

# SIW PRE-COMMENCEMENT CONDITIONS

EAST WICK &  
SWEETWATER

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# 1 INTRODUCTION

## A. PLANNING CONTEXT AND HISTORY

- 1.1 The Legacy Communities Scheme (LCS) planning permission (11/90621/OUTDA, as varied by 14/00036/VAR) authorises the comprehensive, phased, mixed-use redevelopment of the Queen Elizabeth Olympic Park. The scheme covers 64ha and provides for up to 759,900sqm floorspace, including 641,817sqm residential development, across a series of new neighbourhoods. The LCS is subdivided into a series of Planning Delivery Zones (PDZs), which correspond to the new neighbourhoods planned within the Queen Elizabeth Olympic Park. East Wick and Sweetwater are located in PDZs 5 and 4 respectively.
- 1.2 To support this scale of new development, the permission granted approval for a range of infrastructure, including new bridges and highways that will provide connections between the Queen Elizabeth Olympic Park and the wider area. Planning permission was granted for:
  - Bridge H14: A new all-modes bridge (including a vehicular route) spanning the River Lee Navigation connecting Sweetwater to Roach Road/Monier Road in Fish Island (replacing the existing pedestrian and cycle bridge at the same location).
  - Bridge H16: A new pedestrian and cycle bridge connecting Sweetwater to Stour Road.
  - A new North-South Highway Link between PDZ4 and PDZ5 linking Waterden Road, Carpenter's Road and White Post Lane.
  - Realignment of the Copper Street and Copper Box access road junction including utility diversion works.
- 1.3 The LCS planning permission required further details to be submitted to PPDT for approval in respect of Bridge H14, Bridge H16 and the North-South Highway Link. Reserved matters applications were approved for H14 (ref: 16/0587/REM) and H16 (16/0588/REM) in April 2017. An approval of detail application for the North-South Highway Link (ref: 16/00593/AOD) was also approved in April 2017.

## B. PURPOSE OF THIS DOCUMENT

- 1.4 This project-specific Demolition and Construction Site Waste Management Plan (DCWMP) has been prepared for the East Wick & Sweetwater Specified Infrastructure Works and is submitted in accordance with conditions LCS0.61 and LCS0.78 of the LCS outline planning permission. The location of the Specified Infrastructure Works is shown below in Figures 1.1a and 1.1b.
- 1.5 LCS0.61 is reproduced below:
 

*“The Development shall not be commenced until a zonal construction waste management plan (ZCWMP) which shall be in accordance with the Site Wide construction waste management plan (as approved pursuant to Condition LCS0.60) has been submitted to and approved by the Local Planning Authority.”*
- 1.6 LCS0.78 is reproduced below:
 

*“No Development shall be Commenced in any PDZ until a zonal demolition and waste management strategy for that PDZ has been submitted to and approved by the Local Planning Authority. Each zonal demolition and waste management strategy shall be”:*

  - *in accordance with the Site Wide demolition and Site waste management strategy approved pursuant to Condition LCS0.77;*
  - *in accordance with the code of construction practice;*
  - *prepared in consultation with the Environment Agency; and*
  - *substantially in accordance with site waste management planning policies current at the date of its submission.*
- 1.7 A site wide (i.e. LCS-wide) demolition and waste management plan and construction waste management plan have been approved under application ref: 16/00569/AOD. This DCWMP has been prepared on a project-specific rather than zonal basis, and relates only to the Specified Infrastructure Works. It has been prepared in accordance with the approved site wide demolition and waste management plan and construction waste management plan. This document is intended to partially discharge LCS0.61 and LCS0.78 insofar as they relate to the Specified Infrastructure Works. Zonal documents for PDZ4 and PDZ5 will be submitted for approval separately.
- 1.8 This plan considers options to reduce and manage all waste arising from the Specified Infrastructure Works. This DCWMP is compliant with the LCS Site Wide Code of Construction Practice (CoCP) and the LCS Demolition and Construction Waste Management Plan approved in May 2017 (LPA Ref: 16/00569/AOD). It details the predicted waste arising and waste management strategies for all waste produced during the construction activities.

## **C. KEY DATES**

- 1.9 Works are expected to commence shortly after approval of the pre-commencement conditions, with the SIW works completing in December 2018.
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## **D. ROLES AND RESPONSIBILITIES**

### **LLDC Delivery Partner - East Wick and Sweetwater Projects**

1.10 The East Wick and Sweetwater Projects Ltd will be responsible for:

- Ensuring legal compliance of Balfour Beatty when undertaking delivery of Specified Infrastructure Works. The legal requirements cited in this document are cited for information and will be superseded by updates to legislation from time to time. To reflect this, the East Wick and Sweetwater Projects Ltd has undertaken a commitment to update this document every three years; however it is the responsibility of the DP to ensure that activities by Balfour Beatty on site are legally compliant;
- Implementing the measures identified within the LCS site-wide EMP, this document and other TEMPs are the responsibility of the East Wick and Sweetwater Projects Ltd including the preparation of PEMP and Project TEMPs;
- Providing monitoring information to the LLDC as set out in the monitoring schedule in this document and the requirements of other TEMPs; and
- Appointing an Environmental Manager.

### **The Contractor – Balfour Beatty**

1.11 Balfour Beatty are the principal contractor appointed by East Wick and Sweetwater Projects Ltd, the Delivery Partner. The principal contractor will be responsible for the day to day management of construction activities and implementation of measures that are identified within this PEMP and Project TEMPs. This will include the management and coordination of subcontractors.

### **Project Environmental Manager – Balfour Beatty**

1.12 The Project Environmental Manager has been appointed by the Delivery Partner / Contractor. The Project Environmental Manager has specific responsibility for ensuring that the Contractor meets the obligations set out in the CoCP and PEMP.

1.13 For the DCWMP to be successfully implemented, the key roles and responsibilities for waste management need to be clearly defined, documented and communicated.

