



**B&NES Council Project Delivery Team**

## **Pixash Consolidated W&ES Depot**

**Environmental Statement: Volume 3,  
Non-Technical Summary**



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# 1 INTRODUCTION

1.1 Entran Ltd was commissioned by Bath & North East Somerset (B&NES) Council's Project Delivery Team (hereafter referred to as 'the Applicant') to prepare an Environmental Statement (ES) in support of a full planning application for a Proposed Development on land at rear of old Longreach Nursery, Pixash Lane, Keynsham, BS31 1TP. This document provides a Non-Technical Summary of the findings of the Environmental Statement (ES).

1.2 The Application Site location is identified in Figure 1.1 below.

**Figure 1.1: Application Site Location**





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1.3 The ES identifies and records the results of assessments of the construction and operational phases of the Proposed Development and considers the potentially significant environmental effects the Proposed Development will create. The ES suggests a range of measures to mitigate the identified effects and, where opportunities exist, to introduce improvement measures.

1.4 This report provides a Non-Technical Summary of the ES findings.



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## 2 SITE DESCRIPTION

### Introduction

2.1 This chapter summarises the predominant existing land uses and activities occurring on the Application Site and within its surrounds. The chapter also identifies the key environmental characteristics of the Application Site and its adjacent areas, thereby identifying potential sensitive receptors which may be affected by the Proposed Development. A full description of the baseline conditions relevant to each environmental topic is provided in each of the technical chapters within this Environmental Statement (ES).

### Site Location and Setting

2.2 The Application Site covers an area 4.07 hectares and comprises the existing Pixash Lane public recycling centre and adjacent land to the east and south, comprising open fields, an MOD building and two residential properties. The site location is identified in Figure 1.1, Chapter 1.

2.3 The Application Site is located on the eastern side of Keynsham, approximately 1.75km from the town centre. The Application Site is bordered to the north by a railway line, beyond which are open fields and the Avon Valley Adventure and Wildlife Park. To the east of the Application Site are open fields. To the south, the Application Site is bordered by Worlds End Lane, beyond which are residential properties and industrial units. To the west the Application Site is bordered by Pixash Lane, beyond which is the Ashmead Road Industrial Estate.

2.4 The Core Strategy proposals map confirms that the Application Site is located on the eastern edge of Keynsham, outside of the town Housing Development Boundary. The Application Site is part of a wider safeguarded location for employment/ industrial use under Placemaking Plan Policy ED2A: Strategic and other Primary Industrial Estates. The Bristol-Bath Green Belt (Core Policy CP8) lies to the north and east of the Application Site.

2.5 A Grade II Listed Building, Ellsbridge House lies beyond the Application Site to the west on Bath Road.

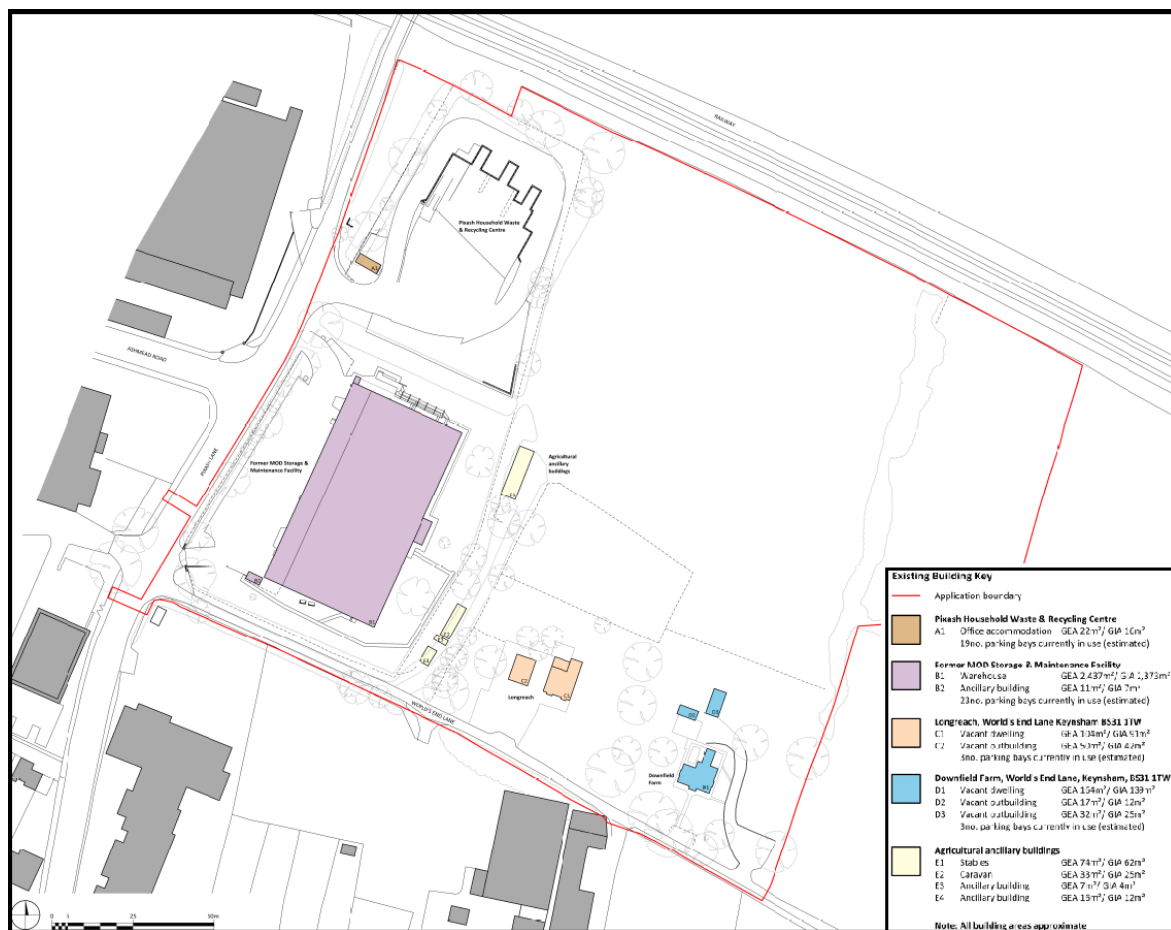
2.6 The Application Site does not comprise any statutory or non-statutory sites designated for their nature conservation value. The nearest statutory designated site - Manor Road Community Woodland Local Nature Reserve (LNR) lies approximately 520m to the south-southwest of the Application Site. The LNR supports a mosaic of semi-natural woodland and grassland habitats.



2.7 The Application Site does not fall within an Air Quality Management Area (AQMA). However, AQMA's are designated nearby in Salford (A4) and Keynsham High Street.

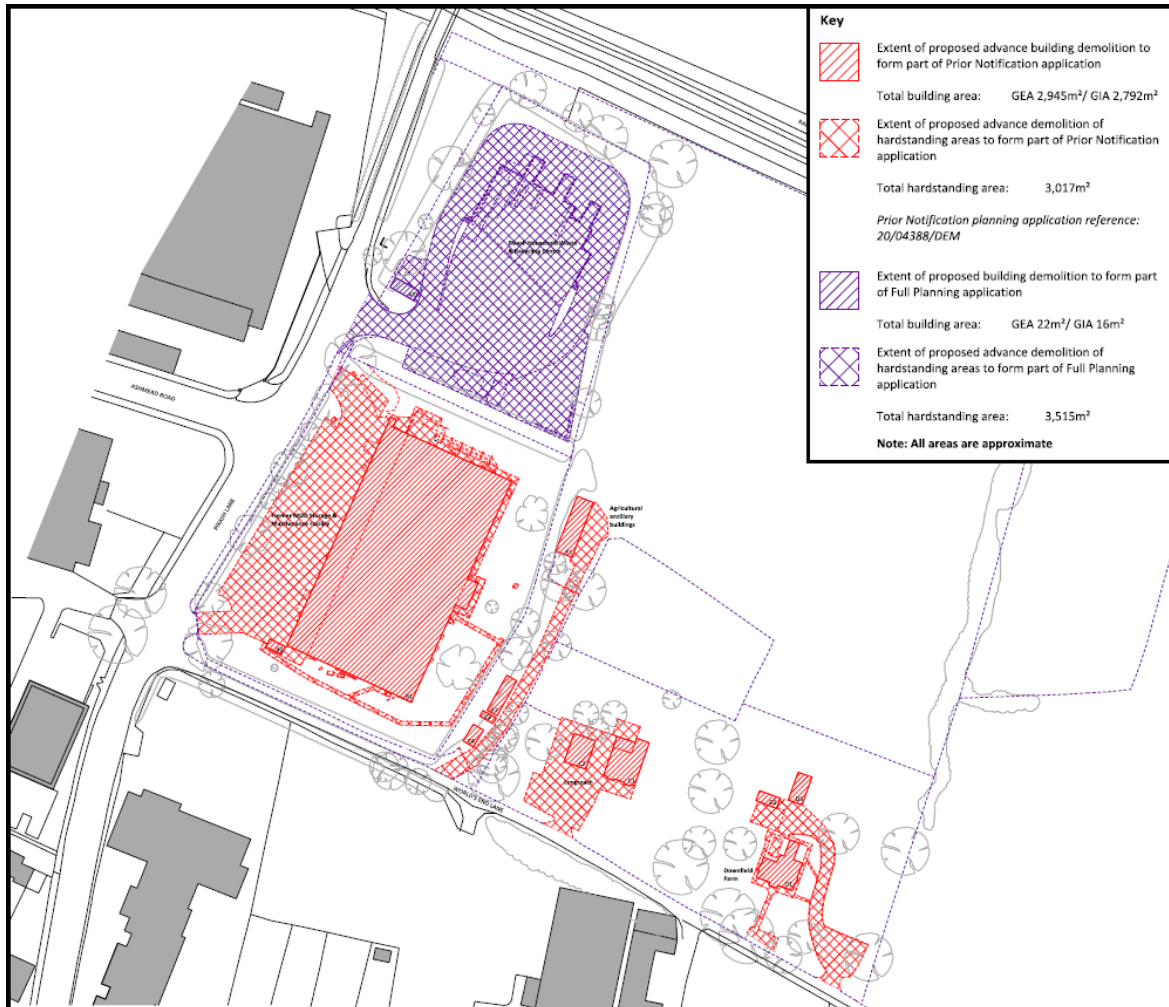
2.8 The Application Site currently includes a number of existing buildings, namely the Pixash Household Waste & Recycling Centre building; the former MOD Storage and Maintenance Facility; two vacant dwellings and outbuildings on Worlds End Lane; and agricultural ancillary buildings. Figure 2.1 below illustrates the existing buildings onsite.

**Figure 2.1: Existing Site Layout**



2.9 The MOD Storage and Maintenance Facility, the agricultural buildings and the two vacant dwellings and outbuildings are proposed to be demolished in advance of the redevelopment of the Application Site. The demolition of these buildings is the subject of a separate planning application. A plan showing the proposed buildings for demolition is illustrated in Figure 2.2 below.

**Figure 2.2: Proposed Demolition Plan**



2.10 For the purposes of the ES, the baseline situation includes the current buildings prior to demolition. The effects of demolition of the buildings are therefore included in this ES.





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### 3 DEVELOPMENT DESCRIPTION

3.1 The Proposed Development is for a mixed-use sustainable community comprising:

*“Redevelopment and consolidation of existing depot site and adjacent land with associated staff parking and access and landscaping works to include the provision of the following: (i) a public re-use and recycling centre (RRC); (ii) material recovery facility (MRF); (iii) waste transfer station (WTS); (iv) Trader (bulky waste); Trade Waste Transfer Station (TWTS); (v) vehicle fleet storage and maintenance; (vi) MOT centre (public); (vii) B&NES Parks and Grounds maintenance storage; (viii) B&NES Highways winter service and salt store; and ancillary offices.”*

3.2 The proposed layout is provided in Figure 3.1.

3.3 The planning application will be submitted as a full planning application. The design principles of the proposed site layout have been informed by the relevant provisions of the planning policy and guidance at both the national and local level.

3.4 The application is accompanied by a detailed Planning Statement prepared by PlanningSphere.



Figure 3.1: Proposed Site Layout



## Land Use

3.5 The Proposed Development comprises a number of operations which are discussed in detail below.

### *Resource Recycling Centre (RRC)*

3.6 The RRC building is divided between public-facing area and operational levels. It is also split over two levels.



## Lower Level

3.7 On the public side, the lower level will accommodate bins for small recycling and areas for hazardous waste. There is a re-use shop which is housed within part of the RRC enclosure next to the entrance to the Application Site.

