.1.12 A total of 172 blue badge car parking bays are to be provided for visitors to the Arena. Initially, these will be provided next to the East Hangar.

Cycle Parking

- 4.1.13 Cycle parking provision has been split into two categories; daytime use for the ancillary land uses and evening use associated with the Arena. The provision of cycle parking has been based on the maximum requirements across these periods. As such, the following cycle provision is proposed:
- Short stay – 567 spaces;
 - Long stay – 180 spaces

Pedestrian Access

- 4.1.14 Pedestrians will be able to access the site from the Brabazon Development over the pedestrian bridge which forms Application D. The Bridge connects the Arena to the Brabazon Development which in turn provides connectivity with the North Filton Rail Station, Metrobus services, car parking and pedestrian access routes via the Blenheim and Brabazon roundabouts.

Facility Operations

Operating Hours

- 4.1.15 It is proposed that the arena would be subject to operations 24/7 which will allow BoH and teams to set up and breakdown events.

Delivery and Servicing

- 4.1.16 A service yard will be provided at the rear of the Hangars. This will provide six loading bays with a dedicated dock leveller. An additional 20 loading bays will be provided for delivery vehicles to park at the site.

Delivery and Servicing Hours

- 4.1.17 Unrestricted delivery and servicing hours are sought for approval given the nature of the Project. However, to minimise disruption to the surrounding network, it is proposed deliveries for the music venue will be received outside of the AM Peak hours (08:00 to 09:00) and PM Peak hours (16:00 to 17:00), unless otherwise agreed with BCC.

Delivery and Servicing Strategy

Vehicle Access

- 4.1.18 All delivery vehicles will access the site via the West Way junction. Works to improve this junction are covered by Application B.
- 4.1.19 Delivery vehicles would be required to access the Sites from the north. Access will not be provided from the south of the Site'. Delivery drivers will be made aware of this protocol prior to arriving at the Sites.
- 4.1.20 After arriving at the West Way Junction, access to the service yard would be along West Way. A pit lane is proposed on West Way, prior to the service yard entrance to hold vehicles off of the West Way highway.
- 4.1.21 Delivery vehicles for events would be able to unload their goods via the six loading bays. After unloading their goods, delivery vehicles can exit the service yard via the West Way highway or parked in one of the staging bays in the servicing apron.

Vehicle Booking System

- 4.1.22 It is proposed that a vehicle booking system is used to manage delivery and servicing trips to the Project. A vehicle booking system allows the Facilities Management team to organise scheduled delivery and servicing trips into allocated time slots with fixed arrival times. Suppliers would be informed of their time slot in advance of delivery.
- 4.1.23 Vehicle booking systems are used at other developments of a similar scale in London. They are managed by the Facilities Management team of the development and will provide them with early visibility of the traffic arriving on site and the opportunity to synchronize their operational activities accordingly.
- 4.1.24 Vehicles associated with event activity (stage set up and tour buses) will be controlled through the use of a tracking device given to the vehicle driver following security clearance. This will allow the security team to follow the movements of event vehicles and communicate the route to the service yard.
- 4.1.25 If a vehicle happens to arrive outside of the intended security screening time slot, the security team will manage this via the Arena control room and barriers on the western approach will not open.

Application B – West Way

- 4.1.26 Application B is a detailed planning application for amendments to the existing highway and highway junction at Charlton Road and West Way.
- 4.1.27 No buildings or structures are proposed to be demolished to accommodate the proposed development under Application B.

Development Layout and Design

- 4.1.28 The amendments to this junction will facilitate access to the site subject to Application A in order to enable servicing and access for blue badge holders. The works to the Charlton Road / West Way junction will require some modifications to this arrangement although it is proposed that the arrangements agreed with SGC as part of the airfield outline permission will remain in place – i.e. there cannot be any trips between Charlton Road and the San Andreas roundabout except for buses, service vehicles for the YTL Arena Complex and blue badge holders visiting the YTL Arena Complex.

Application C – Temporary Car Park

- 4.1.29 Application C is a temporary planning application for the parking of up to 2,000 vehicles on the FFA runway. This will also provide facilities for car and taxi drop off areas, bus stopping and parking areas. No commercial built development floorspace or structures are proposed as part of this planning application.
- 4.1.30 No buildings or structures are proposed to be demolished to accommodate the proposed development under Application C.

Development Layout and Design

- 4.1.31 Whilst it is intention of YTL to accommodate parking provision for visitors to the YTL Arena Complex in multi-storey car parks (MSCPs) when the redevelopment of the former airfield is well advanced, there is a requirement to accommodate parking via a temporary situation on part of the airfield runway until the MSCPs are provided. As a consequence, Application C has been submitted in order to secure temporary permission, for up to 10 years, for car parking and taxi/bus drop off areas on the eastern section of the airfield runway.
- 4.1.32 Access to the parking and drop-off areas will be via the new junction on the A38 secured via outline planning permission 14/3867 and also from the Blenheim and Brabazon roundabouts on Hayes Way. This area would accommodate space for the parking of up 2,000 cars on certain event days, as required.
- 4.1.33 It is proposed that the extent and number of temporary car parking spaces in Application C will be linked with the provision of permanent spaces within the airfield development scheme. It is envisaged that as permanent spaces become available the number of temporary spaces will reduce over the 10 year period of the permission. It is also envisaged that monitoring will take place to ensure that an appropriate travel strategy is adopted and the most efficient use is made of parking facilities.

Application D – Bridge

- 4.1.34 Application D is for the construction of a new pedestrian bridge link between the Brabazon Development and the Brabazon Hangars over the Henbury Spur Railway Line.
- 4.1.35 As shown on the **Demolition Site Plan (ref. ARN-YTL-001-XX-DR-A-PS204)**, buildings will require demolition to accommodate the proposed Bridge. There will also be demolition works to the Central Hangar to accommodate entry of the Bridge. However, these elements of demolition will be sought for approval through Application A – Arena Complex.

Development Layout and Design

4.1.36 The new pedestrian bridge will be located to the north of the existing Central Hangar and has been informed by a series of design requirements:

- Steps and ramps;
- Balustrade design regulations and requirements; and
- Network Rail requirements.

4.1.37 The detailed specification and design requirements of the Bridge are shown on a series of plans, sections and elevations submitted as part of this application. This includes relevant details such as Green Guide standards for risers, goings and landings, railway buffer and parapet heights, and the kinetic envelope requirements of Network Rail.

4.1.38 The Bridge comprises of two key character areas; the Brabazon Steps to the north of the railway tracks; and secondly the Brabazon Bridge which spans the railway and connects with the Arena.

Access

4.1.39 The pedestrian access strategy has been developed to facilitate access and use by all people. The pedestrian ramped access to the building pedestrian link has been designed to be compliant with the Disability Discrimination Act 2005 and therefore falls at gradients greater than 1:20, with landings proposed for every 500mm drop.