1.14 The Contractor is responsible for establishing and maintaining the project CWMP and for making available the necessary resources to ensure that the DCWMP is fully implemented. The key roles have been identified and are defined as follows:

### **Project Manager**

- Overall responsibility for the implementation and ongoing monitoring of the DCWMP;
- Responsibility to ensure suitable resources are made available during the construction phase within the construction teams in relation to working towards the requirements of the DCWMP;
- Ensures the project team is aware of their responsibilities and that these are enacted on site;
- Responsible for estimating total volumes of waste expected to be generated by the project;
- Responsible for the setting of targets relating to re-use, recycling, and disposal of wastes on and off site;
- Responsible for identifying key DCWMP related issues to sub-contractors at tender stage, including information required to complete the site waste matrix; and
- Responsibility for the production and issue of the site waste matrix to sites;
- Responsibility for the collation of weekly data sheets/ transfer notes and ongoing review of the SWMP relating to waste management and the input of data into the nominated monitoring tool; and
- Responsible for the sign off of the project once completed with the Project Director and production of a closure report.

### **Site Manager**

- Responsible for on-site operations and the assignment of resources on site to meet the requirements of the plan;
- Responsible for signing WTNs and assigning responsibility for this to nominated persons on site in his absence;

- Responsible for arranging for all waste transfer notes/ weekly summary sheets to be sent to the Project Manager on a weekly basis; and
- Responsible for the identification of a suitable waste champion who will deal with the ongoing monitoring and enforcement of the DCWMP at an operational level.

#### **CDM Coordinator**

- Responsibility to liaise directly with Project Director and Project Manager regarding health and safety related issues and the DCWMP.

#### **Materials Engineer**

- Responsible for the effective communication of the DCWMP to his operatives and ensures enforcement of the SWMP at an operational level, e.g. identifying areas for improvements where segregation is not being followed; and
- Responsible for the delivery of relevant toolbox talks where necessary.
- Responsible for assigning waste carriers and legally compliant disposal operations on certain sites.

#### **Site Supervisors**

1.15 Site Supervisors are responsible for coordinating the implementation and the enforcement of the PEMP. The Site Supervisors ensure that the contractors and site personnel are complying with prescribed protocols for protecting the environment.

#### **Site Personal**

1.16 All site personnel are to be made aware of the need to protect the environment. This awareness is achieved through site inductions, toolbox talks and briefings prior to the start of any new activity or work in new area.

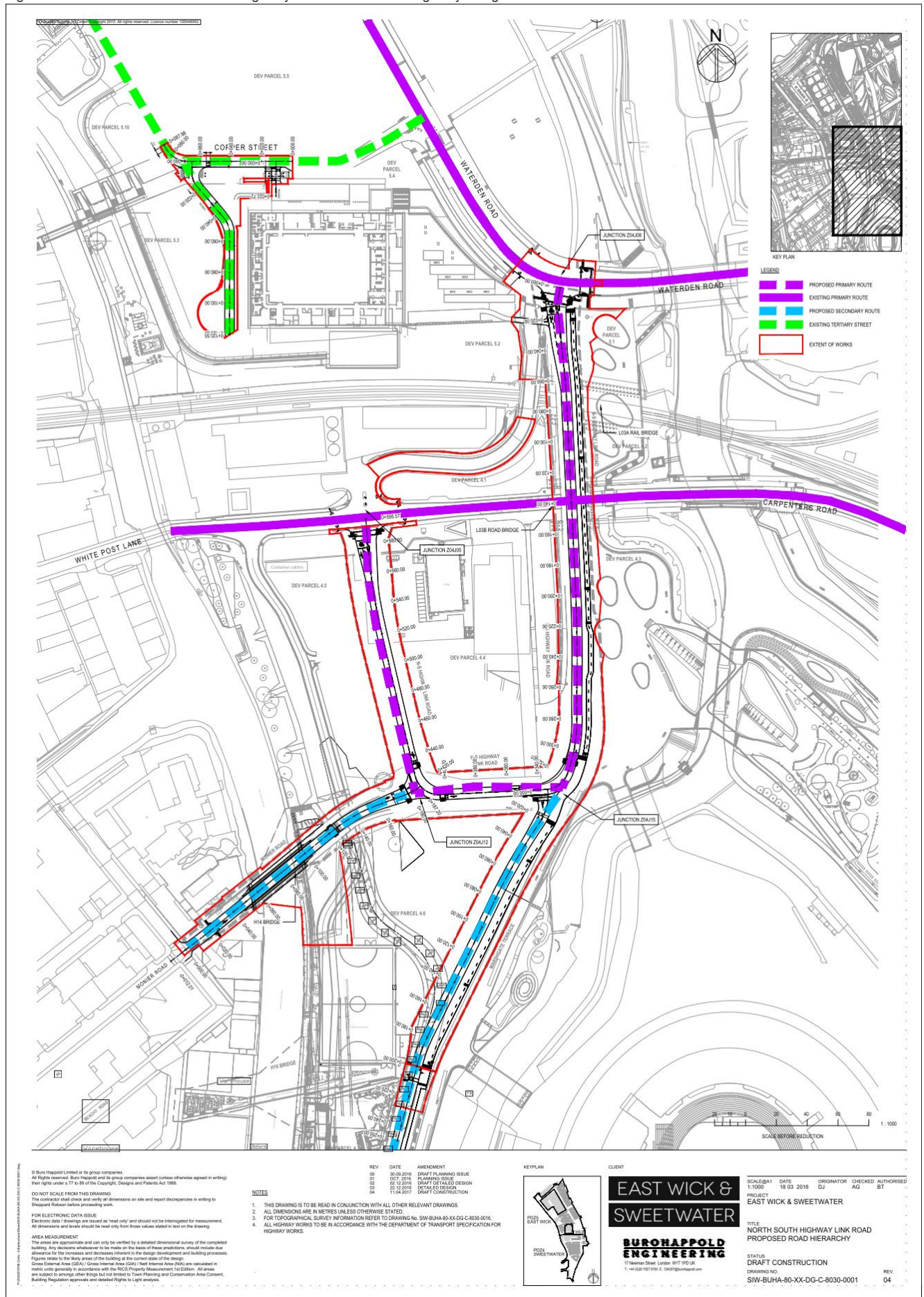
#### **Consultation**

1.17 The DCWMP has been prepared in consultation with:

- Balfour Beatty Health and Safety Team;
- LLDC Remediation Forum



Figure 1.1a: Extent of the North South Highway Works and the 5.3 Highway realignment







## 2 LEGAL REQUIREMENTS

### A. SITE WASTE MANAGEMENT PLAN (SWMP) REGULATIONS 2008

- 2.1 This DCWMP has been developed in line with the requirements of the SWMP Regulations 2008 (enacting Clause 54 of the Clean Neighbourhoods and Environment Act 2005) which was repealed on the 1 December 2013. The Contractor has adopted the framework from the SWMP regulations but acknowledges that the legislation is repealed. The Contractor will amend the CWMP to ensure full compliance with any future legislation. .