3.8 An access road and series of bays allow for users to park and unload their waste materials or to visit the shop.

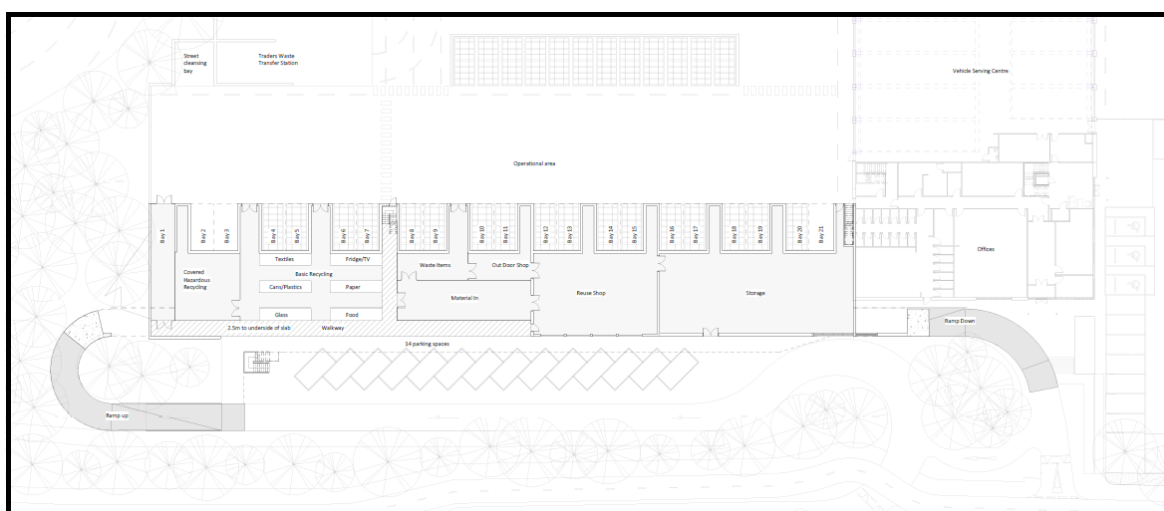
3.9 Vehicles flow from east to west. At the western end a ramp connects to the upper level and traffic flows from west to east.

3.10 The operational side contains the recycling skips and a manoeuvring area for ro-ros. An area for storage of spare skips is provided nearby so that they can be easily swapped over once capacity is reached.

3.11 The undercroft also contains storage areas for small kerbside recycling container stock.

3.12 The layout of the lower level is illustrated in Figure 3.2 below.

**Figure 3.2: Proposed RRC Lower Level**





## Upper Level

3.13 The upper level forms a raised platform around the recycling skips, all of which is accessible to the public. It includes a one-way access road and unloading bay arrangement, with an eastbound flow of traffic.

3.14 A series of projecting piers provide safe areas for the public to dispose of their recycling into the skips.

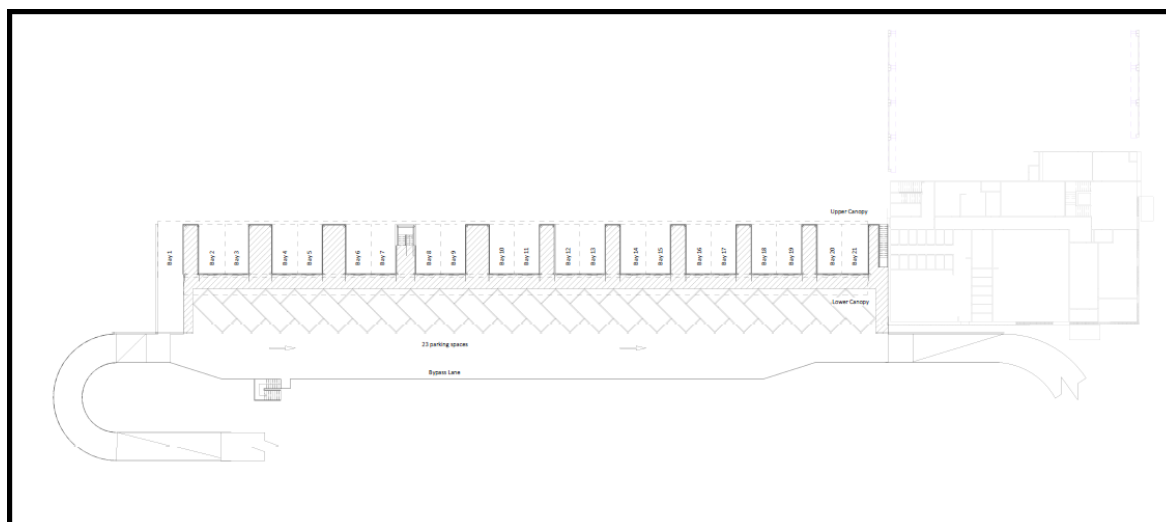
3.15 Access stairs allow operatives to access the yard area.

3.16 A ramp at the eastern end returns to the lower level and out of the Application Site. A turn-back loop is provided to allow vehicles to re-circulate around the RRC if required.

3.17 The container bays and upper level loading areas are covered by a twin canopy, offering some rain protection for materials and residents. The canopy also accommodates an extensive PV array in line with most of the roof area on-site.

3.18 The layout of the upper level is illustrated in Figure 3.3.

**Figure 3.3: Proposed RRC Upper Level**





### *Waste Transfer Station (WTS)*

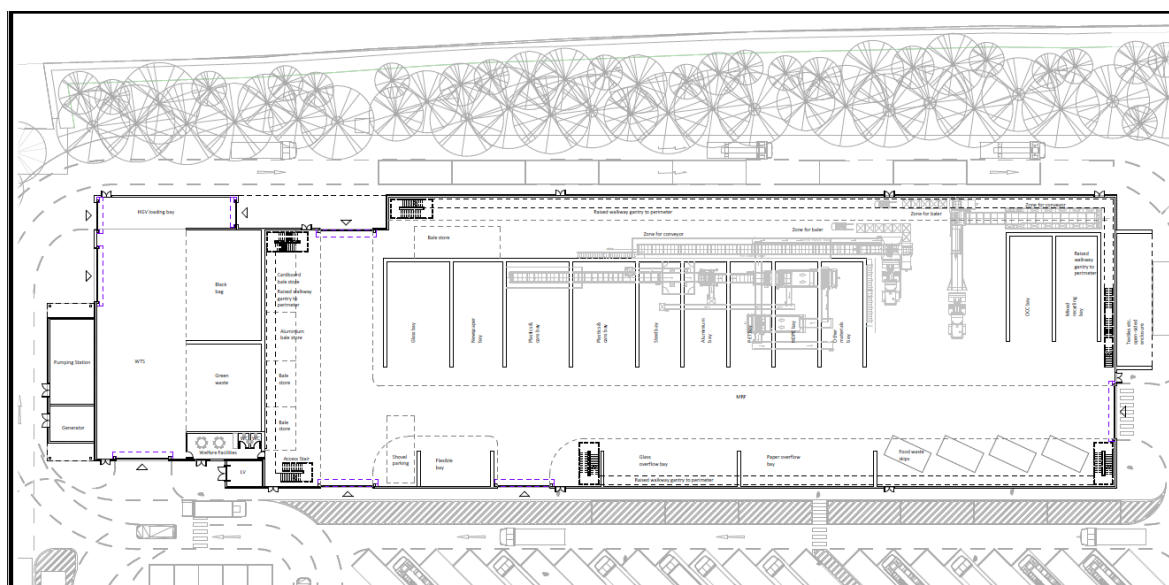
3.19 The WTS is located at the western end of a shared building also containing the Material Recovery Facility (MRF). It contains two collection bays, used to store unrecycled and green waste and a general waste circulation and manoeuvring area. This is primarily material from domestic kerbside collection though it is also bulked with similar material from the on site RCC and Trade Waste Transfer Station (TWTS).

3.20 An enclosed loading bay is provided at the north end, allowing HGVs to pull up and remove waste material from the Site.

3.21 It accommodates a small office and staff welfare facilities which serve both the MRT and WTS.

3.22 The layout of the WTS and MRF building is illustrated in Figure 3.4.

**Figure 3.4: Proposed WTS and MRF Building**



### *Material Recovery Facility (MRF)*

3.23 The MRF facility is located in the eastern portion of the WTS & MRF Building. It is divided into a sections for storing each type of recycling waste. Vehicles will enter the building via a roller shutter door on the eastern façade of the building and pass along a circulation route within the building. Re-cyclable material will be unloaded into the appropriate bays.



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3.24 Bay positions are flexible within the building, however the noisiest process, such as glass collection are set centrally to the plan.

3.25 The area around the food waste bay is separated from the remaining building. The air from this area will be extracted to the odour control unit.

3.26 The collection area contains a series of conveyors and baling machines, used to compact materials prior to being removed from the Application Site. Baled material is stored to the west of the MRF ready for collection via artic.

3.27 Loading and unloading functions are kept separate so both can occur concurrently, improving operational efficiency and improving health and safety for operatives.

3.28 Within the building, a raised perimeter walkway is provided to create a safe walking route for all operatives who are not involved in the unloading process.

#### *Trade Waste Transfer Station (TWTS)*

3.29 The TWTS consists of an open compound with marked out storage bays for commercial trade waste to be off-loaded. It is partially covered by a canopy.

3.30 A circulation route, with single direction operation, provides vehicle access to the bays.

3.31 An adjoining smaller compound to the west provides a storage area for street cleansing waste.

#### *B&NES Highways Winter Service and Salt Store*

3.32 The unit consists of an enclosed salt storage compound with a dedicated area for parking council gritting vehicles.

3.33 The salt store is located next to the Application Site entrance providing some separation between winter service and waste operations, helping to prevent potential contamination.

3.34 B&NES are legally required to provide a defined volume of salt across the district and the facility will provide the council with a second storage facility. It will accommodate the

necessary volume to meet that quota and is conveniently located on the same site as the gritter vehicles.

3.35 The layouts of the TWTS and Salt Store is illustrated in Figure 3.5.

**Figure 3.5: Proposed TWTS and Salt Store**



### *Offices*

3.36 The office building provides the main staff welfare centre, main office area, an education area and a full vehicle workshop.



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3.37 The office building is a two storey building. The ground floor contains separate staff entrance lobby and visitor receptor areas to suit operational requirements. Staff welfare facilities, including a canteen, changing areas, showers and WC are all located on the ground floor. This provides staff with easy access through to the main operational areas.

3.38 The first floor contains an open plan office area and a series of flexible meeting spaces. The largest meeting room can also be used to accommodate educational visits which is a key client aspiration.

3.39 Access for operatives is provided from both levels to the corresponding levels of the RRC. The layout has been developed to reflect updated working practices for the W&ES teams who will be based here.

#### *Vehicle Servicing Workshop*

3.40 The vehicle servicing workshop is located adjacent to the office and can be directed accessed from the office. The main area is a single volume and consists of a series of vehicle inspection pits and MOT servicing bays, access by roller shutters.

3.41 The workshop can service all W&ES fleet vehicles as well as providing MOT services for B&NES residents.

3.42 A variety of service bay sizes and types are provided to accommodate different vehicle types. Larger bays are provided on the west side of the building to suit operational requirements. A flexible bay allows for B&NES parks and grounds maintenance equipment, such as lawn mowers to be serviced.

