

An architectural rendering of the Berol Quarter development. The image shows a mix of old and new architecture. On the left is a historic brick building with arched windows and the word 'BEROL' written vertically in large letters. To its right is a modern, multi-story building with a grid of windows. In the foreground, there are trees, a paved plaza, and people walking and cycling, suggesting a vibrant urban environment.

BEROL QUARTER

Outline Site Waste Management Plan

NRG Consulting/Formation Design & Build Ltd
BEROL QUARTER LIMITED

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OUTLINE SITE WASTE MANAGEMENT PLAN

Berol Quarter

Authorised By:	Name:	Signature:
Project Manager		
Site Manager		
Contracts Manager		
Assurance Manager/Environmental Advisor		
Safety Advisor		

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1 Introduction

Formation Design & Build Ltd (FDBL) has an aim to protect the environment and minimise the potential impacts of our activities. Environmental strategies have been integrated into all our processes and procedures from design to construction.

This Outline Site Waste Management Plan (SWMP) sets out the management of waste throughout the life cycle of the Berol Quarter project, by addressing the waste hierarchy, waste types, waste storage and handling, waste awareness and waste monitoring and measurement.

The SWMP shall provide the following:

- Practical guidance for identifying, managing, limiting, controlling and disposing of the waste materials generated throughout this project.
- Ensure the Project Team are aware that the construction of this development will have an impact on the environment and they will consider this impact as part of their management strategies.
- Being Clean - the site and the environs will be kept clean at all times and rubbish will not accumulate.
- Waste will be segregated and, where possible, recycled.
- Waste will be managed in accordance with Environmental Protection Act 1990, section 34, and the Environmental Protection (duty of care) Regulations 1991.
- Recycled materials will be used where possible and components will be purchased from sustainable sources where available.
- Materials will be ordered with minimal waste and delivered "just in time" to avoid site damage and consequent waste.
- The SWMP shall be kept in the Site Office and will be issued to all Trade Contractors as part of their works order.

1.2 Declaration

FDBL is committed to manage and reduce the amount of waste on the Berol Quarter site. FDBL acknowledge the environmental benefits, in reduced landfill, energy consumption, and avoidance of fly-tipping. Better storage and handling of materials reduces waste. Recycling and re-using cuts disposal costs. Waste from this site will be dealt with in accordance with the waste duty of care in Section 34 of the Environmental Protection Act 1990 and the Environmental Protection (Duty of Care) Regulations 1991.

1.3 Existing Site

The site is currently a car park and mixed-use storage area associated with the former use of the surrounding properties, that are commercial. Demolition will not be required as the site is cleared, as such, the site will now require setup and enabling works for the initial stages of construction development.

1.4 Proposed Development

The design is minimal and orthogonal in its geometry, allowing for materials that can be used without the need for triangular cuts, and therefore waste will be minimised. FDBL will sign up to a scheme to recover surplus materials for collection and re use on other projects.

1.5 Preliminary identification of Types of Waste

The table below highlights the types and volumes of waste expected to be generated throughout the life cycle of this project. Wastes arising from demolition, pre-construction, construction, fit-out and site clearance are included

Material	Proposed Waste Management Action		
	Reduce	Re-Use	Recycle
Brick			
Concrete Block		✓	
Plasterboard		✓	
Timber Decking	✓		✓
Screed		✓	
Insulation	✓		✓
Precast Planks			
Roof Screed		✓	
Insitu Concrete		✓	
Paving		✓	
Pea Shingle		✓	
Hardcore		✓	

2. Waste Management

According to the Department for the Environment, Food and Rural Affairs (DEFRA), the UK produces about 290 million tonnes of waste per year of which about 77 million tonnes come from construction sites. An average of 13% of all materials delivered to site in the UK goes into skips without ever being used. The savings involved in implementing a SWMP in order to minimise and manage waste are therefore significant for the construction industry.