### B. DUTY OF CARE

- 2.2 The Waste (England and Wales) Regulations 2011 (as amended) state that anyone in possession of waste must demonstrate a duty of care in waste handling, transfer and disposal including:
- Prevent illegal disposal, treatment or storage of waste;
  - Prevent the escape of wastes;
  - Ensure transfer to an authorised person;
  - Provide an accurate written description of the waste in order to facilitate the compliance of others with the Duty and avoidance of the offences under Section 33 of the Environmental Protection Act 1990 (Ref 5): via a compulsory system of Controlled Waste Transfer Notes which controls the transfer of waste between parties; and
  - All those subject to the Duty of Care should confirm conformance by others “in the chain” to the requirements of the Duty to an extent which is “reasonable in the circumstances”. All breaches of the Duty should be reported to the Environment Agency

### C. HAZARDOUS WASTE (ENGLAND AND WALES) REGULATIONS 2005 (AS AMENDED)

- 2.3 Balfour Beatty will use a consignment note to document the disposal of all Hazardous Waste, as required by these regulations. As of April 2016, sites are no longer required to register the site as a hazardous waste producer.

### D. REGISTRATION OF WASTE CARRIERS

- 2.4 Under the Pollution Prevention and Control Act 1999, it is a criminal offence for anyone not registered as a carrier, to transport Controlled Waste. The Waste (England and Wales) Regulations 2011 (as amended) detail a system for the registration of carriers and also specifies procedures for the seizure and disposal of vehicles used for illegal waste disposal.

### E. ENVIRONMENTAL PERMITS AND EXEMPTIONS

- 2.5 The Environmental Permitting (England and Wales) Regulations 2016 require sites where waste is processed, treated or disposed of to hold a valid Environmental Permit issued by the Environment Agency. The Regulations also include a schedule of activities that are exempt from the requirements of permitting, most of which must be registered with the Environment Agency.
- 2.6 However, a permit is not required where waste is stored on the site where it is produced prior to off-site disposal and as such an exemption may need to be registered with the Environment Agency (EA). Other exemptions exist for wastes stored other than at the premises where it was provided.
- 2.7 Where required, Balfour Beatty will obtain the necessary permits/exemptions.

### F. WASTE REGULATIONS 2011 (AS AMENDED)

- 2.8 The EU Waste Framework Directive (EU Directive 2008/98/E) provides the legislative framework for the collection, transport, recovery and disposal of waste, and includes a common definition of waste. The EU legislation is implemented through the Waste (England and Wales) Regulations 2011 (which were most recently amended in 2016 and came into force in January 2017).
- 2.9 This ZCWMP has been developed in line with the requirements of the Waste Regulations (England and Wales) 2011 (as amended).
- 2.10 Recent revisions to the Waste Framework Directive have been implemented in England and Wales through the Waste (England and Wales) Regulations 2011 (amended most recently in 2016 and came into force in January 2017). In summary, the regulations:
- Require businesses to confirm that they have applied the waste management hierarchy when transferring waste and to include a declaration on their waste transfer note (WTN) or consignment note;



- Require a new permit to apply the waste hierarchy and where appropriate a condition relating to mixing of hazardous waste;
- Introduce a two-tier system for waste carrier and broker registration, which includes those who carry their own waste and introduces a new concept of a waste dealer;
- Make amendments to hazardous waste controls and definition; and
- Exclude some categories of waste from waste controls, notably animal by-products; whilst including a small number of radioactive waste materials.

### 3 PROJECT WASTE POLICY

- 3.1 Sections 4 and 5 of this DCWMP identify the wastes that may be produced on this project and its associated disposal routes. To ensure these wastes are dealt with in the most appropriate manner, the following **MUST** be implemented on the Specified Infrastructure Works site by all Balfour Beatty personnel and contractors working for or on their behalf:
- All materials on site are to be handled efficiently:
    - A nominated person needs to ensure ordering is monitored closely, preventing over ordering as this can result in waste production;
    - Ensure dedicated storage yard/ area provided and that materials susceptible to water damage, e.g. cement bags/ plasterboard, are stored within a weatherproof area;
    - Ensure all materials stacked/ stored in a manner that will not result in damage; and
    - Ensure stores are locked when not in use to prevent misuse or vandalism.
  - Provision of suitable containers for the collection and storage of identified waste streams to be provided across the site;
  - Dedicated waste storage area with suitable hardstanding for containers to be established, e.g. Front End/ Rear End Loaders, in a secure location, preferably set back from public access to prevent fly tipping. Area to be suitably signed, with clearly identified segregation for hazardous wastes and marked on both the site plan and the traffic management plan;
  - Provision for hazardous wastes to be made as necessary, timescales of which will be dictated by the likelihood of generation, for example:
    - Used aerosols throughout the lifetime of the project; store in segregated and labelled container e.g. empty 205L drum/ wheelie bin;
    - Asbestos containing materials in residual structures;
    - Contaminated arisings encountered during remediation of contaminated land for Brownfield developments or hot spot removal exercises; and
    - Contaminated ground due to poor refuelling practices/ accident on site.
  - All waste transfers from site **MUST** be dealt with in strict accordance with the Waste (England and Wales) Regulations 2011 (as per section 34 of the Environmental Protection Act 1990 (Ref 5)). This will be enforced on by Balfour Beatty and its associated contractors is assured, see Section 6 detailing transfer documentation requirements; and

## 4 DEMOLITION WASTE MANAGEMENT STRATEGY

- 4.1 This section of the document details the waste management strategy for demolition waste for the Specified Infrastructure Works site.
- 4.2 Balfour Beatty will document all waste streams generated on site. This will be done using the Balfour Beatty Sustainability Portal.