3.43 The workshop also includes a parts storage areas, office and WC.

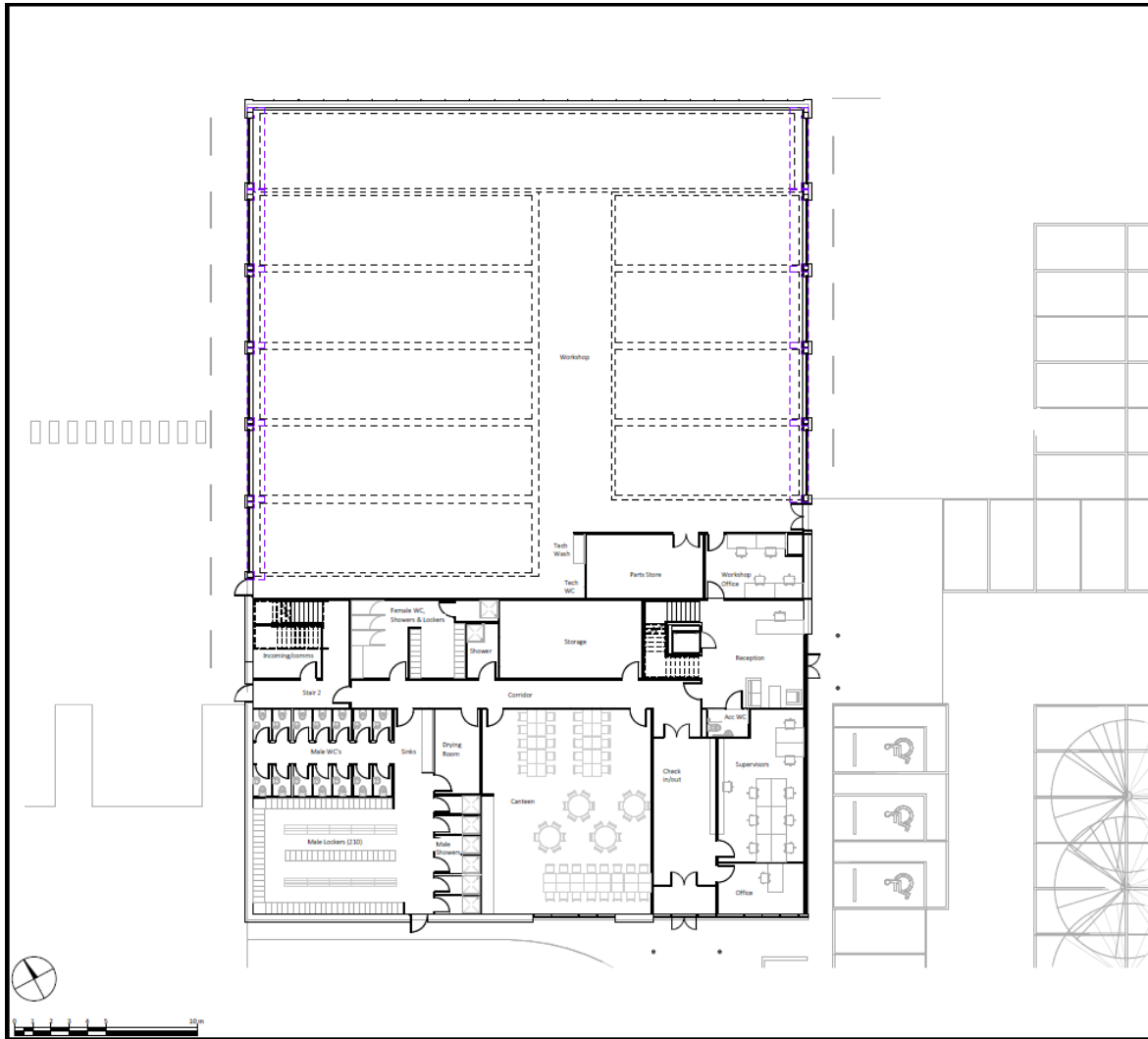
3.44 An external storage compound is provided to the north of the workshop.

3.45 The layout of the office at ground floor level and the vehicle servicing workshop is provided in Figure 3.6.





**Figure 3.6: Proposed Office and Vehicle Servicing Workshop**



### Scale and Massing

3.46 The functions of the Application Site have been consolidated into several structures to allow for efficient site operation. The scale of each of the proposed buildings has been optimised through considering forecasted growth in waste and recycling services demand without oversizing.

#### *WTS & MRF Building*

3.47 The combined WTS and MRF building is the most significant in terms of scale on the Site. It will be 13.2m in height to the ridge which is comparable with the nearby light industrial building on Ashmead Road.



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3.48 It has been positioned to the north of the Application Site, partly to reduce the impact on existing development along the A4. Although the building is of a larger volume, it is comparable in height to the nearby existing warehouse at the corner of Ashmead Road and Pixash Lane.

3.49 The building incorporates a ventilation extract flue of 20m in height for exhausting emissions from the odour control unit. This is located at the west end of the building to minimise the visual impact to the north and east of the Application Site.

#### *TWTS and Salt Store*

3.50 The salt store will be approximately 12m to the eaves, extending to 13m at the ridge similar to the MRF building. The adjacent TWTS building will consist of a number of semi-enclosed storage bays. These are partly covered by a monopitch canopy, which extends to a height of 8.6m.

#### *Offices and Vehicle Servicing Centre*

3.51 The office building will be 9m in height to the ridge, the adjoining vehicle servicing workshop will be of a similar height.

#### *RRC*

3.52 The upper level of the RCC will form a raised platform at approximately 3m above for public access to the recycling skips. The split-level arrangement reinforces the separation between public and operational areas, reducing health and safety risks.

3.53 A canopy will be provided to the upper level, approximately 3.2m in height to allow for a range of vehicles to access the RCC.

#### *Security Office*

3.54 The security office will be a small, single storey cabin structure with a height of 3.5m.

### **Quantum of Development**

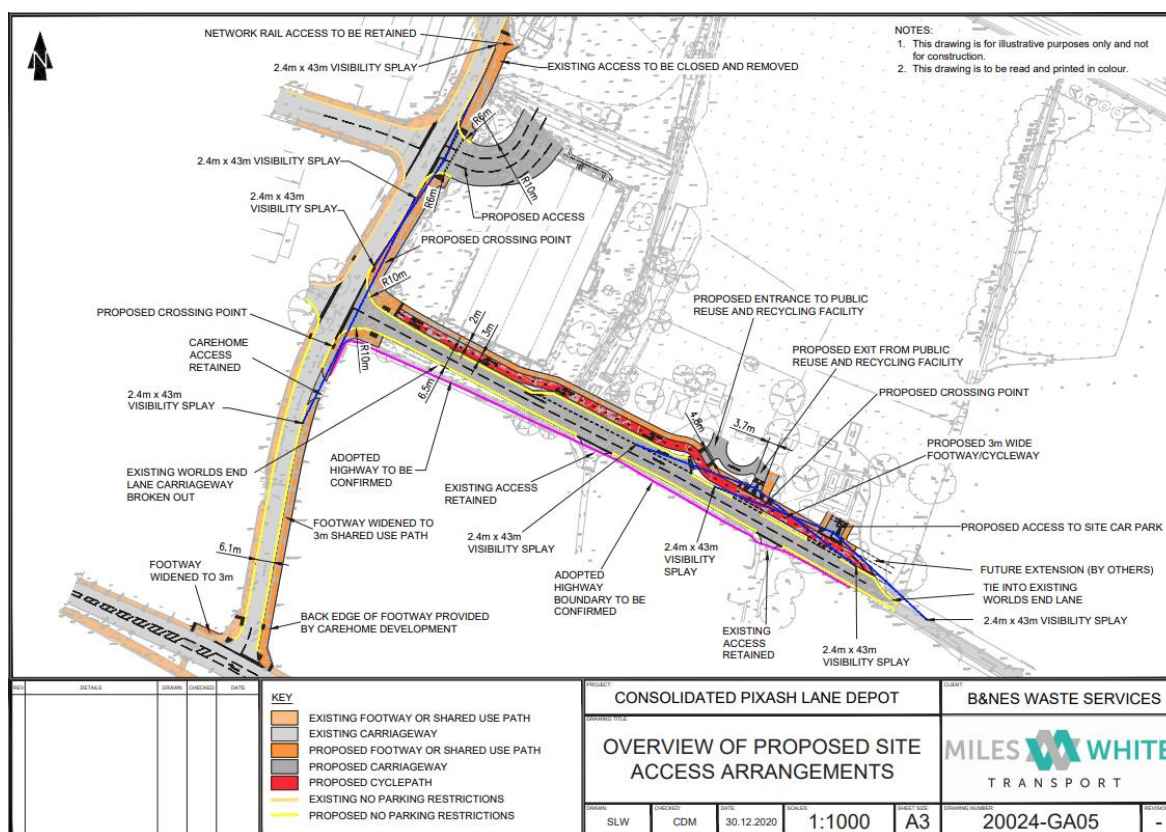
3.55 The total area of the Application Site is 4.07 hectares.

## Access

3.56 The Application Site will accommodate a wide range of vehicle movements both into and within the site. By consolidating facilities at the Pixash Lane Site, it is intended to reduce the overall number of vehicle movements.

3.57 It is proposed to separate public and council operations on the Application Site, in order to improve safety and efficiency. New dedicated entrances to the Application Site will be provided to help facilitate this. These are shown in Figure 3.7 below.

**Figure 3.7: Proposed Access Arrangements**



3.58 Access for council and operational vehicles will be provided by a new entrance on Pixash Lane. This is strategically located opposite the junction with Ashmead Road. This crossroads arrangements allows lorry movements to be taken to and from the roundabout junction on the A4 at the Eastern end of the Keynsham bypass, via Broadmead Lane and Ashmead Road.

3.59 Inbound and outbound weighbridges are located at this entrance to suit operational requirements. Bypass lanes are provided to avoid congestion.



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3.60 Public access to the RRC and car park will be from World's End Lane. The current single track lane will be upgraded to a two-way highway, with an additional dedicated eastbound lane serving the RRC. By allowing for vehicle stacking during peak periods it will help to alleviate congestion on surrounding roads.

3.61 Automatic Number Plate Recognition (ANPR) technology will be used to control access to the RRC for B&NES residents.

#### *Pedestrian Links*

3.62 The existing nearby roads generally have pavements running alongside them. These provide a network of routes which connect to Keynsham town centre and neighbouring Salford. There are currently no pavements along World's End Lane. As part of the upgrade works it is proposed to accommodate new pathways which will connect into the Application Site.

#### *Cycle Links*

3.63 An existing shared pedestrian and cycle path runs alongside the south side of the A4 and can be accessed from the Application Site via Pixash Lane. This provides a connection to National Cycle Network Route 4 via Salford. The new pathways proposed along Pixash Lane and World's End Lane are also designed to accommodate cycles, fully segregated from road traffic. Figure 3.7 also shows the proposed cycleway arrangement.

3.64 Secure, covered cycle parking for both staff and visitors will be provided onsite. Charging for electric bikes and a dedicated area for e-cargo bikes will also be provided.

#### *Public Transport Links*

3.65 The Application Site benefits from good access to local bus services. Due to the nature of the proposed activities on-site, these are more likely to be used by staff rather than visitors to the RRC.

3.66 The nearest bus stops are located on the A4, adjacent to the junction with Pixash Lane and within 400m of the centre of the Application Site. From here there are regular services between Bath and Bristol.



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3.67 In addition, it is proposed to operate a staff shuttle bus to a nearby park and ride site as part of the travel plan.

3.68 Keynsham Railway Station is approximately 2.2km travel distance to the northwest of the Site. During off peak periods there is generally an hourly service frequency in each direction towards Bath and Bristol. Additional services run at peak hours.

3.69 A number of enhancements proposed as part of the neighbouring Withies Green housing development and wider North Keynsham masterplan should improve the quality of the pedestrian and cycle routes to the station.

#### *Access within the Application Site*

3.70 The Application Site has been designed such that Council operations and public-facing areas are separated as much as possible. Within both areas, a network of vehicle routes provide access to each facility.

3.71 Dedicated pedestrian routes and crossing points will also be clearly marked. Clear directional signage, such as skip waste descriptions to the RRC, will be used to further direct users through the Application Site.

#### **Parking**

3.72 Staff and visitor parking is located adjacent to the office building. Dedicated disable bays are located adjacent to the entrances. Short-stay bays will be provided to serve the RRC and re-use shop.

3.73 Overnight parking for various council vehicles will be provided within the operational area.

#### **Building Access**

3.74 Both staff and visitor entrances to the office accommodation will address the car park area.

3.75 A lift will provide access to the first floor offices and educational facilities. In operational buildings, such as the MRF, vehicle and pedestrian routes will be clearly

demarcated. It is also proposed to provide walkway gantries within the MRF to further separate these flow.