With regards to construction sites, surplus or waste materials arise from the materials imported to site or from those generated on site. Imported materials are those which are brought to the project for inclusion into the permanent works. Generated materials are those which exist on the project such as topsoil, sub-soil, trees and materials from demolition or soft strip works and asbestos removal etc.

In addition to the monitoring and recording of waste quantities, other considerations to waste management include; waste reduction, segregation of waste, disposal of waste, financial impacts of waste disposal training and education. This plan outlines the procedures that have been put in place and demonstrate how they benefit the environment, how we can measure the effects and how these procedures and practices are sustainable

2.1 Waste Hierarchy

At Berol Quarter the waste minimisation and management on site should follow the principles of the waste hierarchy where possible. Initially, this involves;

- Waste elimination, including;
- Design the project to suit component sizes,
- Reduce the need for temporary or false works,
- Set the level of the building to reduce excavations and
- Plan for the re-use of spoils to form landscape features.
- Waste reduction, including;
- Order the correct materials, as specified,
- Order the correct quantity of materials (requires accurate take-offs/estimates),
- Store and handle materials correctly and
- Ensure protection of finished works.

2.2 Reduce Material Use

Reducing material use will have a significant impact on reducing climate change through both decreasing high energy mining and manufacturing processes and reducing the release of pollutants to the atmosphere by reusing materials.

In order to achieve this goal the client will take account of the following:

- Consider engineered design solutions to increase material efficiency:
- Set, and work, towards targets within the Site Waste Management Plan
- Prioritise material reuse on site
- Design to standard material sizes
- Maximise floor area to perimeter ratio
- Design for offsite construction
- Work with suppliers to reduce packaging and put in place take back agreements
- Design for deconstruction and flexibility

2.3 Sustainable Materials

Choice of materials has a significant impact on the environment. Material choice needs to be integrated into the initial design of the building and the following will be considered:

- Embodied energy - the amount of energy required to produce the material

- Durability - its ability for a long life
- Potential for material reuse if the building is taken down
- sourcing - materials available locally should be chosen over those imported over long distances
- Renewable materials should be sought from sustainable sources wherever possible.

2.4 Action Plan

The following opportunities for optimisation and efficient construction methods have been identified:

- Design workshop's to discuss waste optimisation and efficiencies.
- Setting out to brick dimensions.
- Mains water break tanks to service all habitable properties.
- Existing Fencing.
- Reuse of Crush Concrete into Piling Mat.
- Pre cast concrete columns, walls and staircases manufactured at the factory.
- Door sets including a premanufactured door in a pre-assembled door frame
- Smart Waste monitoring
- Efficiency methods within site welfare, to include waterless urinals, sensor operated lighting
- Reuse shingle from bulk support gabion bags for permanent drainage

These responsibilities will be addressed by implementing the following:

- Strict compliance with all relevant legal requirements, codes of practice and regulations;
- Organise operations in order to minimise waste by considering materials and the method of construction at the design stage. Forecast the type of waste and how it will be managed before construction commences;
- Train all staff to improve awareness of re-using materials and providing regular toolbox talks on site with workers;
- Careful selection in the choice of equipment, materials and working methods to make the most efficient use of stores, resources and leftover materials;
- Encourage energy savings by ensuring that all power appliances and equipment is switched off when not in use. Re-use of parts and components where possible and encourage re-use of stationary in office and materials on site until unserviceable;
- Order stationery/materials in bulk where possible in order to avoid unnecessary deliveries, therefore, reducing direct cost and fuel usage emissions;
- Encourage customers to specify materials and equipment which has the least environmental effect during manufacture, when in service, and which can be recycled at the end of its life;
- Ensure disposal of waste through approved disposal contractors in compliance with existing legal controls and retain waste disposal notes for all transactions removed from site. All bulk wastepaper disposals will be sent to recycling unit;
- All records of SWMPs will be retained on site for inspection throughout the contract and retained for 2 years after completion;
- Apply lessons learnt and resources saved on other sites;
- As waste is processed on site, the SWMP will be updated and reference made to waste transfer notes on an ongoing basis for all trades;
- General waste to be disposed of using segregated skips provided under contract arrangements. Larger skips to be used to reduce vehicle movements and ensure skips are full prior to exchange.