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### A. WASTE HIERARCHY

- 4.3 The “waste hierarchy” ranks waste management options according to what is best for the environment. It gives top priority to preventing waste in the first instance. When waste is created, it gives priority to preparing it for re-use, then recycling, then disposal with energy recovery, and last of all disposal (e.g. landfill).
- 4.4 The waste hierarchy is implemented via the European Union (EU) Waste Framework Directive. It is a legal requirement to apply the waste hierarchy in the EU (implemented in England via the Waste (England and Wales) Regulations 2011). In addition, on this development preference will be given to utilising excavation waste within the development rather than exporting off site. Use of the WRAP Quality Protocol for the Production of Aggregates from Inert Waste and the CL:AIRE (Contaminated Land Application in Real Environments) Code of Practice (CoCP) permit the materials produced to be classified outside the Waste Framework to achieve the preferred reuse of materials. Where this is not possible an environmental permit exemption or environmental permit may be required.

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### B. TARGETS AND KEY PERFORMANCE INDICATORS FOR DEMOLITION WORKS

- 4.5 Where Balfour Beatty completes any demolition works, these works shall be completed in accordance with the minimum targets for demolition waste arisings. These targets have been set to assist in fulfilling the requirements of conditions LCS0.81-0.84 of the outline planning permission for the wider development and are reproduced below:
- All efforts will be made to minimise the overall amount of solid and demolition waste to be disposed off-site;
  - A minimum recycling of demolition materials will be:
    - 20% by value of construction materials from a re-used or recycled demolition waste source incorporated in the works (LCS0.83);
    - 25% by weight of recycled aggregate for permanent works (LCS0.84); and
    - 90% of waste (by weight) arising from demolition works to be re-used or recycled (LCS0.82).
  - Balfour Beatty is required to undertake a pre-demolition visual assessment of the recyclable content to decide on suitable demolition techniques to recover as much material as reasonably practical;
  - Construction and demolition wastes shall be stored on site pending re-use, recycling or collection for management off site;
  - Balfour Beatty is required to negotiate the waste and recycling services required (including size and number of storage containers and collection frequency) with their private waste management.
  - Diversion of 95% of demolition and construction waste from landfill through reuse, recycling and recovery (LCS0.81 and the Legacy Corporation’s Sustainability Target).
  - Balfour Beatty is required to prepare and implement SWMPs, in accordance with the CoCP for the project as well as the Site Waste Management Regulations 2008.

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### C. WASTE FORECAST FROM DEMOLITION ACTIVITIES

- 4.6 For the Specified Infrastructure Works Project Balfour Beatty have estimated in the table below quantities of waste which will be produced from the demolition activities. The volumes estimated below are based on the total volume of material expected to be generated during demolition of Vittoria Wharf and the existing bridge H14.
- 4.7 Balfour Beatty expect to undertake the following demolition activities:
- Partial demolition of Vittoria Wharf to create space to accommodate the bridge H16 western approach structure
  - Complete demolition of the existing H14 pedestrian and cycle bridge prior to replacement with new H14 all modes bridge
  - The existing H14 bridge deck will be set aside for potential reuse by the LLDC elsewhere on the park

- 4.8 This SWMP shall be reviewed on a monthly basis in accordance with the approved LCS Construction Waste Management Plan (CWMP) requirements. During the review procedure the actual waste quantities produced shall be updated within the SWMP, including the treatment method the waste underwent. As the East Wick & Sweetwater Specified Infrastructure Works progresses, details of the estimated waste arisings shall be reviewed and the actual quantities of waste arisings shall be reported. Monthly reporting will be undertaken as per the LCS DCWMP requirements.

Type of Material	Estimated Volume (tonnes)	Predicted Treatment Method (tonnes)		
		Re-use	Recycle	Dispose
• Brick	• 500	•	• 500	•
• Concrete (17 01 01)	• 800	• 400	• 400	•
• Metals (17 04 07)	• 100	•	• 100	•
• Timber (17 02 01)	• 100	•	• 100	•
• Asphalt and tar (17 03 02)	• 1000	• 200	• 800	•
• Hazardous (17 09 03)	• 50	•	•	• 50
• Other (20 03 01)	• 200	•	• 200	•
• Mixed construction waste (17 09 04)	• 250	•	• 250	•
• <b>TOTAL</b>	• <b>3000</b>	• <b>600</b>	• <b>2350</b>	• <b>50</b>
• <b>% TOTALS</b>	• <b>100%</b>	• <b>20%</b>	• <b>78.3%</b>	• <b>1.7%</b>

**Table 4.1: Waste Removal Forecast from demolition activities**

## **D. WASTE STORAGE AND TRANSPORTATION**

- 4.9 Space for the storage of demolition waste arisings will be provided within Balfour Beatty's work area. The space required will be determined from the waste forecast from demolition activities, and according to the wastes potential for re-use, recycling or disposal. Residual waste that cannot be utilised on site shall be sent off site for re- use/recycling, or disposed at a suitably permitted facility. In line with the planning policies and the CoCP, efforts shall be made to avoid transportation of waste by roads and use of sustainable transport such as by water and rail links will be encouraged. Any necessary exemptions from environmental permitting in respect of the movement and storage of waste will be obtained and registered with the EA.
- 4.10 Waste storage containers with appropriate signage will be used to store waste. Segregated waste containers will include inert timber and mixed metal. When full, skips shall be collected by a registered waste carrier. Balfour Beatty in conjunction with their waste broker shall determine the size and number of storage containers and collection frequency required for the development.
- 4.11 Storage, handling, use, and disposal of any potentially hazardous materials shall be in accordance with the relevant statutory provisions and Health and Safety Executive (HSE) Codes of Practice and Guidance notes.