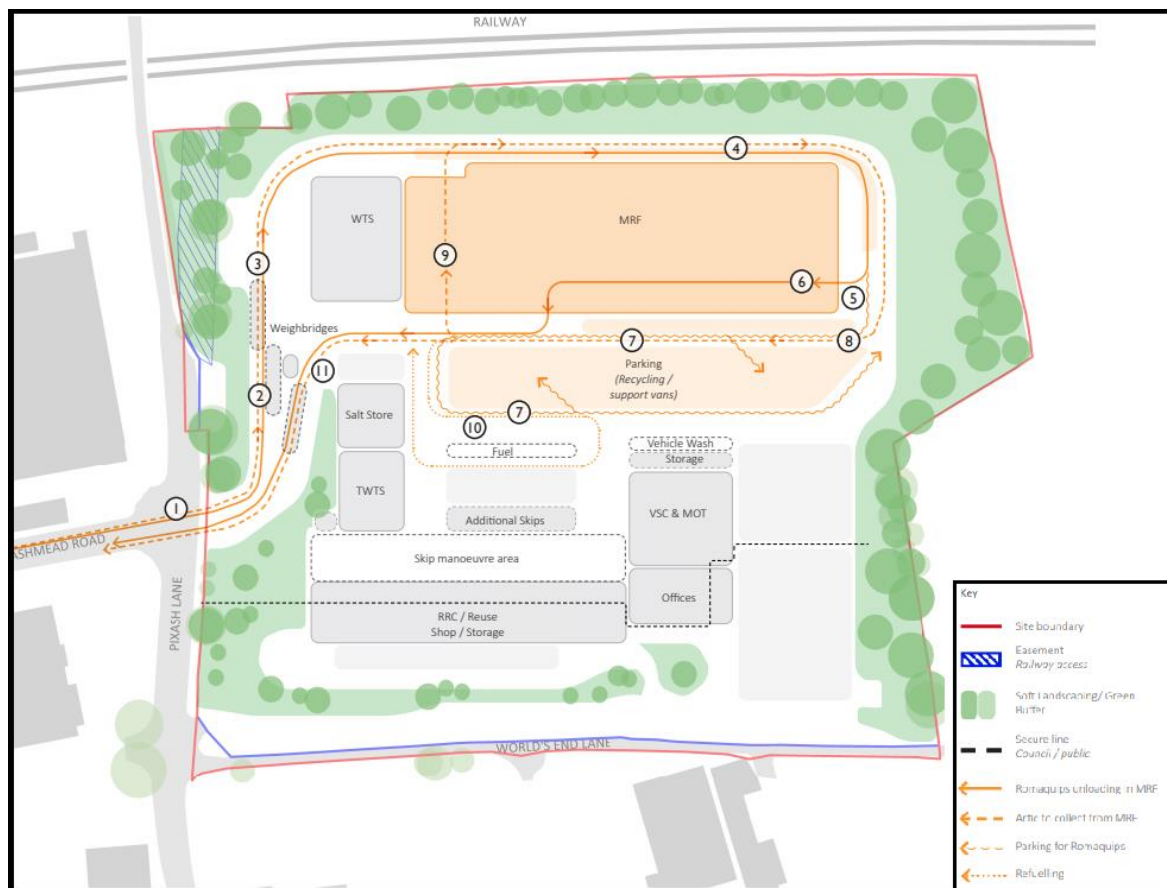
### Operational Access Strategy

3.76 There are many different access arrangements across the Application Site, serving the different operations as described below.

#### MRF

3.77 The access arrangements to the MRF comprise the following is illustrated in Figure 3.8 below

**Figure 3.8: Proposed Operational Access Strategy for MRF**



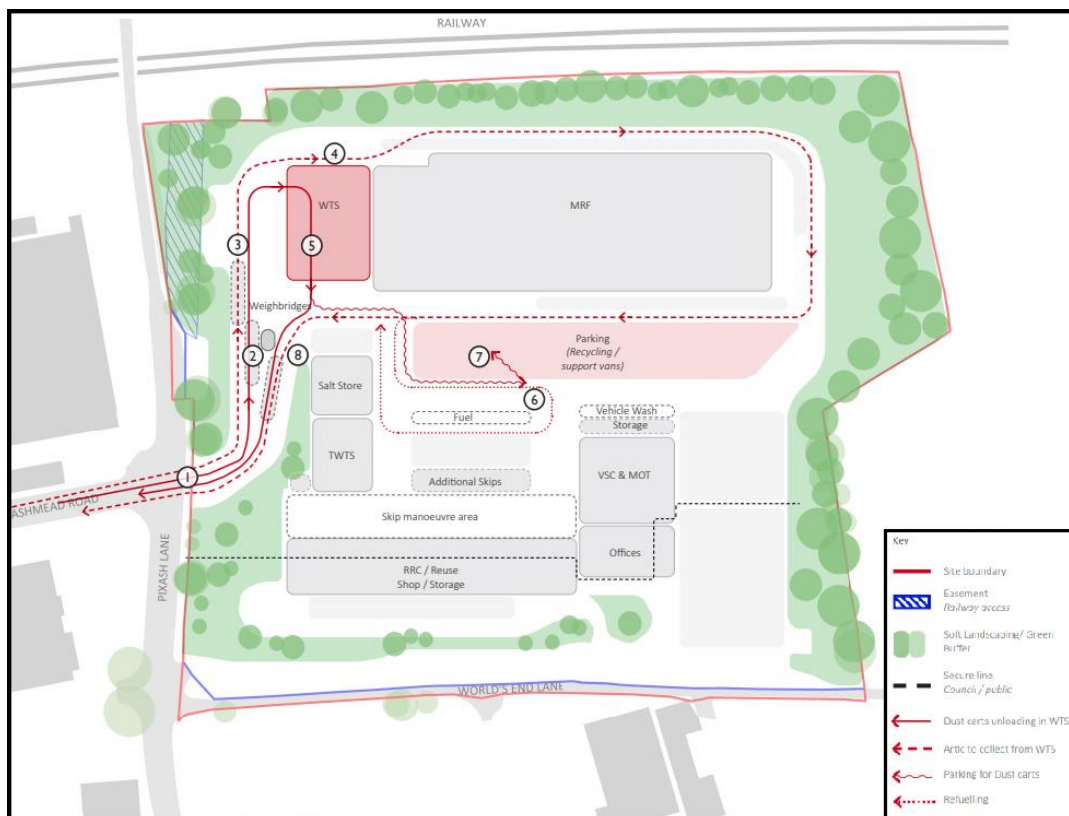
1. All council operational vehicles will enter via a single controlled access;
2. Bypass lane to avoid congestion at the site entrance and Ashmead Road;
3. Weighbridge for Romaquips;

4. Stacking space around perimeter of MRF with bypass lane to allow other operations to continue;
5. Entrance to MRF;
6. Romaquips progress through MRF unloading as they proceed to the exit;
7. Parking for Romaquips. If there is a large queue to get into the MRF at busy times the bypass lane can be used to proceed to the Romaquip parking;
8. MRF staff can collect vehicles in parking spaces and proceed through MRF to unload;
9. Artic in and out to collect the baled materials for transportation;
10. Romaquips refuel before parking or on exit;
11. Weighbridge and bypass lane to be used by Romaquips and Artics on exit.

## WTS

3.78 The access arrangements to the WTS comprise the following is illustrated in Figure 3.9 below

**Figure 3.9: Proposed Operational Access Strategy for WTS**



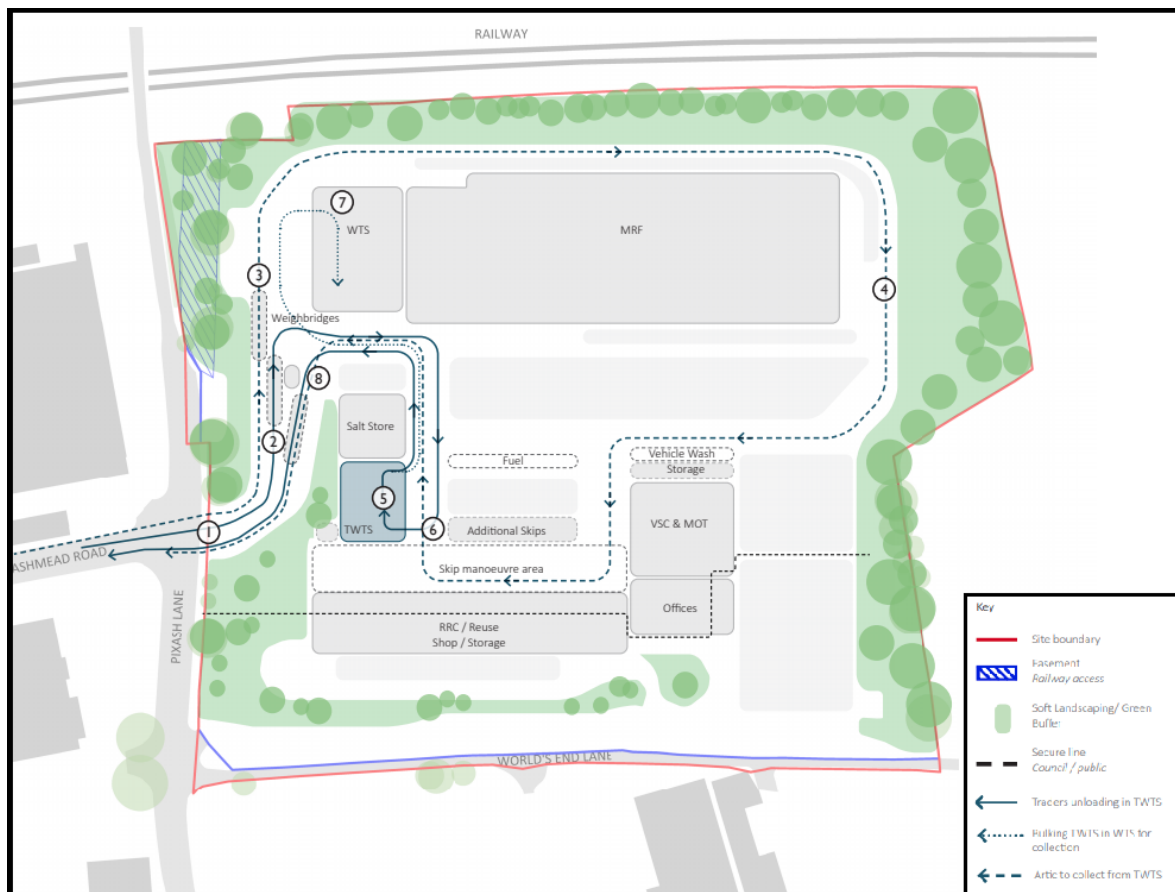
1. All council operational vehicles enter via a single, controlled access;
2. Dust carts use weighbridge;

3. Bypass lane to be utilised by Artic collecting from WTS;
4. Artic to pull up alongside WTS to collect. Then uses bypass lanes around MRF towards exit;
5. Dust carts travel through the WTS unloading;
6. Dust carts refuel;
7. Overnight parking for council operational vehicles;
8. Dust carts weighbridge on exit;
9. Artics use bypass lane to avoid weighbridge on exit.

## TWTS

3.79 The access arrangements to the TWTS comprise the following is illustrated in Figure 3.10 below

**Figure 3.10: Proposed Operational Access Strategy for TWTS**



1. Traders entrance via a single, controlled access;
2. Traders to use weighbridge on entrance;
3. Artic to utilise bypass lane to avoid congestion;
4. Artic to utilise bypass lane around MRF to avoid congestion;

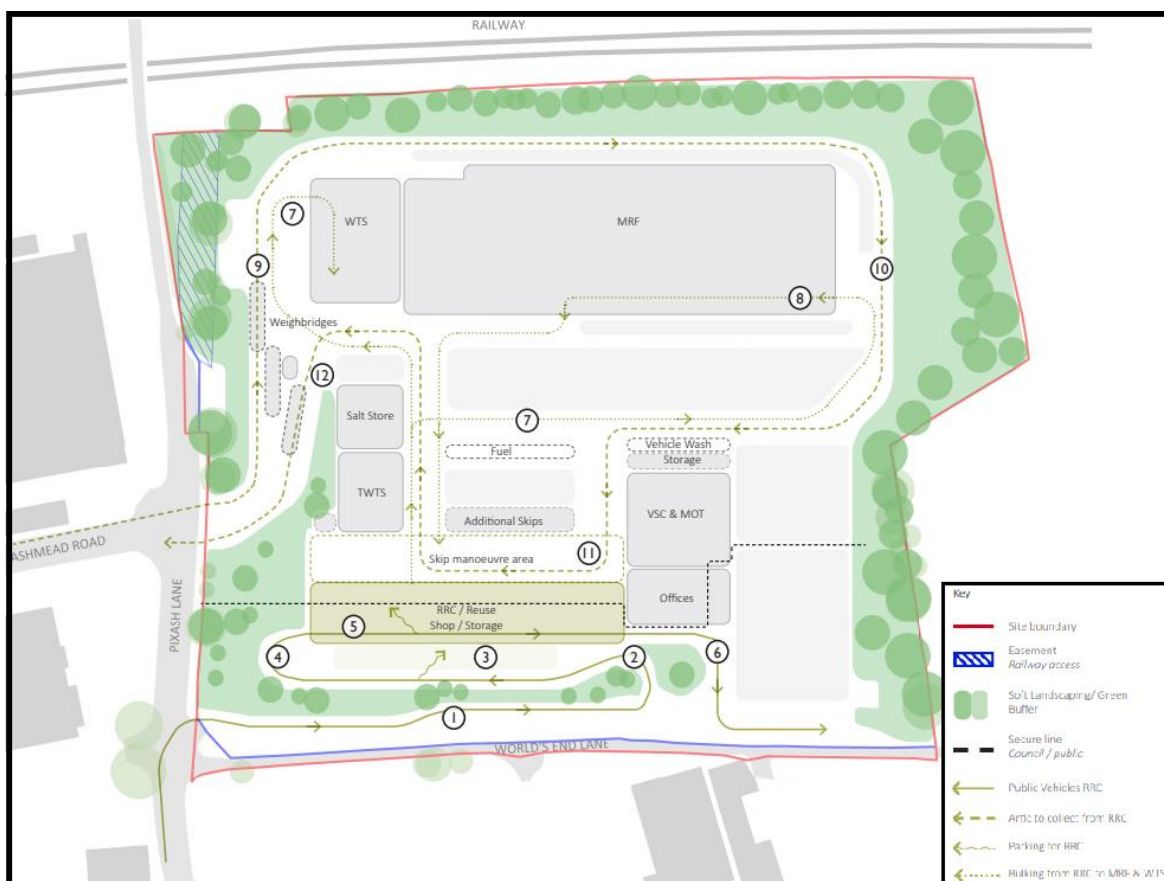


5. Traders drive into the TWTS from the South and continue one way and exit from the Northern end;
6. Materials to be transported from TWTS to WTS to be bulked;
7. Material transported into WTS to be bulk collected by Artic;
8. All traders to use weighbridge on exit from Site;
9. Artic to utilise bypass lane on exit.