2.5 Surplus Wastes

Waste that cannot be eliminated or reduced will fall into the following categories of waste management. Waste reduction will follow the requirements of the waste hierarchy, reduce, reuse, recycle, recovery and disposal to landfill. In order to reduce waste, waste streams will be segregated whenever possible to increase the re-use or recycling of material. We

anticipate being able to separate hard-core, wood, plastics and paper/cardboard on site to further implement the recycling of waste.

2.5.1 Re-use

- Where possible, surplus materials should be re-used on the site,
- Where materials are surplus to requirements onsite, there may be a requirement for them off-site at other projects.

2.5.2 Re-cycle

Surplus materials may be used in different forms on the site or removed from the site and recycled for other projects. The hierarchy can be put into action by following good practice on site. This process may require the necessary Environment Agency approval, this would apply during the construction process (i.e. some on-site waste management activities may require an environmental permit or registered exemption from the Environment Agency). An example may include 'use of waste in construction', which would require a registered U1 exemption.

2.5.3 Recovery

Waste recovery is when your main aim is replacing a non-waste material you would have used in your operation with a waste material that performs the same function. That waste then serves a useful purpose as you're using fewer natural resources. For example, using crushed concrete and bricks to create a development platform for a building, in place of primary aggregates.

2.6 Segregation

Wherever possible, waste will be segregated before being removed from site, with skips and bins clearly labelled. This prevents specific waste streams from becoming contaminated, ready for recycling or re-use.

It is critical that waste separation is relayed to the Site Manager by the operators of the waste transfer station in order to ensure that accurate data is recorded in the Site Waste Management Plan Data Sheet (found in Appendix 1).

2.7 Waste Minimisation

Waste minimisation through the 'eliminate, reduce, reuse, recycle' hierarchy context also needs a holistic approach during the design, contractual and construction phases. This can involve the clients, partner, designers, architects and contractors. Each party can take actions to reduce the amount of waste arising at different stages of a site development as indicated below.

FDBL will ensure that the waste management minimisation decisions proposed above are implemented and the results are subsequently recorded accurately.

The details of waste carrier hired to transport non-hazardous waste are:

Waste Carrier Name: *O'Donovan Waste Disposal*
Carrier Licence Number: *CBDU116673*

The details of waste carrier hired to transport hazardous waste are:

Waste Carrier Name: *TBC*
Carrier Licence Number: *TBC*

The details of the transfer stations are: *O'Donovan Waste Disposal*
Transfer Station Name: *Markfield House, 82 Markfield Rd, Tottenham, London N15 4QF*

Waste Management Licence Number and/or Pollution Prevention and Control Permit Number:
TBC

2.8 Duty of Care, EPA 90

The Duty of Care is set out in section 34 of the Environmental Protection Act 1990 and associated regulations. It applies to anyone who is the holder of controlled waste.

In order to ensure compliance with the Duty of Care the following practices will be followed:

- Obtain copy of the waste carrier licence of the waste carrier company.
- Obtain copy of the environmental permit of the Waste Transfer Stations (WTS) where the waste is bulked or treated.
- Obtain copy of the environmental permit of the final disposal/recovery site where the waste from the WTS is sent.
- Ensure that waste transfer notes and hazardous consignments notes are completed, signed and include details of:
 - ✓ Producer of the waste.
 - ✓ Premises code i.e. the EA hazardous waste producer registration number.
 - ✓ Name, address and postcode where the waste is going to be taken to.
 - ✓ Description of the waste.
 - ✓ The appropriate six-digit European Waste Code (EWC), e.g. Construction Mixed Waste 17 09 04.
 - ✓ Quantity (total weight) in tonnes.
 - ✓ The chemical/biological components of the waste.
 - ✓ Physical form (gas, liquid, solid, powder, etc).
 - ✓ Container type, number and size.
 - ✓ Time, date and place site address of collection.
 - ✓ Waste hierarchy statement
 - ✓ **Standard Industrial Classification (SIC) code**

NB: The SIC code for waste transfer notes differs from the ones used for hazardous consignments notes.