## **E. WASTE MANAGEMENT FACILITIES**

- 4.12 Balfour Beatty waste generating activities required as a result of demolition works including disposal of waste shall be undertaken in a manner that complies with 'The Control of dust and emissions for construction and demolition'. The document includes guidance on the appropriate removal of waste materials from site and its disposal at a licensed facility.
- 4.13 No waste will be burnt on site to ensure there are no unnecessary emissions to air. In the event that waste is fly-tipped on to the site, Balfour Beatty will ensure it fulfils its Duty of Care to handle the waste safely and to dispose of it correctly even though Balfour Beatty is not the producer of the waste.

## **F. HAZARDOUS WASTE MANAGEMENT**

- 4.14 Balfour Beatty will comply with the relevant requirements of the ODA Asbestos Management Plan. Should any of these materials be discovered during the pre-demolition audit, the location and quantity on site will be managed appropriately. A registered contractor shall deal with all materials. Should such materials only be identified during the demolition work all activity shall cease and Balfour Beatty Site Manager shall be notified. The Contractor would then make arrangements for the sampling, analysis and disposal of asbestos and other hazardous materials by a suitable qualified and registered contractor.



## **G. DEMOLITION MATERIALS STOCKPILING**

4.15 Materials resulting from demolition shall be stored on site pending reuse, recycling or disposal. Stockpiles will be maintained safely in fenced locations away from sensitive receptors. All stockpiled materials shall be managed in accordance with the Balfour Beatty management procedures, which are:

- Use signs to identify the stockpiled material
- Stockpiling of contaminated materials on an impermeable surface in a bunded area at least 20m from a watercourse
- Covering stockpiles of contaminated materials to prevent runoff. All contaminated runoff should be collected and disposal arranged via the Balfour Beatty materials engineer
- Cover / damp down stockpiles in warm weather to prevent nuisance dust;
- Minimise excessive stockpiling by phasing works and where possible have just in-time deliveries;
- Stockpile height should be less than the height of the site boundary hoarding to reduce exposure to wind;
- Silt fences may be placed at the base of unseeded stockpiles, particularly where run off is likely to enter watercourses; and Locate stockpiles away from watercourses, ditches and drains and on level ground.

## 5 CONSTRUCTION WASTE MANAGEMENT STRATEGY

### A. INTRODUCTION

- 5.1 This section of the document details the waste management strategy for construction waste for the Specified Infrastructure Works site.
- 5.2 Balfour Beatty will document all waste streams generated on site. This will be done using the Balfour Beatty Sustainability Portal.

### B. WASTE HIERARCHY

- 5.3 The “waste hierarchy” ranks waste management options according to what is best for the environment. It gives top priority to preventing waste in the first instance. When waste is created, it gives priority to preparing it for re-use, then recycling, then disposal with energy recovery, and last of all disposal (e.g. landfill).
- 5.4 The waste hierarchy is implemented via the European Union (EU) Waste Framework Directive. It is a legal requirement to apply the waste hierarchy in the EU (implemented in England via the Waste (England and Wales) Regulations 2011). In addition, on this development preference will be given to utilising excavation waste within the development through the Asset Disposal Agency where required rather than exporting off site. Use of the WRAP Quality Protocol for the Production of Aggregates from Inert Waste and the CL:AIRE (Contaminated Land Application in Real Environments) Code of Practice (CoCP) permit the materials produced to be classified outside the Waste Framework. To achieving the preferred reuse of materials. Where this is not possible an environmental permit exemption or environmental permit may be required.

### C. TARGETS AND KEY PERFORMANCE INDICATORS (KPIs) FOR CONSTRUCTION WORKS

- 5.5 Balfour Beatty will complete the construction works within the minimum targets for waste arisings. These targets have been set to assist in fulfilling the requirements of conditions LCS0 81-84 of the outline planning permission for the wider development and are reproduced below:
  - All efforts will be made to minimise the overall amount of waste to be disposed off-site and the construction of the development shall achieve a 95% reduction in total construction, demolition and excavation waste sent to landfill by way of reuse, recycling and recovery;
  - A minimum recycling of construction materials, which will either be materials sourced from site or imported, will be:
    - 20% by value of construction materials will come from re-used or recycled sources and incorporated into the works (LCS0.83);
    - 25% by weight of recycled aggregate for permanent works (LSC0.84).
  - Wastes shall be stored on site pending re-use, recycling or collection for management off site;
  - Balfour Beatty is required to negotiate the waste and recycling services required (including size and number of storage containers and collection frequency) with their private waste management contractor.
  - Balfour Beatty is required to prepare and implement SWMPs, in accordance with the site wide CoCP for the project as well as best practice principles set out in the former Site Waste Management Regulations 2008 and associated WRAP best practice guidance.
  - The project target is to re-use or recycle 90% of waste (by weight) arising from demolition works, as stated in the site-wide Demolition and Site Waste Management Strategy (LCS-GLB-CON-APP-CWMP-001-V03 ).

### D. WASTE FORECAST FROM CONSTRUCTION ACTIVITIES: SPECIFIED INFRASTRUCTURE WORKS

- 5.6 For the Specified Infrastructure Works Project, Balfour Beatty have estimated the following quantity of waste shall be produced from the construction activities. The volumes estimated below are based on quantities taken from the detailed design drawings for the works. The table shows estimated construction waste arising during the development of Specified Infrastructure Works and is based on general waste skips being used on site and utilizing our waste broker, Reconomy, to source waste companies achieving a 98% off site re-cycle rate.
- 5.7 This DCWMP shall be reviewed on a monthly basis in accordance with the approved LCS Demolition and Construction Waste Management Plan (LCS DCWMP) requirements. During the review procedure the actual waste quantities produced shall be updated within the SWMP, including the treatment method the waste underwent. As the SIW works progresses, details of the estimated waste arisings shall be reviewed and the actual quantities of waste arisings shall be reported. Monthly reporting will be undertaken as per the LCS SWMP requirements.

• Type of Material	• Estimated Volume (tonnes)	• Predicted Treatment Method (tonnes)		
		• Re-use	• Recycle	• Dispose
Brick	100		100	
Concrete (17 01 01)	4000	1000	3000	
Metals (17 04 07)	50		50	
Timber (17 02 01)	100		100	
Asphalt and tar (17 03 02)	1950	1000	950	
Soil and stones (17 05 04)	8300	3500	4800	
Hazardous (17 09 03)	950		800	150
Other (20 03 01)	50	150	350	
Mixed construction waste (17 09 04)	220		220	
<b>TOTAL</b>	<b>15720</b>	<b>5150</b>	<b>10420</b>	<b>150</b>
<b>% TOTALS</b>	<b>100%</b>	<b>32.8%</b>	<b>66.2%</b>	<b>1%</b>

Table 5.1: Waste removal forecast from construction activities

5.8 The forecasts in Table 5.1 are based on the following construction activities and the figures based on an assumption medium density of material.