### RRC

3.80 The access arrangements to the RRC comprise the following is illustrated in Figure 3.11 below

**Figure 3.11: Proposed Operational Access Strategy for RRC**



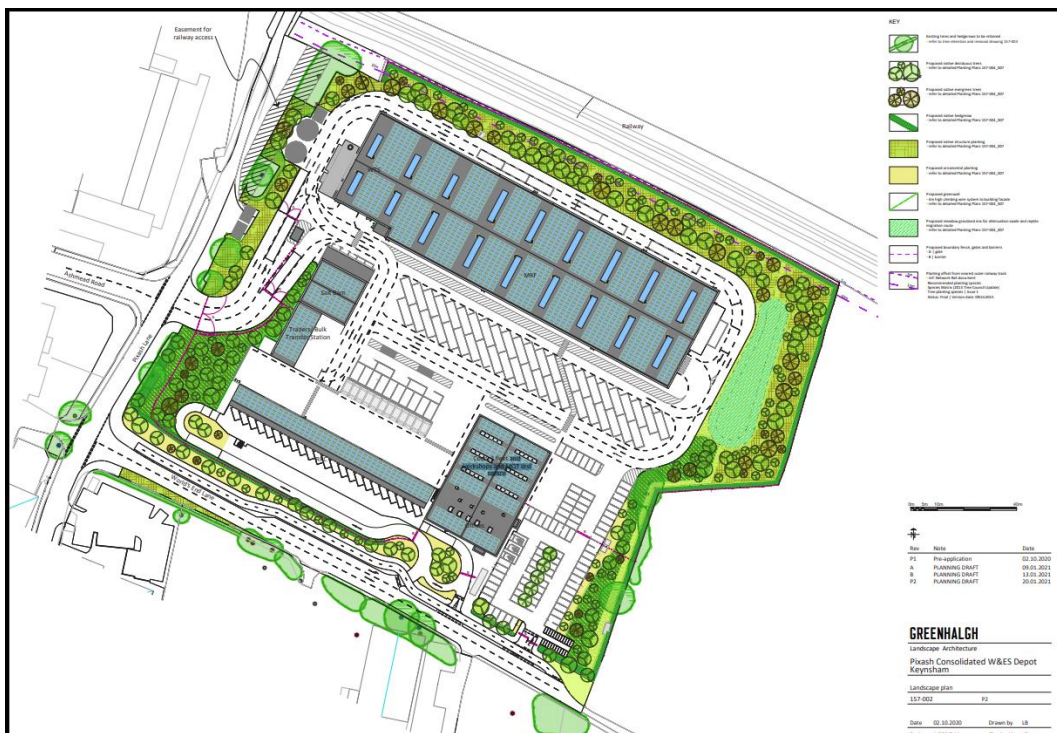
1. Dedicated RRC lane on Worlds End Lane to increase stacking capacity to reduce queuing on Pixash Lane;
2. One way system into the RRC with additional stacking lane;
3. Parking on lower level to access basic recycling, hazardous and reuse shop;
4. Ramp up to upper level of RRC;
5. Parking on upper level of RRC close to skips;

6. Ramp down and one way exit to Worlds End Lane;
7. Materials transported from RRC to be bulked in WTS or MRF;
8. Materials bulked in MRF for collection from Site;
9. Artic using bypass lane to collect material from RRC
10. Artic to utilise bypass lane around MRF to avoid congestion;
11. Artic to use turning circle in RRC manoeuvre area;
12. Artic to use bypass lane upon exit from the Site.

## Landscaping

3.81 The proposed landscaping strategy aims to enhance the existing perimeter features and provide continuous areas of planting to visually contain the Application Site. An attenuation swale will be provided in the north east corner which will provide a wetland habitat as well as being integral to the drainage strategy. A green wall of climbing plants is proposed on the west façade of the salt store and TWTS to further soften the visual impact from Pixash Lane. The proposed Landscape Strategy is illustrated in Figure 3.12 below.

**Figure 3.12: Proposed Landscaping Strategy**





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## 4 ALTERNATIVES AND DESIGN EVOLUTION

### Introduction

4.1 This chapter sets out the need for the Proposed Development and the main alternatives considered by the Applicant.

4.2 The following sections describe the main alternatives considered by the Applicant in addition to the Proposed Development. Consideration has also been given to and commentary is provided on any alternatives or options considered by the Applicant as follows::

- The 'No Development' alternative;
- Alternative Sites; and
- Alternative Designs and Layouts.

### 'No Development' alternative

4.3 The 'No-Development' option refers to leaving the Application Site in its current state, which comprises partly an area of undeveloped land and the existing Pixash Household Waste & Recycling Centre. This alternative would not meet the future requirements of B&NES and has therefore been dismissed. The Proposed Development can also accommodate the consolidated facility.

### Alternative Sites

4.4 The Applicant has control of the Application Site and it is available for development. The Site is allocated within the Development Plan as a Strategic Site Allocation for Employment Use, therefore a consideration of alternative sites has not been included. This is in line with the advice provided in the Scoping Opinion.

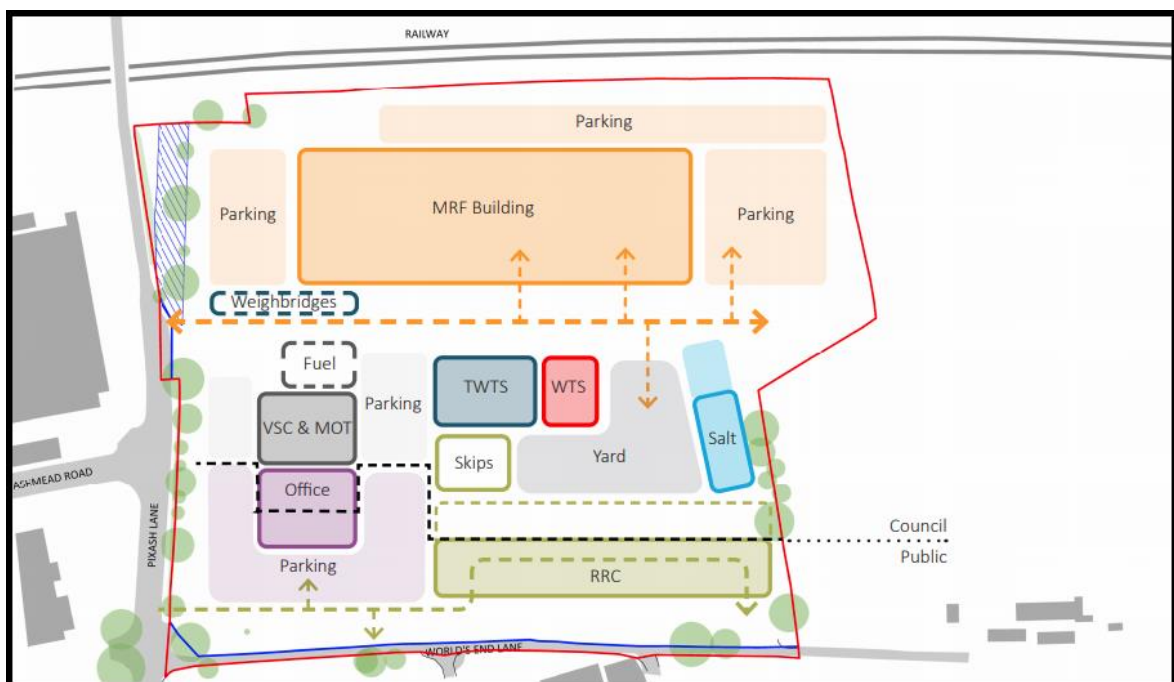
### Alternative Designs & Layouts

4.5 The current Proposed Development has evolved over a number of design iterations, responding to local authority planning and development aspirations, public engagement and taking account of the Applicant's development objectives, design aspirations and prevailing environmental constraints. The evolution of the Development has therefore responded to a variety of design and environmental issues and the resultant proposals are considered to offer the most advantageous design solution.

4.6 Further details of the design evolution are contained in the Design and Access Statement which supports this Application and a summary is provided below.

4.7 The initial concept design located the MRF in the largest part of the Application Site to the north. It also established a strategy dividing public and council operations. The initial proposed layout is illustrated in Figure 4.1 below.

**Figure 4.1: Initial Proposed Site Layout (Option 1)**



4.8 It was considered that this scheme allowed for very little vegetation to be retained, the salt store was considered to be large and imposing in this location and there was concern that the WTS would cause odour issues close to the eastern boundary. Congestion along Ashmead Road and Pixash Lane was also considered likely.

4.9 The layout was revisited and Option 2 as illustrated in Figure 4.2 below was proposed. The TWTS was located close to the council entrance for east of access control, the salt store was relocated to make it less imposing to the surrounding area and circulation routes around the MRF were proposed to increase the stacking capacity for the Romaquips (Household kerbside recycling collection vehicles). The WTS was moved to the west side of the Application Site to reduce the impact of odours.

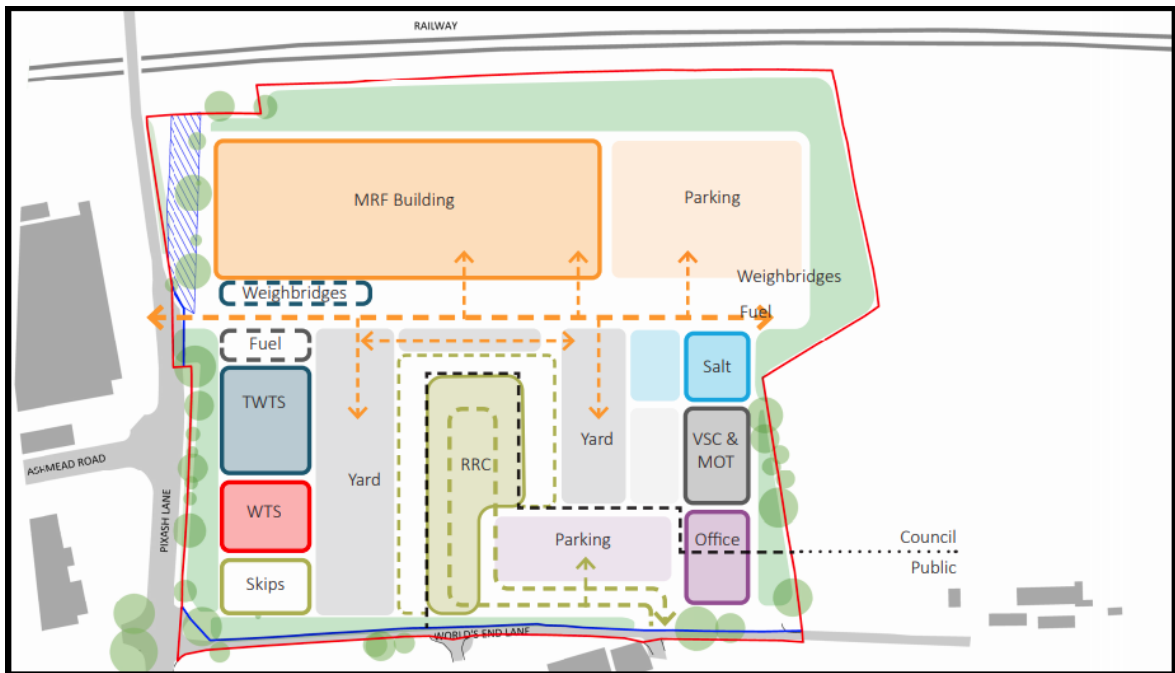
**Figure 4.2: Proposed Site Layout (Option 2)**



4.10 It was considered that this option would have insufficient parking and that the dog-leg arrangement of the RRC would be inefficient. The weighbridges being too close to the council entrance was also considered to reduce the capacity for stacking.

4.11 Further amendments were made to the design and Option 3 as illustrated in Figure 4.3 below was proposed. The MRF building was moved away from the eastern boundary and potential future sensitive receptors. The RRC was located centrally to allow for bulking of various materials in the split yards.