4.1.40 The ramps, stairs and lifts will allow visitors with varying disabilities to access the Arena from the north without having to be driven or escorted via the vehicular access routes.

4.1.41 The associated external lifts will exceed the minimum requirements in order to accommodate the anticipated users including a range of wheelchair and mobility scooter vehicles.

4.1.42 Crowd and flow modelling has been undertaken by Momentum and this has informed the Bridge dimensions, including:

- Where the bridge joins the L02 exit doors, 14m of clear width is required between the doors. This results in a 16m bridge width at the point of joining the building.
- Between the adjacent joining stairs, the bridge tapers down to a clear width of 12m.
- The two stair cases that join the bridge from the side are 5m wide.
- The north side of the bridge (after the stairs have joined) is 17m wide.

4.1.43 The Bridge material will principally comprise fabricated steel, solid concrete and hard landscaping for the stairs.

The Works

4.1.44 Subject to planning approval, the Works are anticipated to commence in the third quarter of 2020. The Works would be phased to allow for the implementation of the relevant components of the Brabazon Development to be completed to facilitate the completion of the Project. The general programme for the works is indicated in Table 4.1 below.

Table 4.1: Indicative Programme for the Works

Planning Application	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021*	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
A													
B													
C													
D													

Note

*It is anticipated that Arnold Laver's business Activities will be relocated by the 1st September 2021.

4.1.45 It is proposed that application-specific Construction Environmental Management Plans (CEMPs) would be drawn up for the applications of the Project where appropriate. This approach is consistent for other major schemes in urban areas and those in the vicinity of the Sites. The specific CEMPs would be developed in line with all relevant corporate environmental and sustainability policies and commitments of the Applicant. The specific CEMPs would be secured by condition and discussed and agreed with planning officers following the grant of planning permission.

Summary

4.1.46 This Chapter has presented a description of the four planning applications being submitted to deliver the YTL Arena Complex. These applications comprise:

- Application A – Arena Complex;
- Application B – West Way;
- Application C – Temporary Car Park; and
- Application D – Bridge.

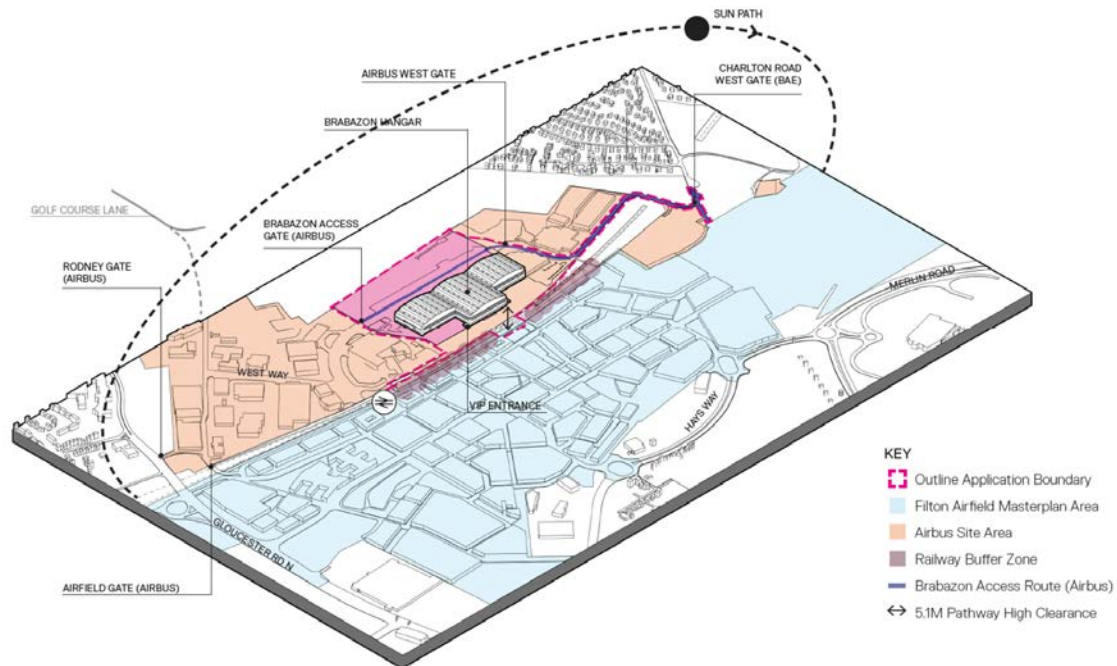
4.1.47 These developments are linked and therefore deemed to constitute a single Project.

5. Alternatives and Design Evolution

- 5.1.1 In considering various alternatives to the Project, the EIA Regulations require Applicants to consider the consequences of not undertaking development at a subject site. The 'No Development' scenario was not favoured by the Applicant. Should the Project not be implemented, it is reasonable to assume that the prevailing baseline conditions would exist into the medium and long-term. As a result it would be expected that the Brabazon Hangars and application site B and the southern portion of Application site D would remain in their current format for the foreseeable future and there would be no changes associated with Application Site C or the northern portion of Application Site D, would be subject to redevelopment eventually as they form part of the Brabazon development.
- 5.1.2 The no development scenario would mean the permitted use of the hangars would remain. As the hangars are not fully utilised there is the potential for increased use of them with the associated employment albeit this is likely to be at a low density. However, crucially, Bristol and the surrounding communities would not have access to the world class events venue which is being delivered as part of the Project.
- 5.1.3 On the basis of the above, the 'No Development' scenario was discounted.
- 5.1.4 The Applicant has not considered fundamentally different alternative uses for the Sites, as this site was identified as the preferred location for the proposals. The key principles of the Project in terms of its key objectives and the principles of its layout have evolved from the outset. Various opportunities and constraints of the Sites and surroundings influenced the overall design process which has culminated in the Project. The following sets out these considerations.
- 5.1.5 The site context has been analysed in detail and a number of key factors impacting the Project's layout and operation have been considered in the design process. The following key constraints have been identified:
- Value of the heritage asset;
 - Non-heritage extensions and additions to the Brabazon Hangars;
 - The committed Brabazon Development and the linkages between the Sites;
 - Vehicular site access from the north;
 - Significant servicing and operating requirements;
 - Pedestrian access from the south;
 - Microclimate factors such as wind and daylight/sunlight considerations;
 - The existing ecological and landscape environments;
 - Proximity to and access requirements for the Airbus site;
 - Large numbers of visitors to events; and
 - The site and public security.

5.1.6 A constraints plan is provided below.

Plan 5.1: Constraints Plan



5.1.7 The various aspects of the design and evolution process are set out in detail in the ES in **Volume 1: Chapter 4: Alternatives and Design Evolution**, and have been intertwined with the technical assessments undertaken to support the planning application. The iterative process of design development, impact review and mitigation measure requirements has been an important part of the Project's development.

5.1.8 There have been a number of alterations and considerations to the floorspace quantum, and use classes proposed within the East and West Hangars. The floorspace quantum which have been arrived at have been chosen to ensure the most appropriate use is provided to complement the Arena, but also support the wider ambition and visions for the Project.