- Construction of the north south highway
- Construction of a new pedestrian & cycle bridge H16 including piling works
- Removal of the existing pedestrian & cycle bridge H14 including piling works
- Construction of a new vehicle, pedestrian & cycle bridge H14
- Diversion and installation of utilities including drainage excavation arisings
- Removal of the existing Loop Road and Clarnico Lane
- Re-alignment of Copper Box access road and Copper Street junction
- Meeting a minimum target of 95% diversions of waste from landfill
- Figures are based on assumption of medium density of material

## E. RECYCLING INITIATIVES

5.9 As part of the development of this DCWMP the following initiatives have been considered and agreed upon, aiming to reduce the amount of waste produced in the first instance, and assisting in the recycling and reuse of waste as an alternative to off- site disposal.

### Recycling Off-Site:

- Soils – proposed to be treated/ recycling at the permitted site wide facility;
- Aggregates - proposed to be treated/recycling at the permitted site wide facility;
- Wood - recycled at licensed/permitted facility or reused through local community groups;
- Metals - recycled at licensed/ permitted facility;
- Plastic packaging – recycle at licensed/permitted facility;
- Paper and cardboard – recycle at licensed/permitted facility; and
- Plasterboard – collected by an approved waste carrier and taken to a recycling facility.

## F. WASTE STORAGE & TRANSPORTATION

5.10 Space for the storage of construction waste arisings will be provided within the Balfour Beatty work area. A central storage area measuring 5,200m<sup>2</sup> will be available through the Specified Infrastructure Works, this has been secured to meet the waste forecast from demolition and construction activities and according to the wastes' potential for re-use, recycling or disposal. Residual waste that cannot be utilised on site shall be sent off site for re- use/recycling, or disposed at a suitably permitted facility.

- 5.11 The storage space on site will permit the use of segregated waste skips. Balfour Beatty will only permit the use of rear end loader and front end loader skips; these minimise dust and other emissions to air. When full, skips shall be collected by a registered waste carrier. Balfour Beatty, in conjunction with their waste broker (Reconomy), shall determine the size and number of storage containers and collection frequency required for the project.
- 5.12 Storage, handling, use, and disposal of any potentially hazardous materials shall be in accordance with the relevant statutory provisions and Health and Safety Executive (HSE) Codes of Practice and Guidance notes.

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## **G. WASTE MANAGEMENT FACILITIES**

- 5.13 All waste activities generated from Balfour Beatty's construction works including the disposal of waste shall be undertaken in a manner that complies with 'The Control of dust and emissions for construction and demolition'. The document includes guidance on the appropriate removal of waste materials from site and its disposal at a permitted facility. No waste will be burnt on site, to ensure there are no unnecessary emissions to air or breaches in waste treatment obligations.
- 5.14 In the event that waste is fly-tipped on the site, Balfour Beatty will ensure it fulfils its Duty of Care to handle the waste safely and to dispose of it correctly even though Balfour Beatty is not the producer of the waste.

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## **H. SOIL ARISING & STOCKPILING**

- 5.15 Stockpiles, generated through construction activities, will be maintained safely in fenced locations away from sensitive receptors, pending reuse, recycling or disposal. All stockpiled materials shall be managed in accordance with Balfour Beatty management procedures and with due regard to the presence of the Thames Water infrastructure. The Balfour Beatty Construction management procedures are:
- Use signs to identify the stockpiled material;
  - Stockpiling of contaminated materials on an impermeable surface in a bunded area at least 20m from a watercourse;
  - Covering stockpiles of contaminated materials to prevent runoff. All contaminated runoff should be collected and disposal arranged the Balfour Beatty approved waste carriers;
  - Cover / damp down stockpiles in warm weather to prevent nuisance dust;
  - Minimise excessive stockpiling by phasing works and where possible have just- in-time deliveries;
  - Stockpile height should be less than the height of the site boundary hoarding to reduce exposure to wind and resulting dust generation;
  - Silt fences may be placed at the base of unseeded stockpiles, particularly where run off is likely to enter watercourses; and
  - Locate stockpiles on level ground, away from watercourses, ditches and drains.
- 5.16 Due precaution shall be taken on site to prevent contamination of or releases to land. Contaminated land requiring treatment will be regulated under an Environmental Permit or mobile treatment permit. Balfour Beatty management procedures will be followed to prevent soil erosion, generation of sediment residues and surface water runoff. Releases from the construction site and treatment facilities shall be avoided.
- 5.17 Material excavated from above the Human Health Separation Layer (HHSL) will be stored separately from material excavated from below the HHSL. In addition previously treated materials that were re-deposited as engineered fill below the HHSL will be kept separate from untreated (mainly former landfill) materials. The segregated materials are likely to be stockpiled for testing and suitable materials could potentially be re-used on site, or elsewhere on the QEOP, provided current legislative and planning requirements and technical guidance are met.
- 5.18 On-site treatment of unsuitable materials is not envisaged during construction works. Any contaminated soils arising on site are to be sent to a Soil Treatment Facility (STF) with landfill being the final option.
- 5.19 The above approach will be refined and confirmed following the completion of the site investigation and documented in the Site Specific Remediation Strategy and Remediation Method Statement as required by the planning conditions LCS0.97, LCS0.98 and LCS0.99. A materials management plan (MMP) will also be written to control excavated spoil on site.
- 5.20 Control and mitigation measures detailed in the Pollution Prevention and Incident Control Plan (PPICP) shall be followed in the event of a contamination event. On-site sustainable treatment of contaminated soil shall be undertaken as documented within the Project Remediation Strategy. Balfour Beatty will control excavated material and other materials to prevent spillage, particularly during periods of higher flood risk at the development (September to March), through appropriate handling and selection of materials storage locations.