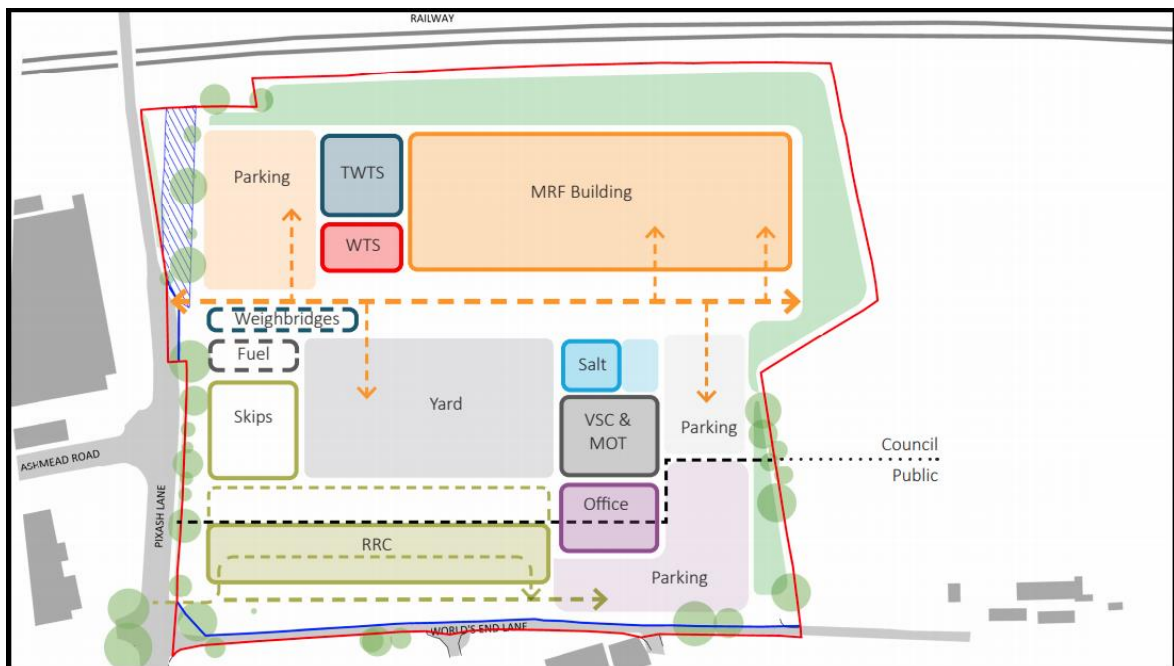
**Figure 4.3: Proposed Site Layout (Option 3)**



4.12 It was considered that the WTS in this location may potentially create odour issues at the sensitive receptors to the south and that the RRC in this location would split the yard operations and create functional constraints and inefficiencies. Insufficient capacity for stacking for Romaquips around the MRF would also likely cause congestion back to Ashmead Road. The salt store positioned in this location would be large and imposing on the eastern side of the Application Site.

4.13 Further amendments to the design were made and Option 4 as illustrated in Figure 4.4 below was proposed. The MRF, WTS and TWTS were consolidated into a large shared building and the RRC is located further away from sensitive receptors.

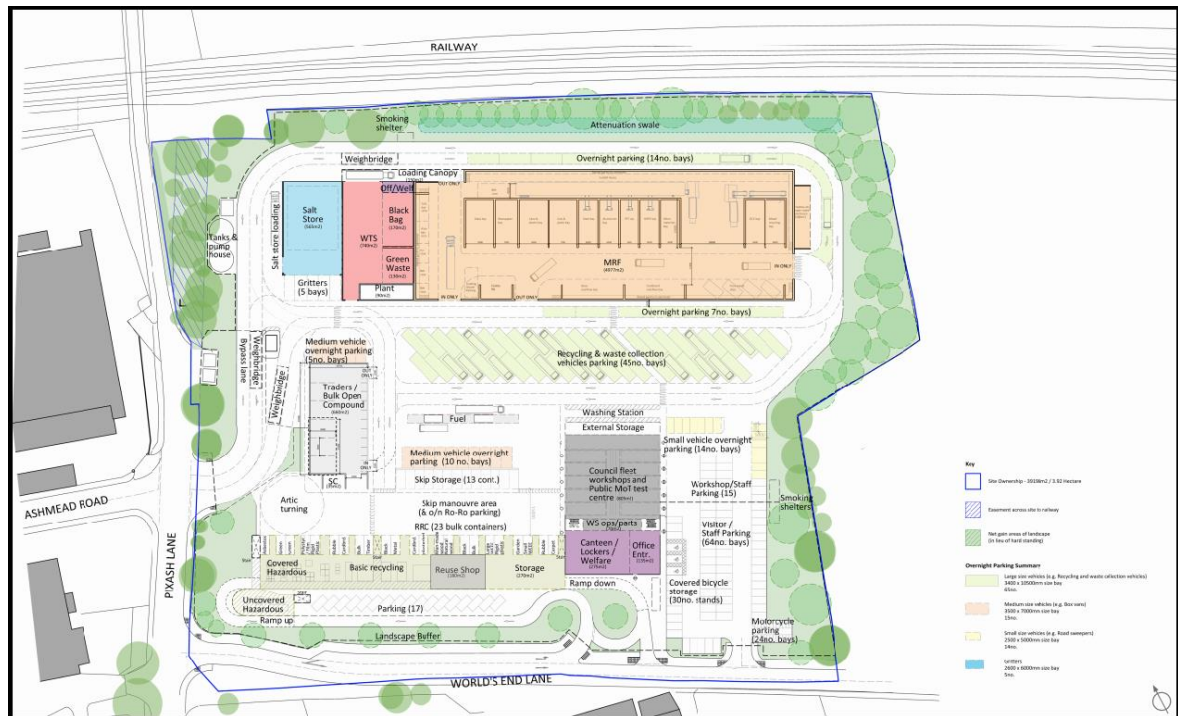
**Figure 4.4: Proposed Site Layout (Option 4)**



4.14 It was considered that the limited capacity for stacking for the RRC would likely cause congestion back to Pixash Lane and also the limited capacity for stacking for the Romaquips around the MRF and weighbridges close to the council entrance would also increase congestion. The TWTS and vehicle servicing workshop were considered to be undersized and the salt store is still large and imposing in this location due to future potential development to the east of the Application Site.

4.15 Further amendments were made to the design and the pre-application submission scheme was proposed as illustrated in Figure 4.5 below.

**Figure 4.5: Proposed Site Layout (Pre-Application Submission)**



4.16 The proposed layout was established through optimising operational flows, whilst also responding to the site constraints, opportunities and construction phasing requirements.

4.17 The pre-application submission layout showed a clear separation between public and council use. Public facilities are located to the south of the Application Site. Public and council areas will be accessed via separate entrances to help manage vehicle flows.

4.18 Substantial landscaping areas were included along the north and east boundaries, which will contribute to the bio-diversity net gain on the Application Site. The MRF, WTS and salt barns were arranged within a single structure positioned to the north of the Application Site.

4.19 The feedback received requested that the massing of the north of the Application Site be reviewed and to consider splitting into separate buildings to reduce the scale of the combined building. Additional green infrastructure across the Application Site was also requested and further details regarding accommodation of pedestrian and cycle routes around the south of the Application Site. In response to the feedback the following changes were incorporated into the final layout:

- Mass of buildings to the north of the Application Site was reduced and salt store reduced in size and relocated;





- 
- Further soft landscaping, ecological habitat and a surface water attenuation swale included in the north-east corner of the Application Site;
  - Further green infrastructure provided to the southwest and west of the Application Site;
  - Alignment of World's End Lane has been altered;

4.20 The final layout of the Proposed Development is identified in Figure 3.1, Chapter 3.

### **SUMMARY**

The Proposed Development has evolved over a number of design iterations, responding to local authority development aspirations, public engagement and taking account of the Applicant's development objectives, design aspirations and prevailing environmental constraints. The evolution of the Proposed Development has therefore responded to a variety of design and environmental issues as described above and the resultant proposals are considered to offer the most advantageous design solution.



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## **5 DEVELOPMENT PROGRAMME AND CONSTRUCTION**

5.1 The construction period is anticipated to be approximately 17 months to complete the Proposed Development in its entirety.

5.2 The construction effects of the Proposed Development would be managed through the development of a project and site-specific Construction Environmental Management Plan (CEMP).

5.3 The CEMP would outline methods for contractor and general public liaison, hours of work, methods to deal with complaints and outline management practices to control dust, traffic and access, waste, water resources, ecological and archaeological effects, ensuring a high level of control throughout the construction works.

5.4 The procedures within the CEMP would ensure the delivery of a high level of environmental control throughout the construction phase, thereby minimising the potential for adverse effects.



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## 6 TRANSPORT AND ACCESS

### Introduction

6.1 This chapter documents the assessment of the likely significant effects of the Proposed Development with respect to transport.

### Predicted Impacts

6.2 The scope of the assessment has been agreed with the Highway Authority and includes an assessment of both construction and operational phases.

### Effect during construction phase: short to medium term

6.3 At the planning stage, it is not possible to accurately identify the number of daily vehicular movements associated with the construction phase as this is dependent of the construction programme and methodology which cannot be fixed until a Contractor is appointed. It is however anticipated that that the number of vehicular movements to and from the Application Site during the construction phase will not be more than the number of vehicle movements generated by the completed development.

6.4 A Construction Traffic Management Plan (CTMP) will be implemented to manage the routing, timing and effects of construction traffic. All construction traffic will be routed to and from the Application Site via Broadmead Lane and Ashmead Road thereby avoiding use of the section of Pixash Lane between World's End Lane and the A4 Bath Road. This will ensure that HGVs only use the most appropriate routes and junctions.

6.5 The CTMP also contains time constraints for HGV movements to and from the Application Site such that there will be no such movements during the highway peak hours or at the start and end of a typical School day. Again, this seeks to minimise the impacts of the construction vehicles on the operation of the existing highway network and avoid conflicts with parents and students accessing the nearby schools.

6.6 The daily traffic flow associated with the construction traffic is considered to be relatively low and very unlikely to exceed the 30% increase (10% for a sensitive link) required to create a 'slight' magnitude of change in severance. With the CTMP in place it is considered that there will be a Neutral effect on the section of Pixash Lane between World's End Lane and Bath Road, and a Minor Adverse effect on all other links.



6.7 With the proportional increase in traffic flows associated with construction traffic being low, the magnitude of impact associated with pedestrian delay and amenity will also be low. There are existing footways and crossing facilities that will remain available for use throughout the construction. A Neutral effect will apply to the section of Pixash Lane between World's End Lane and Bath Road and a Minor Adverse effect on all other links.

6.8 Driver delay during construction will increase as a consequence of the additional vehicles accessing the Application Site. As before, the CTMP will manage the effects of this as far as possible however traffic flows will inevitably increase, albeit only slightly. A Neutral effect will apply to the section of Pixash Lane between World's End Lane and Bath Road and a Minor Adverse effect on all other links.

6.9 The daily traffic flow associated with the construction traffic will not change the degree of hazard experienced by people walking along the adjacent footways or waiting at nearby bus stops. Construction traffic will therefore have a Neutral effect on fear and intimidation. Similarly, the change in magnitude for accidents and safety is negligible leading to a Neutral effect on all links assessed.

#### **Effect during operational phase: long term**

6.10 The nature of the Proposed Development is such that there will be no significant change in traffic flows on the local road network during the traditional highway peak hours. The significance of the change in traffic magnitude on severance is therefore considered to be Minor Adverse on the section of Pixash Lane between World's End Lane and Bath Road and Neutral on all other links.

6.11 Additional traffic flows on the section of Pixash Lane between World's End Lane and Bath Road will increase and lead to a Minor Adverse effect on pedestrian delay and amenity. Elsewhere, the additional traffic flows will have a Neutral effect as the comprehensive off-site pedestrian and cycle enhancements that form part of the Proposed Development will appropriately mitigate for the increase in traffic.

6.12 Driver delay at the junction of Pixash Lane with the A4 Bath Road will increase leading to a Moderate Adverse effect on the section of Pixash Lane between World's End Lane and Bath Road. Directional signage will encourage drivers visiting the Proposed Development to route via Broadmead Lane and Ashmead Road however some use of Pixash Lane is likely to continue. A Minor Adverse effect on driver delay will apply to all other links.



6.13 There will be no change in fear and intimidation between the baseline and 'with development' scenarios on all the links considered thereby resulting in a Neutral effect. The predicted increase in 18 hour AAWT traffic associated with the Proposed Development does not result in a change to the magnitude of hazard thresholds.