5.1.9 The Hangars are locally listed and therefore their retention and restoration is a key part of the Project. However, there has been a requirement to undertake a balancing exercise between retaining the buildings and the need for the removal of some components of the hangars to enable the conversion to an Arena that achieves the required standards for noise levels and energy usage, it has also required the demolition of a number of the buildings and structures around the hangars to create open circulation areas. Together these measures contribute to ensuring a viable and suitably efficient modern complex can be delivered to meet the modern day requirements of a world class events venue.

6. Approach and Environmental Impact Assessment Methodology

- 6.1.1 The EIA was undertaken in accordance with the EIA Regulations and best practice guidance using established methods such as site surveys, reviews of available reports and data, computer modelling, consultations with relevant organisations and specialist assessments.
- 6.1.2 An early stage of the EIA process involved undertaking a 'Scoping Study'. The purpose of the 'Scoping Study' was to identify the likely significant environmental effects that could arise from the Development and therefore provide the focus of the EIA. The findings of the scoping exercise, along with details of the proposed methods for the specialist assessments, were presented in a Scoping Report and were submitted to BCC and SGC on the 12th August 2019.
- 6.1.3 The scope of the EIA was formally agreed with BCC and SGC via their formal 'Scoping Opinions' which were received on 12th September 2019 and 25th September 2019 respectively.
- 6.1.4 The Scoping process confirmed that the Project would likely give rise to a number of issues which need to be considered in the EIA. These comprise:
- Community, Economics and Social;
 - Built Heritage;
 - Traffic, Transport and People Movement;
 - Air Quality;
 - Noise and Vibration;
 - Wind Microclimate;
 - Ground Conditions and Contaminated Land;
 - Climate Change and Greenhouse Gases; and
 - Effect Interactions.
- 6.1.5 Each of the above issues were addressed in the ES, with a 'Chapter' dedicated to each of these issues in **Volume 1 of** the ES.
- 6.1.6 In each Chapter, a description of the assessment methodology was provided together with a description of the relevant environmental aspects of the Sites and surrounding area. This was followed by an assessment of the likely significant effects of the Project (both beneficial and adverse) and any additional measures that should be adopted to reduce or offset any significant adverse effects identified during the assessment. Such additional measures would be related to elements of the Project's design that were not already incorporated into the Project or additional environmental management controls that would automatically be required via legislation or standard means, irrespective of the need for EIA. The ES also provides an assessment of the likely residual effects that would remain after the application of any additional mitigation measures. It also provides an assessment of the cumulative effects of the Project together with other relevant Approved Projects.

7. What are the Likely Environmental Effects and How Would They be Minimised?

Community, Economics and Social

The Works

- 7.1.1 The Works would generate 153 Full Time Equivalent (FTE) temporary construction jobs per annum, with an additional 136 FTE indirect and induced jobs generated per annum as a result increased spending on goods, suppliers and services associated with the Project.

The Completed and Operational Development

- 7.1.2 During the completed and operational Project, it is anticipated that approximately 520 – 580 net FTE jobs will be created. In addition to the direct employees, the Applicant has indicated that direct casual labour would be hired on event days to undertake roles such as stewarding and food and beverage serving. The Applicant estimates that 400 to 450 workers would be hired on event days and would generally be employed for 6 – 8 hour shifts.
- 7.1.3 Furthermore, there are likely to be an additional 110 – 124 indirect and induced FTE jobs associated with the operation of the Project due to spending in the local economy by employees and contracts placed with suppliers and contractors.
- 7.1.4 The additional Gross Value Added associated with the direct employment jobs generated once the Project is operational is anticipated to be £24,298,274 - £27,481,454 per annum.
- 7.1.5 The Project will deliver a major new 17,000 seat venue for Bristol and the wider City Region. Based on projections by the Applicant, it is anticipated that the Main Arena will host around 140 events with approximately 1,300,000 attendees per annum once established. The proposed configuration of the Project would ensure sufficient flexibility to allow the accommodation of a range of events including concerts, comedy and theatre performances, sports events, conferences and exhibitions. This scale of the Project will significantly extend the range of events that the city and the West of England area is able to host and would deliver an enhanced corporate hospitality offering in Bristol / West of England area.

Cumulative Effects

- 7.1.6 During the Works, the Project and relevant Approved Projects would provide further construction related employment, an increase in GVA to the local economy, and increased local spending by the combined construction workforce of the Project and the relevant Approved Projects.
- 7.1.7 The Project together with the relevant Approved Projects would also result in greater socio-economic benefits once both the Project and all the relevant Approved Projects are completed and operational. There would be a growth in local employment, which would be accompanied by an increase in GVA to the local economy and increased local spending by the additional workforce employed by the Project and the relevant Approved Projects.

Built Heritage

The Works

- 7.1.8 The Works proposed would have no direct effects on any designated heritage assets. The Works proposed as part of Applications A and D would have direct effects on the locally listed Brabazon Hangar Building and associated structures around it. The Works would result in the removal of a number of existing structures and features of the Hangar Building and this will have a direct permanent effect on the heritage receptor.
- 7.1.9 The main effects relate to impacts on the Crow's Nests, the fire suppression system and the Engine Shop. However, effects are considered to be insignificant following a programme of recording prior to demolition and the retention of the foam cannons and pop-up sprinkler heads as part of the Arena's fit out. All effects are considered to be insignificant.
- 7.1.10 There would also be a series of beneficial effects through the removal of buildings, structures and elements of the Hangars which detract from the setting and appearance of the Hangars.

The Completed and Operational Development

- 7.1.11 The Project would be of high architectural quality with good quality public realm comprising significant soft and hard landscaping that would enhance the views and offer significant improvements to the existing Site condition.
- 7.1.12 The majority of the long term effects relate to improvements and refurbishment of the Hangars, as well as the landscape and the effects of the temporary car park. The potential effects range from Insignificant to Major Beneficial.
- 7.1.13 The Project would not give rise to any harm to the heritage significance of any designated or non-designated heritage assets that would preclude the site's development. The building is mostly empty and is in deteriorating condition. The visual appearance of the building and surrounding site is very run down and the site needs considerable investment to bring it into good repair and use. The aircraft assembly use for which it was constructed is no longer viable as the airfield has been closed.
- 7.1.14 The Project will provide a viable use with the benefit of public access and substantial improvements in the appearance and setting of the heritage asset. The Project will also provide a vitally needed arena for Bristol and the surrounding area offering a substantial public benefit to the region. The design process for the Project has been informed by the heritage of the Sites from inception, and the proposals have evolved in consultation with the appointed heritage consultants. The benefits of the Project clearly outweigh some of the minor adverse effects on the value of individual heritage elements.

Cumulative Effects

- 7.1.15 Cumulative effects on above ground heritage assets during the Works would not be anticipated to differ from those of the Works for the Project in isolation.

