

Portland
energy recovery
facility

Environmental statement
Technical appendix L:
Traffic and transport
(part 2 of 2)



Portland ERF

ES Appendix L2 - Construction Traffic

Job Title	Portland ERF
Project Number	0979
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1 Introduction

- 1.1 This note is submitted as part of the Transport Assessment and Environmental Statement Chapter on Transport submitted in support of the development of an Energy Recovery Facility on land adjacent to Balaclava Bay, Portland Port.
- 1.2 This note summarises an initial consideration of the impacts caused during construction of the scheme.
- 1.3 Details of the existing conditions and access arrangements can be found in the submitted transport assessment.

2 Construction Stage Access

- 2.1 Access for all construction traffic will be controlled through the Port main gate with the usual entry permit system through the Port.
- 2.2 Permitted Route plans and Traffic Management plans would be agreed with the local planning authority and the Port prior to construction with local residents consulted to ensure all possible options are considered.

3 Construction Traffic

- 3.1 The likely volumes of construction traffic associated with the scheme have been assessed. There is no standardised appraisal methodology for construction traffic from an ERF with each site assessed specifically on a case by case basis.
- 3.2 The volumes of construction traffic generated from any ERF site are related to a number of factors:
- The duration of construction;
 - The volumes of earthmoving required to form building plateau or basement levels;
 - The foundation type selected;
 - The need for earth retaining structures on site;
 - The form of structure;
 - Building cladding materials;
 - Stack type and construction
 - The unusual mechanical and electrical plant requirements.
- 3.3 The construction programme for a set of buildings of the scale proposed would typically take around 24 months with a further period of 6 months post construction for commissioning. An initial advance enabling works contract to create the site base and initial retaining works, on site access, utilities and drainage connections is expected to form the first 6-9 months of the construction period.
- 3.4 The offsite grid connection requiring around 900m cable will be installed beneath the public highway.
- 3.5 The other site initial enabling works would comprise the following tasks:
- Secure the site inside of the Port estate;
 - Site strip and initial earthworks;
 - Construct surface water drainage outfall connections;
 - Construct foul sewer connection;
 - Construct other utility duct routes (comms, water);
 - Construct site compound, on site roads and car parking areas;
 - Piling for Boiler plant and flue gas treatment hall slab;
 - Construct Boiler House and flue gas treatment hall slab;
 - Retaining walls to RDF Pit;
 - Retaining walls to RDF storage hall;

- On site sub station compound;
 - Construct foundations and base slabs for all buildings
- 3.6 Following the completion of those enabling works construction of the plant areas would commence with additional reinforced concrete structures as required and the majority of main plant elements being brought to site in small element form for on-site fabrication.
- 3.7 Plant items such as main boiler, stack, or flue gas treatment plant may require abnormal load delivery due to size and the potential for use of the Port for ship delivery of those large items will be investigated.
- 3.8 Creation of the various levels of the plant areas and offices will also require steelwork before the whole building is covered with an overarching steel frame and clad when the internal mechanical works are complete.
- 3.9 It is anticipated that any excavation arisings that cannot be re-used on site would be transferred to another location within Portland Port minimising disruption to the local neighbours in Castletown.
- 3.10 Piling activity to create the base slab for the boiler plant and turbine hall is expected to require piles of around 600mm dia to depths of around 25m which would normally be formed using bored piles in reinforced concrete.
- 3.11 The good quality of the existing surface should reduce the need for a piling matt with consequent reductions in imported material to form the usual matt.
- 3.12 Reinforced concrete retaining walls are expected to be of traditional construction with excavation, temporary retaining structures, RC wall construction and back fill to the wall.
- 3.13 During times of large concrete pours, for example to create base slabs or retaining walls, pumped concrete would be used with a fleet of concrete wagons delivering concrete and typically offloading in a 20 minute period. Such pours might last many hours but the concrete wagon traffic would still be limited to around 3 - 4 per hour.
- 3.14 Steelwork, cladding elements, bricks and blocks would be delivered to site by articulated HGV and off loaded with a number of deliveries a day being likely.
- 3.15 Following the construction of the principal plant and building frames there are many months of M+E installation which typically includes small scale ductwork, piping and wiring as well as large scale plant items. Materials for these installations would continue to be by articulated or rigid delivery vehicles with the economies of bulk ordering direct from manufactures possible due to the scale of the project.
- 3.16 A typical daily breakdown of traffic activities on site is set out in Table 3.1 below:

Table 3.1 Portland ERF typical daily construction traffic flows

Activity	Vehicle frequency	Expected Daily Traffic	Likely duration of activity (months)
Piling Rig	1 or 2 on site	-	6 - 9
Concrete for piling	8 per pile	16	6 - 9
Steel for piling	1 / day	1	6 - 9
Earthmoving	Nil off site	0	-
Concrete in pumping operations	4 /hr	12	3 - 6
Ducts for utilities	Daily	1	6 - 9
Pipes and drainage materials	Daily	1	6 - 9
Kerbs and roadbuilding materials	Daily	1	6 - 9
Steelwork	Daily	1	9 - 12
Cladding materials	Daily	2	3 - 6
Bricks / blocks etc.	Daily	2	6 - 12
M+E ancillaries	Daily	2	6 - 12
General builders deliveries	20 / day	20	Up to 24 months
Potential Maximum Daily deliveries (each way) during piling operations - highlighted		37	

- 3.17 A neighbourhood Coordinator is usually appointed by the contractor in situations such as this so that residents have a known point of contact with whom to raise any particular issues such as deliveries or specific access requirements.
- 3.18 In addition Construction stage impacts are normally managed through the delivery of a Construction Environmental Management Plan that would include detailed estimates of delivery vehicle numbers immediately prior to construction and any further proposed mitigation measures such as wheel washing.

3.19 The project would be registered with the Considerate Constructors Scheme (CCS) which would continuously monitor the impact of the development on its neighbours and allowing refinements and improvements to be made throughout the construction period.

4 Construction employees

- 4.1 Construction of an ERF requires a mix of highly skilled and unskilled labour ranging from ERF project managers which may be international experts in this type of construction to local groundworkers.
- 4.2 As many tasks will be undertaken concurrently during the build programme there are anticipated to be a number of alternate skilled and unskilled trades on site at any one time, typically employed through sub-contractor.
- 4.3 Typically those would arrive at site in a minibus or crew van having collected staff at pickups along the route to site. Highly labour intensive tasks may require contractors to use site buses to bring crews to work.
- 4.4 It is anticipated that much use will be made of local labour from the island of Portland wherever possible noting that all of the island and most of Weymouth is within a 30 minute cycle of the site. As with operational staff it is anticipated that up to 50% of construction staff will be based on the island and would not use a car to travel to work at the construction site.
- 4.5 The number of people employed on site at any one time will vary considerably during the construction phase, but it is estimated (based on projected construction costs and experience with similar projects elsewhere) that up to 300 staff will be employed on the site at peak times.
- 4.6 Of those 300 it is estimated that 5% would be supervisory or management roles with 43% based on the island using a non car mode to get to work resulting in around 9 journey to work management car trips each way.
- 4.7 For the remainder of the 285 site staff 43% are expected to be based on the island and use non car modes to travel to work. The other 163 staff based off the island would be expected to travel in group buses or minibuses with an average vehicle occupancy of around 13 per vehicle or more giving a further 13 vehicle trips each way.
- 4.8 Details of construction staff travel would be set out within a staff Travel Plan as part of a Construction Environmental management Plan but initial travel to work projections for the up to 300 staff based upon the typical travel arrangements set out above are set out in Table 4.1 below:

Table 4.1 Construction Site Staff travel to work

Staff	Arr	Dep	Total
Site Management - 5% of workforce assume – 43% on and by non car modes.	9	9	18
Workforce of 285 assume 43% local on island non car and remaining 163 in vehicles with average occupancy 13.	13	13	26
Total	22	22	44

- 4.9 This volume of car and LGV traffic is similar to that of the operational site and within the expected local variation of traffic flows in links in the network.
- 4.10 Further details of how construction costs have been used to estimate direct and indirect employment generation are provided in the economic assessment in technical appendix F.
- 4.11 Working hours are anticipated to be 0700-1900 with some longer shifts for time critical operations during the construction programme

5 Conclusions

- 5.1 The potential numbers of construction traffic vehicles has been assessed for a variety of construction operations on site.
- 5.2 The implications of providing for utility connections has also been assessed.
- 5.3 The transport arrangements for getting workers to the site has also been assessed.
- 5.4 The site is within the managed Portland Port estate and so will benefit from gate control and permitting procedures as well as traffic monitoring at the gate.
- 5.5 Given the scale of tasks to be undertaken it is anticipated that there are likely to be a maximum of around 40 construction deliveries a day during peak piling operations which is slightly less than the anticipated daily HGV movements from the operational plant.
- 5.6 It is anticipated that a full Construction Environmental Management Plan will need to be submitted prior to commencement of development setting out in detail a range of environmental management measures and including details of staff travel arrangements and construction traffic routing.

AWP