6.14 It is considered that the change in traffic flows associated with the Proposed Development will not increase the risk of accidents occurring or reduce the overall highway safety of the local area. This is particularly the case as there is very little change in traffic flows during the worst case highway peak hours. A Neutral effect therefore applies to all links assessed.

### **Mitigation**

6.15 During the construction phase, details of the construction vehicle routing, hours of operation, restricted times for HGV access together with more general logistics and traffic management measures will be included in the CTMP. Compliance with this document can be secured through a suitable planning condition. As a consequence, construction related vehicle movements will access the Application Site only via the most appropriate routes and will avoid the highway peak hours and the start and end of the school day. This will ensure that the impacts of construction traffic will be minimised as far as is reasonably possible and thereby minimise the impacts on other road users and local residents.

6.16 The Proposed Development will significantly enhance the local walking and cycling infrastructure through implementation of a number of new walking and cycling facilities. These include a new 2m footway and 3m segregated cycle path beside World's End Lane, a new 4.2m shared used path beside Pixash Lane between World's End Lane and the railway bridge, a new 3m shared use path between World's End Lane and the A4 Bath Road, and, appropriate crossings to connect these new facilities both with themselves and the existing facilities in the local area.

6.17 As a result of these additional facilities, coupled with implementation of a strong Sustainable Staff Travel Plan, it is anticipated that staff and visitor movements to and from the Proposed Site will be more likely to adopt sustainable modes of travel. This in turn would lead to a reduction in the overall number of vehicle movements to and from the Proposed Development.

### **Summary of Effects**

6.18 The residual impact of the Proposed Development is considered to be Minor Adverse during the construction phase. The residual impact of the Proposed Development during the operational phase is considered to be Moderate Adverse on the section of Pixash Lane between World's End Lane and Bath Road and Minor Adverse on all other links.



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## 7 AIR QUALITY

### Introduction

7.1 This chapter reports on the effects of the Proposed Development on air quality and odour.

### Effect during construction phase: short to medium term

7.2 An assessment of the potential impacts during the construction phase has been carried out. This has shown that during this phase of the Proposed Development, releases of dust and PM<sub>10</sub> are likely to occur during site activities. Through good site practice and the implementation of suitable mitigation measures, the impact of dust and PM<sub>10</sub> releases may be effectively mitigated and the resultant impacts are considered to be negligible.

### Effect during operational phase: long term

7.3 The ADMS model has been used to predict the impact of the Proposed Development on local nitrogen dioxide (NO<sub>2</sub>) and Particulate Matter (PM<sub>10</sub> and PM<sub>2.5</sub>) concentrations. The assessment found that concentrations of these pollutants would be below the relevant objectives, set for the protection of human health, at all locations. In accordance with the criteria provided in the Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM) Planning Guidance, the operation of the Proposed Development would result in a negligible impact on air quality with regards NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> concentrations.

7.4 Dispersion modelling was also used to predict the impact of the non-fugitive emissions of odour arising from the ventilation extract flue. The results of the modelling indicate that the impact of odour arising from the flue will be insignificant.

7.5 A qualitative assessment of the likely odour effects of potential fugitive emissions arising from the Proposed Development was also undertaken. The findings of this assessment indicated that the impact of the fugitive emissions will also be insignificant.

### Mitigation

7.6 A number of mitigation measures are proposed for the construction phase to ensure potential impacts are effectively mitigated.



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7.1 The results of the assessment indicate that the impact of the exhaust emissions associated with the traffic generated by the operation of the Proposed Development on existing sensitive receptors will be negligible. Therefore, it is considered that no mitigation measures will be required during the operational phase.

7.2 A number of mitigation measures for the abatement and minimisation of odour emissions from the Application Site are inherent within the design of the Proposed Development. These include the use of an odour control plant to remove odorous compounds from the extracted air associated with the WTS and MRF; fast close roller shutter doors; air curtains across doorways and the building will be kept under negative pressure to avoid the escape of air through fugitive sources. In addition, management procedures such as regular emptying of bins, fast transfer of waste through the Site and regular cleaning of floors, vehicles and surfaces will also minimise the release of odour from the Application Site.

### **Summary of Effects**

7.3 The residual impact of the Proposed Development on local air quality is considered to be negligible during the construction phase.



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## 8 NOISE AND VIBRATION

### Introduction

8.1 This chapter has considered the potential impact of noise and vibration generated during the construction and operation of the Proposed Development and the potential impact of the Proposed Development from changes to future road traffic flows.

### Predicted Impacts

8.2 The scope of the assessment includes consideration of both construction and operational phases.

#### Effect during construction phase: short to medium term

8.3 The appraisal of noise and vibration levels associated with the construction phases of the Proposed Development shows that there is low likelihood of noise impacts associated with enabling, ground-works and super-structure activities. Any impacts that occur are likely to be minor and of a temporary and intermittent nature.

8.4 There will be no other significant noise or vibration impacts associated with the construction works.

#### Effect during operational phase: long term

8.5 Assessment of the calculated sound levels, based on the information provided and observed noise levels, indicates that the effects at identified receptors will be Negligible.

8.6 Minor impacts may be observed at residential receptors on Sundays & Bank Holidays. However, the activities form part of the current residual environment and no additional impacts are calculated to be introduced.

8.7 The assessment indicates that the Proposed Development will have a Negligible impact on the levels of road traffic generated noise on affected road links in both the short and long term.





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## **Mitigation**

8.8 Measures to limit noise emissions will be included within a CEMP which will be agreed with the local authority.

8.9 For the operational phase, proportional and adequate acoustic treatments (e.g. mechanical or passive ventilation, acoustic air bricks) will be incorporated into the Proposed Development for all properties identified as experiencing Moderate or Major effects, prior to mitigation, in order to achieve an appropriate acoustic environment.

## **Summary of Effects**

8.10 The assessment has been based on a computer noise model, informed and validated using environmental noise measurements and data provided for proposed plant items.

8.11 The impact of noise and vibration during construction of the Proposed Development has been predicted and assessed in accordance with BS 5228. Generic mitigation measures have been recommended, which when implemented are capable of ensuring that the impact of noise and vibration during the construction of the Proposed Development is adequately controlled.

8.12 An assessment has been carried out in accordance with the adopted criteria to determine the impacts of the Proposed Development at nearby residential receptors. The assessment, based on the information provided in conjunction with measurements undertaken at existing sites, indicates nearby receptors will experience Negligible significant effects during typical onsite activities.

8.13 The impact of the increase in road traffic associated with the Proposed Development has been assessed. It is calculated that Negligible impacts would be likely in the short and long term due to any increase in road traffic when considered against the likely future traffic flows.



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## 9 LANDSCAPE AND VISUAL AMENITY

### Introduction

9.1 This chapter addresses the topic of landscape character and visual amenity. It has been prepared to assess the potential effects and identify likely impacts that would arise from the Proposed Development on landscape character, existing views and visual amenity. Specific regard is given to: key views including close-range experience and longer-range positions within the Cotswolds AONB and locally recognised vistas; the potential impacts arising from proposed built elements with consideration of height, massing, colour and materials; the management or removal of existing vegetation within or bounding the Application Site; and mitigation measures including but not limited to the visual screening effects of trees and hedges.

### Predicted Impacts

9.2 The scope of the assessment has been agreed with B&NES and includes an assessment during the construction phase, and during operation of the Proposed Development at Year 1 (i.e. first year as fully operational) and also considered the longer term effects at Year 15 allowing for the maturation of new planting. A 'study area' was defined through the use of a computer-generated model to identify locations with potential publicly accessible views towards the Proposed Development and these locations were then verified through field surveys. This was then subsequently agreed with B&NES through pre-application consultation in October and November 2020. In addition it was also agreed that a number of views would be subject to 'visualisation' to illustrate the Proposed Development in context, presented as rendered images of the Proposed Development based on photography of the existing situation.

### Effect during construction phase: temporary

9.3 An assessment of the potential impacts on local landscape character during the construction phase has been carried out. This has shown that the landscape effects of the Proposed Development would range from minor to moderate adverse effects on landscape character during construction. This is due to the clearance of some existing hedgerows and trees and loss of the openness of parts of the Application Site due to the introduction of the Proposed Development. Also construction activities would be incongruous with much of the local landscape..

9.4 The assessment of visual effects concluded that during construction, visual effects are predicted to range greatly between neutral to substantial adverse and that the severity of the effect would generally reduce with increasing distance from the Application Site. Therefore



visual receptors predicted to experience substantial adverse visual effects during construction would be those in close proximity to the Application Site. These changes would be temporary and for a relatively short period only.

### **Effect during operational phase: permanent**

9.5 During the operational phase of the Proposed Development effects on landscape character would reduce to neutral for all but the immediate locality of the Application Site itself. This is mainly due to the maturation of proposed boundary planting and the strong degree to which it would contain and conceal the Proposed Development. The area in which the Proposed Development resides would experience moderate adverse effects principally due to the loss of a limited amount of open agricultural land.

9.6 Whilst the majority of visual receptors would experience neutral effects or adverse effects of neutral significance, a number of predicted adverse effects on visual amenity would persist throughout the operational phase. These are invariably close-range views where the comparative change from the baseline situation would be most obvious. It is also due to the number of locations where people would have an expectation of enjoying the view such as some residents and walkers of the local footpath network.

### **Mitigation**

9.7 Appropriate mitigation measures for the Application Site have been identified during the construction phase and operational phases. These include the retention of hedgerows and trees, extensive new semi-mature tree planting and native structure planting to aid visual containment, landscape mounding in planted areas at key boundaries to boost the height of planting, the careful arrangement and layout of new buildings and structures to minimise intrusion into the rural setting, and the use of a visually recessive colour palette on new buildings.

### **Summary of Effects**

9.8 Despite some predicted moderate to minor adverse effects on landscape character during construction and into the operational phase at year 1, which is to be expected to a degree, the completed and functioning scheme would have very little impact on landscape character by operational year 15, affecting only the area in which the Application Site resides owing chiefly to the proposed alterations to a relatively short section of World's End Lane and the development of open agricultural and domestic land.

9.9 A number of predicted adverse effects on visual amenity persist throughout the operational phase. These are invariably close-range views where the comparative change from



the baseline situation would be most obvious. This is also owing to the number of locations with visibility towards the Application Site where people would have an expectation of enjoying the view such as residents with views and walkers on the public footpath network.

9.10 Overall in terms of landscape character and visual amenity the Proposed Development would be appropriate in the landscape context. Whilst it would have a limited number of adverse impacts into the longer term for people experiencing some views at close range, in the majority of cases across the wider study area the Proposed Development would integrate well. The extensive planting proposal would have long-term benefits for the locality and the wider landscape.



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## 10 ECOLOGY AND BIODIVERSITY

### Introduction

10.1 This chapter reports on the effects of the Proposed Development on ecology and biodiversity identified through the Ecological Impact Assessment (EclA) process. This involved the of identification of important ecology features ('receptors') and the assessment of potential development-related impacts on habitats and species during both construction and operation phases.

10.2 The assessment has been informed by desk studies, habitat and protected species surveys. The assessment also included a comparison of the existing habitats and proposed habitats to ensure a 'biodiversity net gain' can be delivered.

### Predicted Impacts

10.3 Consultation has been undertaken with the Local Planning Authority and Natural England.

10.4 There are a number of ecological designations within the surrounds of the Application Site, however only one designated site, the River Avon SNCI (~450m north), was identified to be at risk of potential adverse impacts due to hydrological pollution effects, as there is a potential pollution pathway via drainage ditches.

10.5 The habitats on the Application Site are dominated by former agricultural fields now comprising grassland of negligible ecological value (site level). There are also a number of hedgerows and trees which are of low ecological value (district level) as a UK BAP habitat. The Application Site also contains several buildings including a former MOD warehouse, two residential dwellings and outbuildings, as well as infrastructure associated with the existing recycling centre; which are to be demolished.

10.6 Surveys for protected species have confirmed that the Application Site supports three low conservation bat roosts of common species of bat; low to moderate numbers of foraging and commuting bats, and good population of slow worm and low population of common lizard. The habitats also offer nesting habitat for birds as well as suitable foraging habitat for other notable species including badger, hedgehog and polecat. Potentially significant effects (without mitigation) have been identified in relation to bats, breeding birds and reptiles due to habitat losses and risk of injury during construction works.



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10.7 Low numbers of lesser and greater horseshoe bats were recorded on site. As these bats may have potential to be associated with the Bath and Bradford-on-Avon SAC, a precautionary approach with mitigation has been taken to ensure there is no significant effect on the SAC.