- 7.1.16 Similarly, the completed and operational Project, together with the Approved Projects, would not give rise to any materially different effects on above ground heritage assets effects that would be over and above those identified for the Project in isolation.

Traffic, Transport and People Movement

The Works

- 7.1.17 The Works would generate a proportion of Heavy Duty Vehicles (HDVs) on the local road network. However, to effectively manage this, a Construction Logistics Plan (CLP) would be developed and implemented as an inherent part of the Works. As part of the CLP, methods and timings of works would be agreed with BCC and SGC prior to commencement, as well as implementing specific mitigation measures to achieve the following:

- Minimise disruption to the general traffic and inconvenience to road users.
- Ensure safety of the public.
- Guarantee reasonable pedestrian access including for mobility impaired via temporary footways and pedestrian crossings.

- 7.1.18 The implementation of a CLP is adopted on almost every redevelopment project. It is a tried and tested means of managing construction traffic. As such, with the implementation of a CLP, it is expected that HDV traffic generated from the Works would be adequately controlled and managed to reduce effects to acceptable levels.

The Completed and Operational Development

- 7.1.19 Traffic modelling was undertaken to establish the likely effect of the Project upon the local highway network. This concluded that no links on the highway network would be significantly affected by the completion and operation of the Project with the A38 Gloucester Road (north bound) north of the B4057, Gipsy Patch Lane and A38 Gloucester Road (south bound) between Hayes Way and Aztec West roundabout having the largest increase in flows.
- 7.1.20 Indeed, it is predicted that a large number of links would experience a decrease in traffic flows as a result of the operational Project. These include the A38 Gloucester Road North (north bound), north of B4057 Gipsy Patch Lane and the Blenheim roundabout (east bound).
- 7.1.21 As a consequence of the above it was found that driver and pedestrian delay and shuttle bus passenger delay, and fear and intimidation due to vehicle numbers, bus services during the evening peak period and after events would all be insignificantly affected. Effects on rail services would also be insignificant after the implementation of travel plan measures. The effects for patron amenity and accidents and safety would be minor beneficial.
- 7.1.22 The Project has been designed to integrate with a series of wider sustainable transport measures to ensure visitors to the Arena for event days and a normal day can be utilised by members of the public and employees at the Arena.

Cumulative Effects

- 7.1.23 The Development together with other relevant Approved Projects would not give rise to any materially different transport and access effects over and above those identified for the Project in isolation. In relation to construction each scheme will be expected to implement a CLP to minimise their effects on the highway.
- 7.1.24 The identified cumulative schemes include residential and office employment land uses, where trips are typically concentrated around the AM and PM peak hours. The cumulative schemes and the Project will therefore have largely separate demands on the highway network. Each of the cumulative schemes considered will be required to cater for their own demand, and to deliver improvements where constraints are identified. In addition, the operational effects of cumulative schemes have been accounted for as part of the future year scenario traffic modelling, both with and without the Project, as agreed with BCC and SGC during pre-application consultation meetings. Therefore, the cumulative developments have been considered as part of this assessment and the cumulative schemes are not considered to alter the assessment.

Air Quality

The Works

- 7.1.25 The main effect on local air quality during the Works would relate to nuisance that is caused by dust. However, this would only likely be experienced by people living or working closest to the Site and only for a temporary period. A range of appropriate measures to minimise or prevent dust were identified and would be implemented as an inherent part of the Works via the aforementioned CEMP to minimise the effects to the neighbouring community. With the implementation of such measures, there would unlikely to be any significant dust nuisance caused by the Works.

The Completed and Operational Development

- 7.1.26 Computer modelling was also carried out to predict the effect of future traffic-related exhaust emissions associated with the completed and operational Project upon local air quality. The results show the Project would result in a change of between 0 and 1% of the annual Air Quality Objectives for nitrogen dioxide and particulate matter and therefore significant effects on air quality from the operation of the Arena are not predicted. Furthermore, as set out above, future visitors to the site will be encouraged to utilise sustainable modes of transport to reduce the potential air quality effects of private vehicle use to travel to and from the site.

Cumulative Effects

- 7.1.27 The Development together with other relevant Approved Projects would not give rise to any materially different air quality effects over and above those identified for the Project in isolation as these projects are accounted for in the transport modelling data used in the air quality assessment.

Noise and Vibration

The Works

- 7.1.28 Whilst the physical process associated with the Works have the potential to give rise to noise and vibration, the implementation of a Site-specific CEMP would ensure no unacceptable noise and vibration effects to sensitive receptors surrounding the Site. Certain physical processes would still have the possibility to generate effects that would be temporary and intermittent in nature, affecting properties closest to the Project. However, properties closest to the Works would be provided with sufficient notice prior to these events.
- 7.1.29 Road traffic noise associated with construction traffic movements would be adequately controlled by the aforementioned CLP so that no significant adverse noise effects would result.

The Completed and Operational Development

- 7.1.30 The completed and operational Project would lead to changes in noise levels along local road links but the effect on existing residential receptors due to operational traffic would be of minor adverse significance. Also the noise from patrons going to and leaving the arena is likely to be of minor adverse significance. However noise escaping from the arena when it is in use is not likely to be significant due to the extensive noise insulation works that would be undertaken. There would also be no significant noise effects to sensitive receptors surrounding the Site from the operation of the Arena's building services and plant or the servicing of the Arena.

Cumulative Effects

- 7.1.31 In respect of cumulative effects, noise and vibration effects associated with physical processes during the Works would be dependent upon the relevant timing of the construction programmes and sequences of the Project and the relevant Approved Projects. As per the proposed Project, it is considered reasonable to assume that the relevant Approved Projects would implement suitable site-specific CEMPs which would include for all reasonable requirements, procedures, management and mitigation to reduce levels of noise and vibration associated with construction sites and CLPs, to manage and mitigate effects resulting from increased construction traffic. As such, the implementation of Site-specific CEMPs for relevant Approved Projects and the Project would ensure no unacceptable noise and vibration effects to surrounding shared sensitive receptors.
- 7.1.32 Similarly for the completed and operational Project, as with the Project in isolation, appropriate noise limits for services and plant would be prescribed as a condition of any planning approval for each of the Approved Developments. Additionally, the Project together with other relevant Approved Projects would not give rise to any materially different road traffic noise effects as the traffic modelling data used in the assessment has included the cumulative schemes.

Wind Microclimate

The Works

- 7.1.33 The Works would give rise to a range of wind microclimate effects to surrounding receptors. However, as the Works proceed, the effects on wind environment at surrounding receptors would evolve to eventually meet

those resulting from the completed and operational Development. No significant additional effects, over and above those for the completed and operational Development would be expected during the Works.