Ensure that the relevant SIC code is used for waste transfer notes:

Ensure that the relevant SIC code is used for hazardous consignment notes:

- Keep copies of waste transfer notes and hazardous consignment notes for 2 and 3 years respectively.
- Link payments to final copies of the waste transfer notes and hazardous consignment notes.
- Ensure staff receive appropriate training.
- Make subcontractors aware of the waste site procedures.

3. Responsibilities and Duties

FDBL will oversee and are responsible for updating the plan. The Site Manager and other contract staff will be involved in the delivery of the plan and site administration of the procedures, under the direction of the Project Manager.

The FDBL will oversee company compliance with the statutory regulations and Codes of Practice.

3.1 Identification of Waste

Client/Design Team:

- ✓ Review the Preliminary Quantities of Likely Waste (Page 4) expected to be produced throughout the Project.
- ✓ Include any further expected wastes, demolition materials, and excavated materials.
- ✓ Set realistic targets against each for: re-use, recycling, or disposal using the Site Waste Management Plan Data Sheet (found in Appendix 1).
- ✓ Order materials which have less or re-useable/returnable packaging.

Project Manager:

- ✓ Assess the different types of waste that will be produced, how much, when, and what types, and plan accordingly.

3.2 Waste Management Options

Project Manager:

- ✓ Ensure any client/client representatives pre-construction phase initial site waste management plan is obtained at contract commencement.
- ✓ If no initial plan had been prepared, they will advise and consult with the client/client's representative to ensure the Design takes account of best practice to eliminate waste.
- ✓ Plan the site set-up and programme taking into account the best options available for storage of new materials, recycling and disposal of waste, including separation of different types of waste where feasible.
- ✓ Ensure all personnel know where, when and what sort of materials can be re-used, recycled or disposed of.
- ✓ The site set-up plan should take account of disposal of any liquid wastes such as wash down water, and lubricants (bund storage for fuel oil etc).

Site Manager:

- ✓ Will consult with the Project Manager in planning the site set-up, programme, and waste management plan.
- ✓ Ensure site waste is stored and disposed of responsibly.
- ✓ Ensure a record is kept of all waste disposed of or transferred through a system of signed waste transfer notes (WTN).
- ✓ Copies are to be kept and filed together in the SWMP File.

3.3 Identify Disposal

FDBL will use contractors for waste disposal.

Project Manager:

- ✓ Will decide in planning the works which waste will be disposed of by which contractor (eg groundworks excavation/grab lorries/general skip clearance).

- ✓ They or their haulage contractors are to be vetted to confirm they have a valid waste management license and the final destination of the waste is to be confirmed, and its status as a licensed site or its registered exemption.
- ✓ Will place orders for general skip clearance.
- ✓ They are to be vetted to confirm they have a valid waste management licence.

Site Manager:

- ✓ Will ensure waste is only removed by contractors who have proven to Project Manager that they have the valid licenses.
- ✓ Copies of all transfer notes, registration of all carriers, registration of exempt sites and licensed waste management facilities are to be obtained and filed in the site plan.