## **I. DESIGN MEASURES TAKEN TO MINIMISE WASTE GENERATION**

5.21 In accordance with the site wide Legacy Communities Scheme - Demolition and Construction Waste Management Plan (LCS-GLB-CON-APP-CWMP-001-V03) the following measures were taken during the design development stages in regards to minimising the waste generated on the Specified Infrastructure Works:

- Off-site solutions specified such as pre-cast concrete retaining walls for landscaped areas and fabricated steel work for bridge structures and parapets.
- Modern techniques adopted over traditional, finish for bridge approach structures formed in structural concrete to remove need for secondary brick cladding to achieve a similar finish appearance with less waste.
- Re-use of crushed concrete on site for pile matt build up
- Excavating arising from drainage and utility works reprocessed on site and used as backfill to trenches
- Setting aside the existing H14 bridge deck for later re-use elsewhere on the QEOP by the LLDC

## 6 WASTE MANAGEMENT PROCEDURES

### A. WASTE REPORTING VS ACTUAL

- 6.1 Balfour Beatty will on a monthly basis provide a report on the actual waste produced from their works to the Client. The waste report shall include information regarding:
- The development parcel from where the waste was generated;
  - Tonnage of each waste material;
  - Type of waste and its corresponding European Waste Catalogue (EWC) code(s);
  - Date or month of waste production;
  - End destination; and
  - Re-use and recycling recovery rates.
- 6.2 The principal wastes generated by the works will include concrete, steel, soils, timber, plasterboard & packaging from demolition and construction activities. Hazardous wastes are likely to be minimal and will be disposed of by licensed waste contractor. Balfour Beatty will record monthly waste arisings. The performance of the site in terms of waste production and re-use will be compared against the contractual key performance indicators (KPIs) and project targets set by the LLDC.

### B. STORAGE AT THE CONSTRUCTION SITE BASE

- 6.3 The Waste Storage Area will be sited on an impermeable surface, in an area away from sensitive receptors and paying due regard to the Thames Water Exclusion Area. Balfour Beatty will form the impermeable surface through the use of an impermeable membrane. The area shall be fenced and any material stockpiles created by Balfour Beatty shall be kept separate from the main waste storage area. The location of all existing drainage within the Waste Storage Area shall be recorded by Balfour Beatty. Drainage from the Waste Storage Area will be prevented from entering the surface water drainage system.
- 6.4 Waste storage containers will be used to store waste. Balfour Beatty will only permit the use of rear end loader and front end loader skips; these minimise dust and other emissions to air. Waste from around the site shall be collected in skips which will be brought to the Waste Storage Area.
- 6.5 Potentially contaminated materials will be stored on an impermeable surface and within an enclosed skip as required by the Site Wide and SIW CoCPs in order to minimise risk of contamination of the soil and water bodies. It shall be ensured that the waste storage area is properly fenced and separated from the material stockpile to ensure that there is no cross contamination of any hazardous material.
- 6.6 When full, skips shall be collected by a registered waste carrier. Balfour Beatty in conjunction with their waste broker (Reconomy) shall determine the size and number of storage containers and collection frequency required for the development.
- 6.7 Balfour Beatty shall have a nominated material engineer who will fore fill the roles of Waste Champion in accordance with Balfour Beatty procedures and LCS CWMP requirement, to manage the waste. The materials engineer will ensure appropriate segregation of waste on-site, where possible within the waste storage area and shall assist the Site Management in enforcing the waste management.

### C. WASTE DISPOSAL OPTIONS

- 6.8 The placing of waste disposal contracts will, where possible, consider the implications of long distance travel in terms of health and safety risk, commercial terms and increased emissions from vehicles. Wherever possible contracts are to be awarded as locally as possible. For certain waste collection services the Contractor uses the services of a Waste Broker. The Contractor requires that the waste broker consider the implications of long distance travel when appointing waste contractors.

### D. REVERSE LOGISTICS AGREEMENT

- 6.9 Efforts shall be made to have in place a reverse logistics agreement between the Balfour Beatty and material manufacturers. This shall ensure that surplus material is not wasted and is returned to the manufacturer. This might be ensured as a contract clause between Balfour Beatty and the material manufacturer. Reverse logistics agreement are expected to be in place for construction materials as well as packaging wherever possible.

### E. FLY TIPPING

- 6.10 In the event of fly-tipping of waste occurring on or adjacent to the Works, Balfour Beatty has a Duty of Care to ensure it is dealt with safely and disposed of correctly even though he is not the producer of the waste. In order to prevent fly-tipping by others, Balfour Beatty will follow steps recommended by the EA.

- physical improvements such as the installation of gates and barriers and improved visibility (e.g. installing lighting) so that fly-tippers are not hidden from view;
- better site management – keeping areas tidy and removing fly-tipped waste quickly;
- deterrence – this can be in the form of successful prosecutions, signage, CCTV, security patrols etc; and
- working with others including your neighbours, local businesses and any existing partnerships.

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## **F. WASTE BURNING**

6.11 Under no circumstances will the burning of any waste be permitted on-site or at the site compounds. Balfour Beatty will clearly communicate this to all subcontractors working on the SIW site.

## 7 WASTE DOCUMENTATION

### A. WASTE DOCUMENTATION

7.1 All waste documentation will be retained at the Balfour Beatty regional office, including:

- the DCWMP (2 years after end of project);
- waste transfer documentation (2 years for WTNs and 3 years for hazardous waste consignment notes);
- copies of any exemptions or permits; and
- copies of waste carrier and disposal site licences.

### B. WASTE CARRIERS

7.2 All waste generated on the Development shall be dealt with in accordance with legal requirements. Each Principal Contractor shall maintain details of Waste Carriers Licence for the proposed waste carrier for each waste stream. These details will be recorded in the registration table, with Waste Carriers Licence details appended to the SWMP.

7.3 Balfour Beatty will ensure that the following is collected for all waste contractors:

- Contractors name.
- Date(s) of waste removal.
- Type(s) of waste removed (i.e. non-hazardous waste, hazardous waste, inert (specify)).
- Method of treatment, recovery or disposal (i.e. re-use, recycling, incineration, landfill etc.).
- Volume or weight of waste removed.
- Costs associated with waste removal, transport & treatment, including Landfill Tax charges where applicable.