The Completed and Operational Development

- 7.1.34 Computer modelling of the completed and operational Development revealed a range of wind microclimate effects. A localised area at the south-west corner of the west hangar and an area to the north west of this hangar would experience increased wind speeds due to the removal of the existing buildings around this area of the hangars. With mitigation identified within the landscaping strategy including fencing and / or soft landscaping of at least 1.6m in height along the eastern and small southern boundary of the west car park and the southwest boundary of the southwest car park, as well as some landscaping in the western plaza suitable wind conditions could be achieved in these areas.
- 7.1.35 The other area of the project to experience wind speeds that would be unsafe or uncomfortable for users of the site is the temporary car park area and associated paths. This is due to the open nature of the runway area at this time. Of course this open nature will change over time as the FFA redevelopment proceeds. In its current form the wind speeds that may exist would be moderately adverse.
- 7.1.36 However, the operation of the temporary car park for a period of 10 years would be subject to a management plan. The event day management plan will include measures to address the potential for high wind speeds at the airfield during events and set out management measures for such occasions. Measures to be included will be agreed with BCC and SGC but will include:
- Monitoring of anticipated wind conditions in advance of an event to anticipate the need for extra safety measures to be required;
 - Monitoring of wind speed on site (for the duration of the life of the temporary car park permission) to inform the onsite requirements which would be linked to a screen which would warn of unsafe / uncomfortable conditions at the time of the event;
 - Organisation of parking such that larger vehicles are parked in such a way as to act as barriers to break up wind flow which will be informed by further wind testing controlled through condition;
 - Barriers and other features at key circulation points and the likely windiest areas of the site to identified through further analysis controlled through planning condition; and
 - Provision of additional staff to help more vulnerable users at key locations which may include the use of electric vehicles to shuttle people from the car park to the bridge which would be available on the day of the event and/or could be booked in advance.
- 7.1.37 The monitoring of wind speeds at events would enable the need for any additional mitigation measures for the duration of the temporary permission to be determined and identify where they should be located. These measures are envisaged to mitigate the effects of raised wind speeds on the few occasions that they may occur.

Cumulative Effects

- 7.1.38 The computer modelling included neighbouring areas which may interact in relation to wind conditions and no cumulative adverse effects were identified .

Ground Conditions and Land Contamination

The Works

- 7.1.39 During the Works, the proposed demolition and construction processes could lead to a series of effects including soil compaction and ground instability, contamination from on off-site sources and the generation of waste soils. These impacts could affect sensitive receptors including site workers, ecological receptors and human health receptors within the vicinity of the proposed Works.
- 7.1.40 All potential effects are considered to be insignificant following the implementation of standard commonplace mitigation measures, which include, further ground investigations to develop remediation measures, if required.

The Completed and Operational Development

- 7.1.41 In the long term, potential effects relate to soil stability and compaction, as well as the potential for contaminated material affecting future site users and services. However, all geotechnical and geo-environmental constraints will be addressed during the construction phase through appropriate building design and engineering, and best practice remediation measures.

Cumulative Effects

- 7.1.1 The construction of these developments may cause cumulative impacts. However, the developments themselves will be subject to the NPPF and will require mitigation and control measures to be adopted during the construction through CEMPs to reduce impacts to the environment including dust generation and potential mobilisation of contaminants. The detailed design will also take into consideration any impacts associated with destabilising the ground due to construction activities close to the Site. Therefore, it is considered that there would be no significant adverse cumulative effects during the construction phase.
- 7.1.2 The committed developments include residential houses, golf course, offices and commercial buildings and are yet to be completed so will; therefore, be potential receptors for the operation of the Project. Receptors may be impacted by the potential introduction of new sources of contamination and the generation of waste during the operation of the Project. However, the Project will be operated in accordance with granted consents and the relevant regulations and best practice guidance. No physical cumulative impacts are considered likely during operation. Therefore, it is considered that there would be no significant adverse cumulative effects during operation.

Greenhouse Gases and Climate Change

The Works

7.1.42 Enabling works cover a range of preparatory activities to make the site ready for construction which could include site clearance, temporary works, propping and full or part demolition of buildings and structures. Therefore, the key sources of carbon emissions at this stage include the following:

- Fuel use in mobile plant & equipment;
- Processing of materials for recycling / disposal associated with the demolition activities.

7.1.43 The operation of the construction plant and associated facilities is the key source of carbon emissions considered at the construction stage. The emissions associated with the Works are anticipated to result in minor adverse effects.

The Completed and Operational Development

7.1.44 During the completed and operational development phase, the key sources of carbon emissions include the following:

- Regulated components of the Project's operational energy;
- Unregulated components of the Project's operational energy.

7.1.45 The Project will meet the carbon emission limits specified in Part L 2013 of the Building Regulations 2013. The total target emission rate has been calculated to be 1,536 tonnes of CO₂ per year for the whole Project. It is anticipated that the Project will achieve up to a 32.9% reduction in regulated CO₂ emissions through the implementation of low and zero carbon technologies, comprising photovoltaic cells. Unregulated energy includes small power electricity use, such as IT equipment, plug in devices and catering facilities. Overall, the potential effects are anticipated to be minor adverse.

Effects Interactions

The Works

7.1.46 The beneficial effects of employment generation and expenditure during the Works resulting from the job and materials supply during the construction period would result in greenhouse gasses being released through the production of the materials and in people moving to and from the site. However, both these sets of effects are assessed to be of minor significance with the beneficial effect of job and expenditure generation and the adverse effect of the associated carbon emissions. There is no direct interaction between these effects on a common receptor.

The Completed and Operational Development

7.1.47 Users of the Arena complex will benefit significantly from visitor transport management measures that will ensure their safe arrival and departure from the Arena Complex. However it has also been determined that due to the open nature of the temporary car park visitors may experience elevated wind speeds on a small

number of occasions per year. While mitigation measures are proposed to enable people to move to and from the Arena complex safely and comfortably the open nature of the temporary car park does mean that the increased wind speeds would be experienced. As such, the likely significant residual effect interactions to visitors to the arena would not result in compounded adverse effects.

- 7.1.48 As with the construction phase the operational phase will generate jobs and increase expenditure in the local economy. It would also lead to the emission of greenhouse gasses through the movement of people to and from the site and through the operation of the site itself. The economic benefits are assessed as being minor to moderate beneficial and the carbon emissions are assessed as being minor adverse. There is no direct interaction between these effects on a common receptor.
- 7.1.49 Minor adverse effects on local residents are identified resulting from road traffic and patron noise. The noise levels reported are identified as being worst case and external noise levels at the closest residences (for the period between 11pm to 1am) which would be constructed on the FFA site. The noise assessment demonstrates that with suitable design these premises could achieve appropriate internal noise levels. The elevated traffic noise levels assessed are at locations around the site and so are different receptors to those experiencing patron derived noise. As such there would not be any interaction between traffic and patron noise at the same receptors.
- 7.1.50 Significant adverse residual effect interactions during the Works and during the operation of the Development have not been identified.