### **Mitigation, Compensation and Enhancement**

10.8 Mitigation, compensation and enhancement measures are therefore proposed, including application for a Protected Species Licence for the demolition works; precautionary construction working methods, supervision of certain activities and sensitive timing of works. The proposals will also implement a reptile translocation strategy prior to vegetation clearance for the construction works; replacement tree planting across the site; new species rich hedgerow planting along the north, east and south boundaries; creation of new habitats and green infrastructure; the incorporation of sustainable drainage solutions; a sensitive lighting design to retain dark corridors for horseshoe bats; and provision of new roosting, nesting and refuge opportunities for bats, birds, reptiles, hedgehog and other wildlife.

10.9 The permanent loss of habitat (grassland, hedgerows and trees) will be mitigated and compensated by the creation of new onsite habitats and creation and enhancement of compensatory offsite habitat. The combination of the habitats being provided both on and off site will result in a biodiversity net gain calculated at 17% which exceeds the 10% suggested in the draft Environment Bill.

### **Summary of Effects**

10.10 The adverse effect of the permanent loss of hedgerow habitat used by foraging/commuting bats will be mitigated for in the long term. There will be a temporary adverse impact during the construction phase, however this adverse effect is of relatively short duration, <1year, as the landscaping will involve the use of significant structural planting including stock trees of at least 7m, to reinstate and enhance boundary habitats in a timely manner.

10.11 Following mitigation, compensation and enhancement measures (including offsite habitat enhancement and creation on other sites owned by B&NES), the Proposed Development will result in an overall net gain to the ecological interest of the Application Site, with the creation of new habitats (woodland belts, replacement native species rich hedgerows, neutral grassland and a living wall), provisions for wildlife and strong green infrastructure corridors north-south and east-west.



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## **11 WATER QUALITY, HYDROLOGY & FLOOD RISK**

### **Introduction**

11.1 This chapter presents an assessment of the likely effects of the Proposed Development on water quality, hydrology and flood risk.

### **Predicted Impacts**

11.2 The scope of the assessment includes an assessment of both the construction and operational phases.

#### **Effect during construction phase: short to medium term**

11.3 The most significant predicted environmental effects during construction (if left unmanaged) would include an increase of surface water runoff, thereby increasing surface water flood risk, as well as sediment pollution and chemical pollution onsite and downstream of the Application Site.

#### **Effect during operational phase: long term**

11.4 The most significant predicted environmental impacts during operation (if left unmanaged) would again include an increase of surface water runoff leading to increased surface water flood risk, as well potential hydrocarbon pollution offsite.

### **Mitigation**

11.5 The construction phase environmental effects will be managed using measures outlined in a CEMP. Measures will include identifying appropriate storage areas for chemicals and earthworks (i.e. out of the way of surface water flow paths), appropriate temporary drainage, and sedimentation/filtration basins for runoff.

11.6 The Proposed Development will include Sustainable Drainage Systems (SuDS), as detailed within the Flood Risk Assessment and Drainage Strategy report. The drainage system will limit the rate of surface water runoff discharged to greenfield runoff rates in accordance with local policy. This runoff rate would be lower than the current surface water runoff during extreme events, thus the system would provide a slight downstream betterment in flood risk terms. The SuDS on the Application Site will include an attenuation pond, permeable paving (in the visitor car parking area) and a petrol interceptor to improve the quality surface water discharged offsite.



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### **Summary of Effects**

11.7 As a result of the package of mitigation and enhancement measures proposed as part of the Proposed Development, the residual impact on water quality, hydrology and flood risk environment, during both construction and operation, are considered to be insignificant.





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## 12 SOILS AND GEOLOGY

### Introduction

12.1 This chapter reports on the effects of the Proposed Development on the soils and geology, with particular regards to land contamination.

### Predicted Impacts

12.2 The scope of the assessment includes an assessment of both the construction and operational phases, including demolition works.

#### Effect during construction phase: short to medium term

12.3 Based on the findings of the recently completed ground investigation and interpretive reporting (Land Quality Statement (LQS)), no potentially significant ground contamination was encountered, with risks to ground workers and neighbours considered to be very low.

12.4 Similarly with regards to environmental effects, predicted effects during construction are considered to be of low risk and adequately mitigated by normal good site practice.

#### Effect during operational phase: long term

12.5 Potential impacts associated with the long term occupation of the Application Site for its proposed use are considered to be negligible to both human health and wider environmental receptors..

### Mitigation

12.6 It is considered industry standard Health and Safety precautions, such as Personal Protective Equipment (PPE) for construction workers, damping down of areas to reduce dust generation, due care and precautions when working in confined spaces for construction sites where potential contamination may exist (of the levels identified), will mitigate potential risks to human health receptors.

12.7 Similarly, potential construction phase environmental effects would be adequately managed by implementation of good site practice with regards to mitigating potential environmental impacts such as dust, odours and potential contamination derived from incidents such as spills. Measures will include identifying appropriate storage areas for chemicals and



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earthworks (i.e. out of the way of surface water flow paths), appropriate temporary drainage, and adequate dust generation mitigation.

### **Summary of Effects**

12.8 As a result of the mitigation measures proposed, the residual impacts of ground contamination issues are considered to be insignificant.



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## 13 ARCHAEOLOGY AND HERITAGE

13.1 This chapter reports on the effects of the Proposed Development on heritage assets which is taken here to include the setting of nearby designated heritage assets, archaeological remains and other non-designated heritage assets and the historic landscape.

### **Predicted Effects**

13.2 There are two potentially significant effects on heritage assets during the construction and operational phases which are as follows:

- change to the settings of designated heritage assets and non-designated built heritage assets in both the construction and operational phases; and
- damage or destruction of archaeological remains in the construction phase.

### **Effect during construction phase: permanent**

13.3 The Proposed Development will, in the construction phase, result in ground reduction which could potentially destroy any unrecorded archaeological remains, notably within the fields to the east of the recycling centre and former MoD warehouse. However, no significant archaeological remains have been found in a geophysical survey carried out directly to the east and south-east of the Application Site and also partly within it, although the results of the survey have not been tested by trial trenching. In addition no significant archaeological remains were found in geophysical surveys and later trial trenching carried out over large areas to the north-west and south-west apart from an undated and highly disturbed human burial found approximately 400m to the north-west. Therefore, the potential of the Application Site to contain significant archaeological remains is considered to be low and the overall effect on archaeological significance in the construction phase is considered to be neutral or minor adverse.

### **Effect during construction phase (short and medium term) and operational phase (long term)**

13.4 During both the construction and operational phases there will be a change to the setting of the grade II listed Pixash Lane Bridge in that the change of land use within the existing fields in the central and eastern parts of the Application Site and the redevelopment of the existing recycling centre will change the setting and view looking south-east from the bridge. A belt of trees and further planting will also be created along the northern site boundary in order to screen the northern elevation of the proposed development.



13.5 The main attributes of the bridge are that it was designed by Brunel, it is an important survival from the earliest phase of railway building and the picturesque use of Tudor Gothic design which raises the quality of the bridge. None of these particular attributes will be affected by the Proposed Development. In addition, the setting of the bridge is inextricably associated with the railway line and this particular aspect of its setting will again be unaffected. The significance of the bridge is perhaps best appreciated in views from Pixash Lane towards and over the bridge and the Proposed Development will not change these views. The existing recycling facility is already visible from the bridge as is the industrial estate to the south-west and the Proposed Development should be seen in the context of existing built development between the railway line and the A4 to the south.

13.6 Therefore, although the Proposed Development will result in a visual and spatial change to the south-eastern setting of Pixash Lane Bridge, it is predicted that this will not affect its significance as a heritage asset. The overall effect on the significance of Pixash Lane Bridge in both the construction and operational phases is therefore predicted to be neutral.

13.7 The change of land use within the existing fields in the central and eastern parts of the Application Site and the redevelopment of the existing recycling centre will change the wider setting of the grade II listed Clay Lane Bridge. The main attributes of the bridge are virtually identical to Pixash Lane Bridge and again none of these will be affected by the Proposed Development. The completed development may be visible at a distance of 500m from the bridge but any such visual change will not affect the significance of the bridge as a heritage asset. The overall effect on the significance of Clay Lane Bridge in both the construction and operational phases is therefore predicted to be neutral.

13.8 The Application Site has no existing visual or spatial relationship with other listed buildings within 1km and the Proposed Development will not change this situation. The overall effect on the significance of other grade II listed buildings within 1km of the Application Site in both the construction and operational phases is therefore predicted to be neutral.

13.9 The Application Site contains three buildings, namely the former MoD storage warehouse in the south-western corner and a bungalow and Downfield Farm which are both located off Worlds End Lane. Given that these buildings have neutral heritage significance their demolition will not result in the loss of noteworthy heritage assets and the overall effect on heritage significance in both the construction and operational phases is therefore predicted to be neutral.

13.10 World's End Lane may have medieval or later origins as a trackway leading through the open fields to the east of Keynsham or alternatively was created during field enclosure and



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survives as a reminder of the past agricultural use of the area. As part of the Proposed Development the road will be widened to a standard two-way road for the full extent of the width of the Application Site with a segregated pedestrian and cycle route. Although the road will be widened, the alignment of the road will be preserved and the overall effect on its significance in both the construction and operational phases is predicted to be neutral.

### **Mitigation**

13.11 Due to the neutral effect of the Proposed Development upon listed buildings within 1km of the Application Site no mitigation measures are proposed and there will be no significant residual effects. However, some landscape buffering is proposed along the northern boundary of the Application Site which will partly screen views of the Proposed Development from the grade II listed Pixash Lane Bridge.

13.12 The Application Site is considered to have low archaeological potential and, pending consultation with the Archaeological Advisor to Bath & North East Somerset Council, no mitigation is proposed.

### **Summary of Effects**

13.13 The residual impact of the Proposed Development is considered to be neutral during both the construction and operational phases, with a neutral or minor adverse effect on archaeological remains during the construction phase.



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## 14 CLIMATE CHANGE AND GREENHOUSE GASES

### Introduction

14.1 A Climate Change assessment has been undertaken which includes:

- An assessment of the likely significant impacts of climate change on the resilience of the Proposed Development during operation in relation to occupant comfort; and
- An assessment of the likely significant impacts of the Proposed Development on the environment with regard to climate change through the direct and indirect release of greenhouse gas emissions during operation..

### Predicted Impacts

14.2 The scope of the assessment has been agreed with the Local Authority and includes an assessment of the operational phase of the buildings life after completion. It is line with the Local Authority Sustainability Checklist which forms part of Planning Policy and is a broad and detailed assessment of the buildings operation.

### Effect during operational phase: long term

14.3 The Climate Change Assessment carried out a recognised method for testing the resilience of the building to provide comfortable conditions for its occupants both under the current 2020 climate, and the future 2050 climate, as required by the Planning Policy methodology.

14.4 During the operational phase, the Climate Change Assessment has identified no adverse impacts due to increased environmental conditions and temperatures to 2050, with no impact on comfort. This is due to the design of the façade and fabric of the building, together with the resilience of the proposed environmental controls installed in the building.

14.5 During the operational phase, the emissions from operational energy will be offset partly through a combination of efficiency fabric and the use of a variety of renewable technologies resulting in net zero regulated and unregulated energy emissions for the occupied buildings, net zero carbon for the Proposed Development excluding the processing plant. When the processing plant is taken into account, the extensive PV array will offset 50% of the whole operational carbon emissions.



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## **Mitigation and adaptation**

14.6 The Proposed Development design includes a number of measures that will reduce overheating in the occupied building. Despite these adaptation measures, due to the presence of scientific unknowns within the climate system, residual effects cannot be defined.

14.7 In addition, the Proposed Development will incorporate a variety of measures to reduce greenhouse gas emissions during the construction and operational phases of the Proposed Development including:

- Implementation of a Site Waste Management Plan, Travel Plan and Construction Logistics Plan during construction;
- Minimising operational transport emissions through the Travel Plan, providing electric vehicle charging points, provision of cycle lanes and secure cycle storage; and
- The implementation of a fabric first approach, passive design measures and a variety of renewable technologies including heatpumps and photovoltaic panels to offset the regulated and unregulated energy demand and CO<sub>2</sub> emissions to achieve net zero carbon for the buildings, and 50% reduction for the whole development including the operation of the waste processing plant.
- The primary fuel for the whole site is electricity, and this will allow the Proposed Development to benefit from the reduction in grid electricity carbon emissions throughout the life of the operation.

## **Summary of Effects**

14.8 Overall the adaptation measures identified at this planning stage are considered best practice in order to minimise the residual impact of climate change risks on the Proposed Development.

14.9 The greenhouse gas emissions of the Proposed Development will be minimised although some significant effects still remain for construction and operational transport. The operational transport emissions are likely to reduce during the lifespan of the Proposed Development due to the increased uptake of electrical vehicles, including the change of the waste fleet to a combination of electric and hydrogen fuelled vehicles. The construction mitigation measures are considered to be appropriate in line with Planning Policy, with the operational measures going beyond best practice with regards to reducing greenhouse gas emissions.