### C. WASTE TRANSFER NOTES – ALL WASTE

7.4 All movements of waste from site must be accompanied by a WTN, which will detail specific information. Balfour Beatty materials engineer or other competent person will check that each WTN contains the following:

- The name of the person receiving the waste and what they are authorised to do with that waste e.g. a Registered Waste Carrier can only transport waste;
- Type of waste produced;
- The 2007 Standard Industrial Classification (SIC) code (2003 SIC if hazardous waste);
- The 6 figure EWC number;
- Address of the producing site and details of the waste producer;
- Waste carrier's details including WCL No.;
- Quantity of waste;
- How it is contained (e.g. 8 yard skip);
- Address of the receiving site (e.g. landfill) and the Environmental Permit or Exemption No. associated with the receiving site;
- The date to which the WTN applies;

### D. WASTE TRANSFER NOTES – HAZARDOUS WASTE

7.5 A Hazardous Waste Consignment Note shall be completed for every movement of hazardous waste. Prior to signing, the waste champion or other competent person shall ensure that the Hazardous Waste Consignment Note includes:

- Hazardous Waste Premises Code (for sites in England and Wales only);
- Consignment note code;
- SIC Code;
- Name and address of site from which waste is being moved;
- Date of removal;



- Type of waste produced, including the quantity and the European Waste Catalogue (EWC) code;
- The name of the person who is receiving the waste and what they are authorised to do with that waste e.g. a Registered Waste Carrier can only transport waste; and
- A final disposal site that is authorised to accept the waste.

## 8 REPORTING, MONITORING & AUDITING

- 8.1 The effectiveness of the SWMP will depend upon the enforcement of its requirements on site and include monitoring to be made by the nominated Site Manager. Responsibility for the formal recording of waste movements shall be completed by the Project Environmental Manager and is to be recorded on a weekly basis in carbon toolkit.
- 8.2 A 'spot check' will be made in relation to the completeness of any WTNs and any Hazardous Waste Consignment notes on a monthly basis to ensure both accuracy of data entered into the monitoring tool, and compliance with regulations on site. The WTNs and Hazardous Waste Consignment notes shall also be made available to the Legacy Corporation or its representatives when conducting their 'spot checks'.
- 8.3 If any problems are identified during the lifetime of the construction works in relation to exceeding the expected SWMP waste stream volumes, failure to meet stated targets or issues relating to cost effective and legal transfer of waste materials, then the Project Environment Manager will first escalate the issue to Balfour Beatty for further discussion on the best solution. This may trigger a review of the SWMP in relation to realistic targets. If further problems are identified during the lifetime of the construction works in relation to exceeding the expected SWMP waste stream volumes, failure to meet stated targets or issues relating to cost effective and legal transfer of waste materials then Balfour Beatty as Principal Contractor will escalate this situation to the Legacy Corporation's Environmental Manager for further discussion on the best solution; as required by the LCS CWMP Section 4.10.6. This may trigger a review of this DCWMP and the LCS CWMP.

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### E. REVIEW OF THE SWMP – MONITORING REPORTS

- 8.4 This SWMP will be reviewed at least every month during the lifetime of the project; in accordance with the requirement of the LCS CWMP Section 4.10.7. The review shall be undertaken by the Balfour Beatty Project Manager to ensure that estimated targets are being achieved and that realistic solutions are provided for unplanned events or abnormal wastes. These reviews will involve the completion and submission of a monitoring report to the Client (or their representative) in an agreed format.

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### F. ADDITIONAL DUTY OF CARE CHECKS

- 8.5 In accordance with the requirement of Section 4.10.8 of the LCS CWMP, waste loads will occasionally be followed by the Contractor to confirm that the waste is disposed of at the stated place of disposal. The Contractor in conjunction with their waste broker shall fully investigate any irregularities immediately, and will report these as an environmental incident. The Contractor is aware that action may involve termination of contract and/or notification to the EA.

## 9 COMMUNICATION, TRAINING AND DISTRIBUTION OF THE SWMP

- 9.1 Copies of this DCWMP will be made available to all contractors at tender stage for reference. The SWMP will also assist in defining terms and conditions relating to waste management during the project lifetime. In addition to these key project partners, the CDM Coordinator and Environment Manager will have full access to this SWMP in order for comments to be made with regards to any additional requirements envisaged as part of the development of this project.
- 9.2 A copy of the latest version of the plan will be displayed in a prominent location at the site including the site manager's office and the signing in area. All key parties, to be determined by Balfour Beatty shall receive the latest version of the SWMP from the Project Manager.
- 9.3 Training will be delivered covering the methods of appropriate segregation, handling, recycling, reuse and return methods for waste. Records of attendance at the training will be maintained. This instruction shall also include communication of this SWMP. The training will be made by the following means and will be provided to all parties working on site, at all appropriate stages of the Utility Works:
- Within the site induction;
  - Formal training course on waste management; or
  - The delivery of monthly toolbox talks on waste issues by the principal/ sub-contractor.
- 9.4 The training shall be implemented in order to highlight the importance of the SWMP and individual responsibility in ensuring effective waste minimisation and management during construction works as required by LCS CWMP Section 4.11.

## 10 COMPLETION OF THE PROJECT

10.1 Within three months of completion of the project, Balfour Beatty will review the SWMP and ensure that it is updated to reflect the following:

- Confirmation that the plan had been monitored and updated on a regular basis to ensure work progressed according to plan;
- A description of any lessons learnt from any differences in circumstances between the first draft of the plan, any subsequent updates and actual final performance (including detailed explanation as to why targets have not been met if applicable);
- Information to be provided as to how any associated corrective actions will be incorporated into future projects/ management system controls;
- A comparison of the estimated quantities of each waste type against the actual quantities of each waste type (by completion and sign off of final SWMP project closure section); and
- An estimate of the cost savings that have been achieved by completing and implementing this SWMP.

10.2 The SWMP and associated records must be retained for a minimum of two years after the completion of the project. Records will be archived at the Balfour Beatty Regional Office.