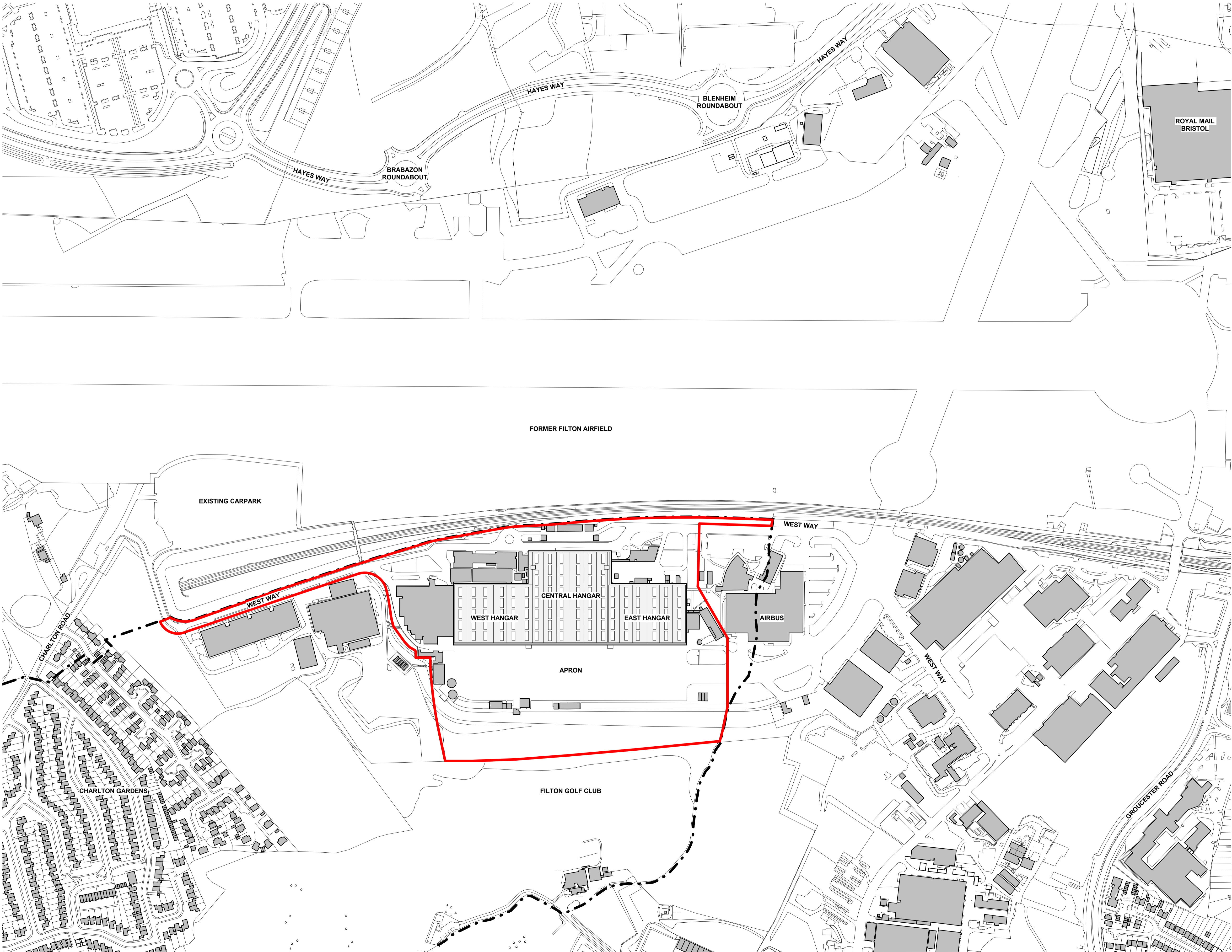
8. What Happens Next?

8.1.1 Following the submission of the planning applications, there would be an opportunity for any interested parties to comment on the proposals. The ES and a set of documents supporting the detailed planning application can be viewed on the BCC and SGC websites:

- <https://www.bristol.gov.uk/>
- <https://www.southglos.gov.uk/>

8.1.2 A CD version of all volumes of the ES can be purchased from Avison Young on request at a cost of £35. Contact details are provided overleaf.

Appendix 1 – Arena Application Boundary



1 ARENA APPLICATION BOUNDARY PLAN
1:2500

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ARENA COMPLEX APPLICATION
COUNCIL BOUNDARY

CLIENT

YTL Arena
YTL GROUP

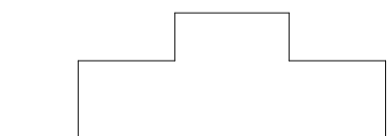
CONSULTANTS
Arena design
Structural Engineer
MEP/Fire/Sustainability
Landscape
Planners
Transport
Heritage
Acoustics
Security
Inclusive design consultant
Manica Architects
OPS Structures
Hoare Lea
Grants Associates
Avison Young
Momentum Transport
DHVA
Neill Woodger Associates
ISC LTD
Attitude is Everything

PROJECT NAME
YTL Arena Bristol

PROJECT NO.
17206
ADDRESS
Brabazon Hangar,
Bristol, BS34 7DU

REV	BY	DATE	DESCRIPTION
P1	GAL	04.10.19	FOR PLANNING

KEY PLAN



NORTH

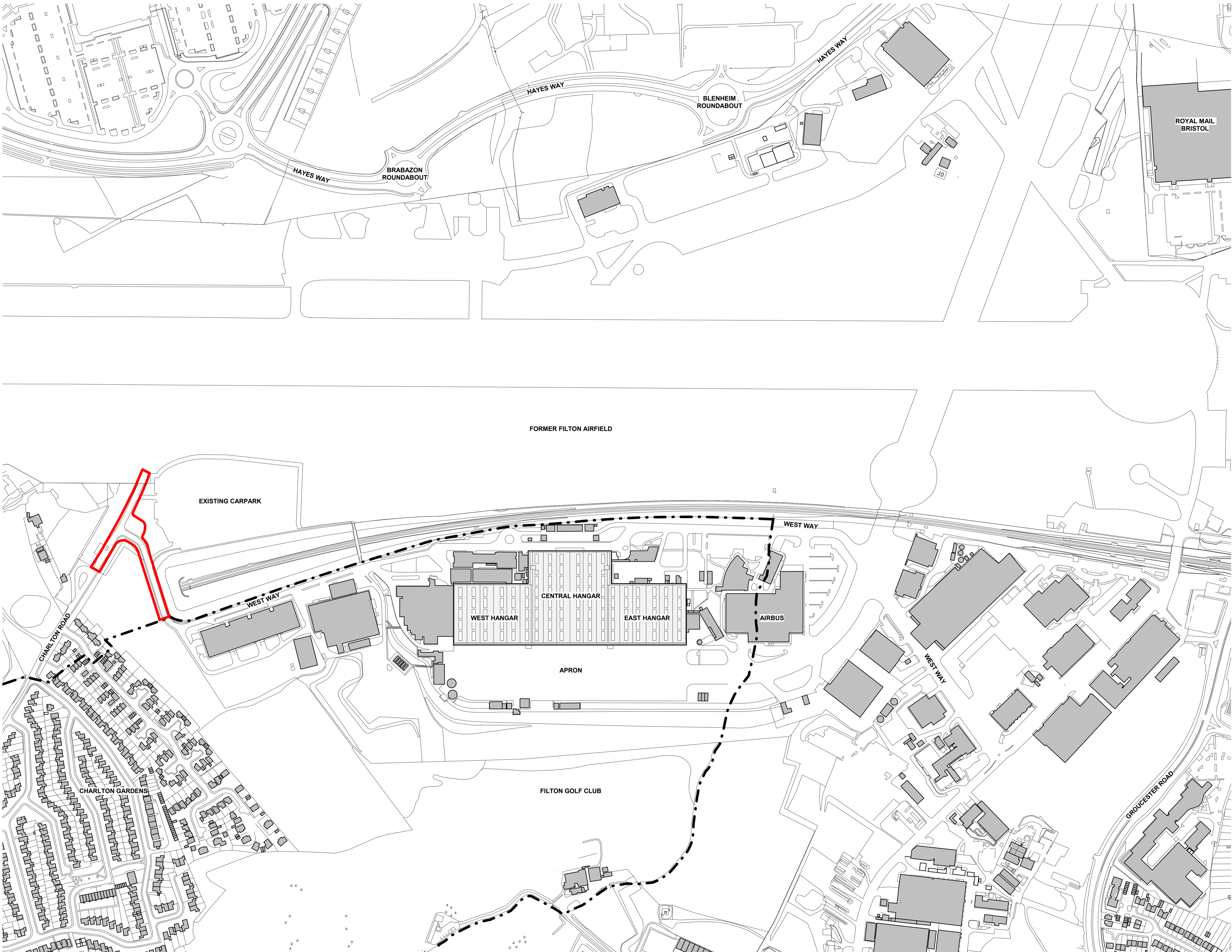
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APPLICATION 'A' BOUNDARY -
ARENA