3.4 Organise Materials and Waste Handling

Project Manager/Site Manager:

- ✓ To carefully plan the materials needed for the Project.
- ✓ Order well in advance but plan delivery dates to avoid too much material on site at any one time which increases handling and waste.
- ✓ Avoid over-ordering to reduce waste.
- ✓ Use recycled or previously used materials where possible, subject to client's approval.
- ✓ Order materials pre-cut to size or length rather than cut to fit on site where practicable.
- ✓ Perishable site canteen and office waste should not put be put in site skips but in dustbins, put out for normal waste collection.
- ✓ Canteen and office waste paper/cardboard should be recycled in accordance with the Local Authority collection policy.
- ✓ Encourage site operatives to take account of waste where site cutting to fit of materials is necessary, re-using off-cuts wherever possible.
- ✓ Use different skips for different materials, clearly labelled, where space allows.
- ✓ Ensure unwanted packaging/pallets etc are returned to suppliers for recycling/re-use.
- ✓ Return unused materials to suppliers or transfer to other projects.

3.5 Communicate the Plan

Project Manager:

- ✓ Will involve subcontractors in the plan.
- ✓ Discuss their materials and waste handling plans with them.
- ✓ Consider different attitudes and approaches when vetting subcontract tenders prior to placing an order.
- ✓ Monitor the plan in meetings with the Client, client's representatives, and subcontractors.
- ✓ Encourage the Site Manager to act as a "site champion" to make sure everyone sticks to the plan.
- ✓ Arrange any necessary training to ensure everyone is aware of the importance of asking for and recording the correct paperwork, receipts, destinations for materials etc.

Site Manager:

- ✓ Should explain to everyone on site how the plan is important.
- ✓ Include the plan in all site inductions.
- ✓ Use toolbox talks to communicate the developing plan to site personnel.
- ✓ Make the plan available to any contractor carrying out the work.

3.6 Measure Waste

Site Manager:

- ✓ Will keep a strict eye on all movements of waste within and from the site.
- ✓ Measure waste: keep a running tally of waste off site using the Waste Register Form found in Appendix 1 for every movement of waste off site: numbers of lorries of muck away/grab lorries/skips, so that the Project Manager can compare this with the estimated amounts.
- ✓ Constantly assess how much and what type of waste is being produced and taken off site.

Client:

- ✓ Will obtain feedback from skip companies on their recycling percentages, record this for the Project Manager on completion.

3.7 Monitor the Plan

Project Manager/Site Manager

- ✓ Will ensure the plan is followed.
- ✓ Make notes of any problems and record them in the plan for future reference.
- ✓ Be prepared to make changes.
- ✓ Learn lessons for next time.

Project Manager

- ✓ Regularly update SWMP Data Sheet as often as necessary.

3.8 Review

At the end of the project the SWMP should provide an accurate record of how effectively materials on site have been managed and how well targets for waste management have been met.

Site Manager:

- ✓ Should pass the completed plan to the Project Manager after Practical Completion.

Project Manager

- ✓ Should collate site records of actual waste taken and include any notes made of any problems.
- ✓ A summary of findings are to be prepared in a report given to the Contracts Director for evaluation and development of company waste procedures to improve future waste management.
- ✓ The report should include an estimate of the cost savings achieved.
- ✓ The completed Plan and Final Report must be kept for two years, after Practical Completion.

4 Site Waste Management Plan Data Sheet

Date of sheet completion:	
Stage of project (eg planning stage, during project delivery, end of project):	Project Commencement
Report number (projected waste arising should be report number one etc):	1
Person responsible for waste management on site (name and job title):	Site Manager
Person and company completing this form, if different:	
Types of waste arising (continue on additional sheets if required):	See below

[illegible]

Material	Expected Quantity (m³)	Actual Quantity (m³)	Performance Score (m³): + = better than predicted == worse than predicted	Savings (+) / Costs (-)	Comments
Inert					
Brick / rubble					
Soil					
Plastics					
General rubbish					
Residual waste					
Subtotal					
Active					
Metal					
Timber					
Plasterboard					
Cardboard / paper					
Subtotal					
Hazardous					
Not applicable					
Subtotal					
Total					