SCALE
1:2500 @ A1
STATUS
PLANNING

DRW	CH	APPR	DRW DATE	REV
ML	HT	SK	04.10.19	P1

DRAWING NO.
ARN-YTL-001-XX-DR-A-PS101

Appendix 2 – West Way Application Boundary



1 WEST WAY APPLICATION BOUNDARY PLAN
1:2500

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ARENA COMPLEX APPLICATION
COUNCIL BOUNDARY

CLIENT

YTL Arena
YTL GROUP

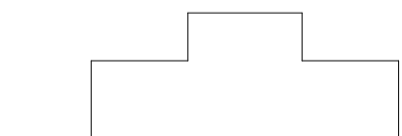
CONSULTANTS
Arena design
Structural Engineer
MEP/Fire/Sustainability
Landscape
Planners
Transport
Heritage
Acoustics
Security
Inclusive design consultant
Manica Architects
OPS Structures
Hoare Lea
Grants Associates
Avison Young
Momentum Transport
DHVA
Neill Woodger Associates
ISC LTD
Attitude is Everything

PROJECT NAME
YTL Arena Bristol

PROJECT NO.
17206
ADDRESS
Brabazon Hangar,
Bristol, BS34 7DU

REV	BY	DATE	DESCRIPTION
P1	GAL	04.10.19	FOR PLANNING

KEY PLAN



NORTH

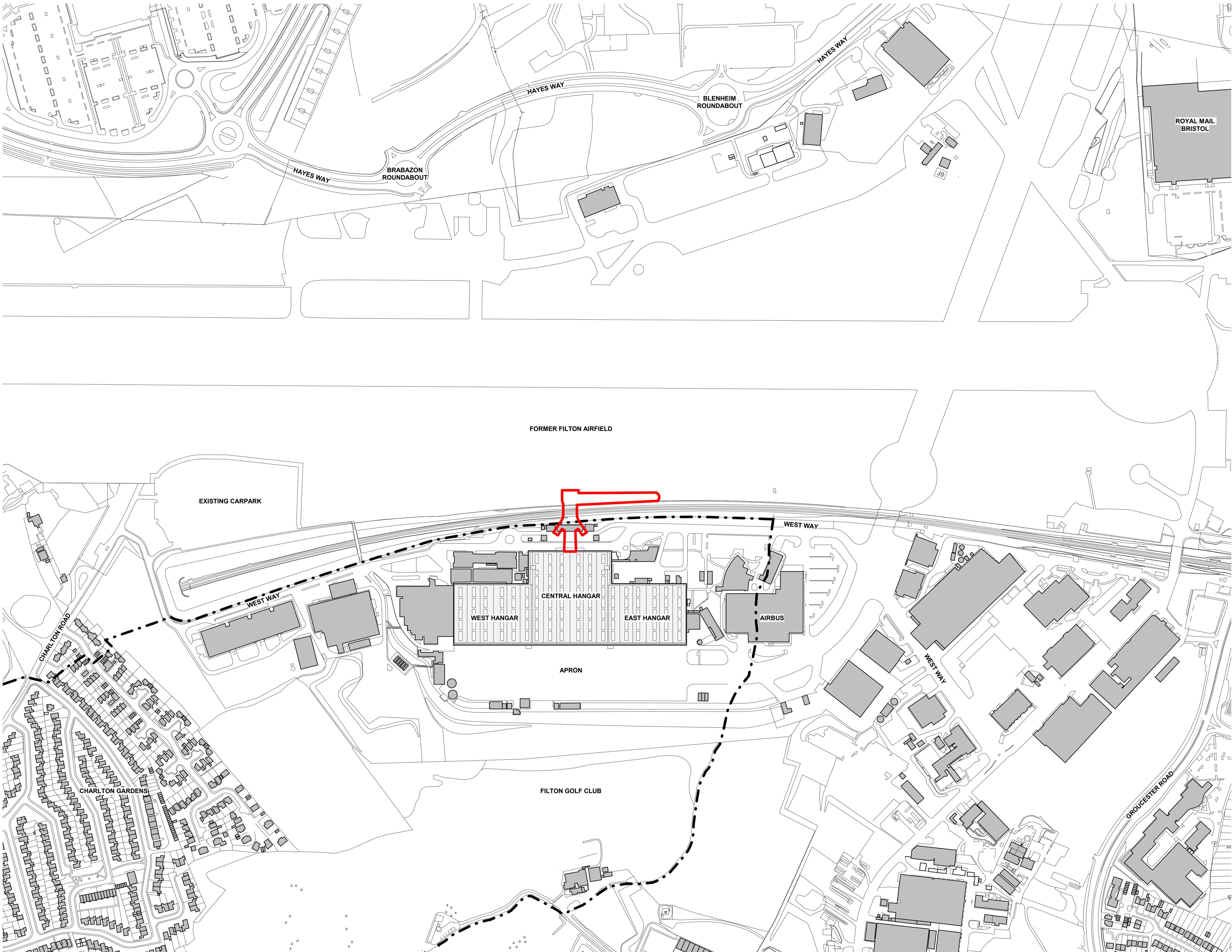
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APPLICATION 'B' - WEST WAY

SCALE
1:2500 @ A1
STATUS
PLANNING

DRW	CH	APPR	DRW DATE	REV
ML	HT	SK	04.10.19	P1

DRAWING NO.
ARN-YTL-001-XX-DR-A-PS102

Appendix 3 – Bridge Application Boundary



1 BRIDGE APPLICATION BOUNDARY PLAN
1:2500

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ARENA COMPLEX APPLICATION

COUNCIL BOUNDARY

CLIENT

YTL Arena
YTL GROUP

CONSULTANTS

Arena design	Manica Architects
Structural Engineer	OPS Structures
MEP/Fire/Sustainability	Hoare Lea
Landscape	Grants Associates
Planners	Avision Young
Transport	Momentum Transport
Heritage	DHVA
Acoustics	Neill Woodger Associates
Security	ISC LTD
Inclusive design consultant	Attitude is Everything

PROJECT NAME

YTL Arena Bristol

PROJECT NO.	ADDRESS
17206	Brabazon Hangar, Bristol, BS34 7DU

REV	BY	DATE	DESCRIPTION
P1	GAL	04.10.19	FOR PLANNING

KEY PLAN

DRAWING TITLE

APPLICATION 'D' BOUNDARY - BRIDGE

SCALE
1:2500 @ A1

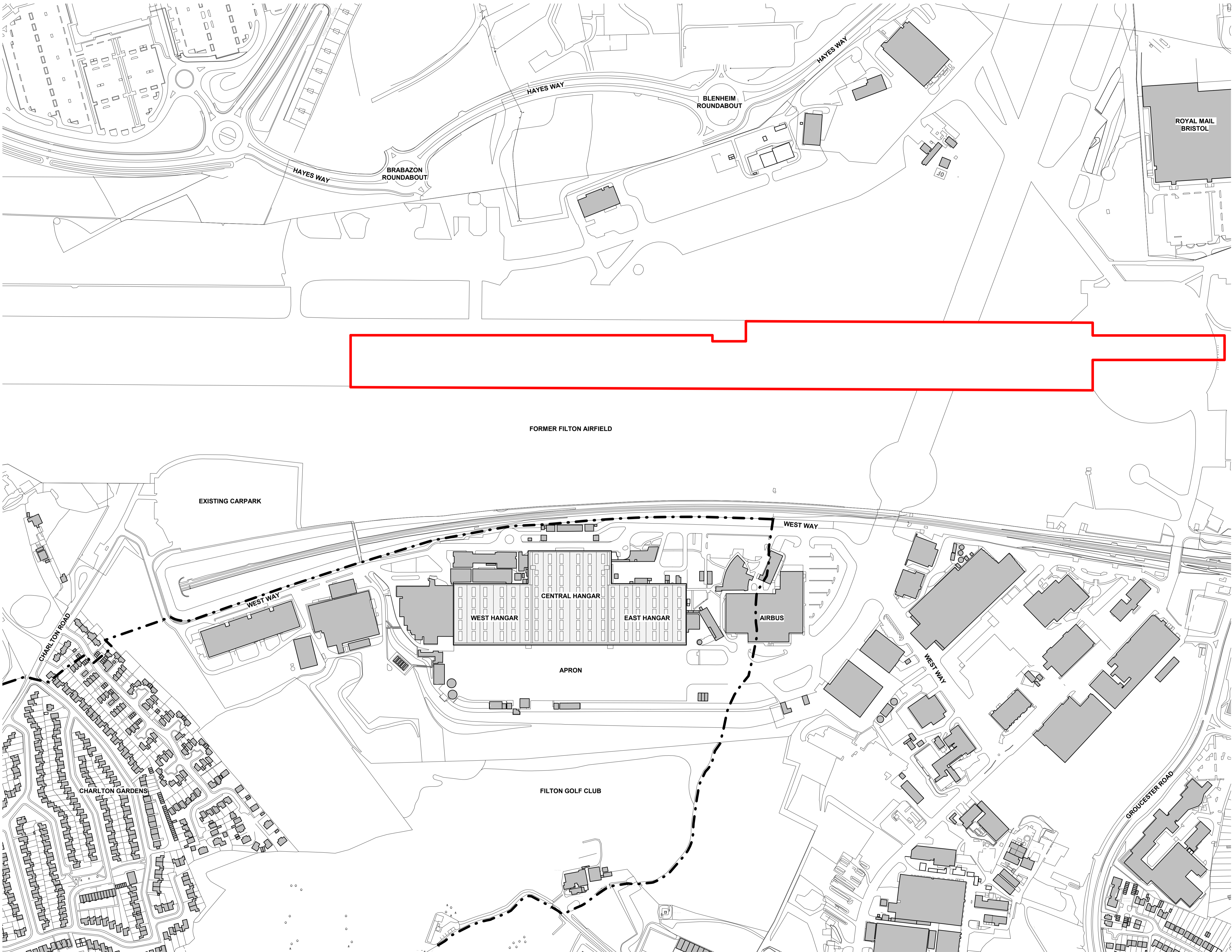
STATUS
PLANNING

DRW	CH	APPR	DRW DATE	REV
ML	HT	SK	04.10.19	P1

DRAWING NO.

ARN-YTL-001-XX-DR-A-PS104

Appendix 4 – Temporary Car Park Application Boundary



1 TEMPORARY CAR PARK APPLICATION BOUNDARY PLAN
1: 2500

ARCHITECT

GRIMSHAW

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DRAWING NOTICES
Do not scale - all dimensions to be checked on site. Grimshaw drawings to be read in conjunction with grimshaw and specialist specifications. Drawings to be read in conjunction with m&e, structural, fire and acoustic information.

ARENA COMPLEX APPLICATION
COUNCIL BOUNDARY

CLIENT

YTL Arena
YTL GROUP

CONSULTANTS
Arena design
Structural Engineer
MEP/Fire/Sustainability
Landscape
Planners
Transport
Heritage
Acoustics
Security
Inclusive design consultant
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OPS Structures
Hoare Lea
Grants Associates
Avison Young
Momentum Transport
DHVA
Neill Woodger Associates
ISC LTD
Attitude is Everything

PROJECT NAME

YTL Arena Bristol

PROJECT NO.

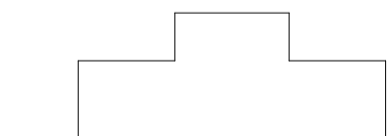
17206

ADDRESS

Brabazon Hangar,
Bristol, BS34 7DU

REV	BY	DATE	DESCRIPTION
P1	GAL	04.10.19	FOR PLANNING

KEY PLAN



NORTH

DRAWING TITLE

APPLICATION 'C' BOUNDARY -
TEMPORARY CAR PARK

SCALE

1: 2500 @ A1

STATUS

PLANNING

DRW	CH	APPR	DRW DATE	REV
ML	HT	SK	04.10.19	P1

DRAWING NO.

ARN-YTL-001-XX-DR-A-PS103

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