A.1 Introduction and Executive Summary

A.1 Background

A.1.1 Through a competitive tendering process, MVV Environment Devonport Limited (MVV) was awarded the South West Devon Waste Partnership's (SWDWP) residual waste treatment and disposal contract. The SWDWP is a collaboration that has been established between Plymouth City Council, Torbay Council and Devon County Council to provide a long term solution to deal with waste from the southwest Devon area which is left over after re-use, recycling and composting.

A.1.2 MVV's proposal is to construct and operate an Energy from Waste (EfW) facility, incorporating Combined Heat and Power (CHP) technology, on land currently situated in the north east of Her Majesty's Naval Base (HMNB) Devonport, Plymouth. If the development goes ahead the land would be taken out of the HMNB secure perimeter for the duration of the contract. The facility, referred to in this report as the EfW CHP facility, will have capacity to process under certain conditions up to 265,000 tonnes per annum of waste although it is expected that actual tonnages will be lower as waste composition changes or recycling activity increases over time. Under current expectations the tonnage of waste which will be processed will be in the order of 245,000 tonnes per annum. The waste will be combusted and the heat will be used to generate steam. The steam will drive a steam turbine and generate renewable electricity for use at the facility, to supply Devonport Dockyard and HMNB, and for export to the grid. Steam will also be extracted from the turbine and fed into the Devonport Dockyard and HMNB steam network to be used for heating purposes.

A.1.3 The EfW CHP facility project is subject to an environmental impact assessment (EIA). The EIA procedure is set out in the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (SI No 293) (as amended). The EIA procedure requires the developer to undertake certain environmental studies and compile an Environmental Statement (ES) describing the likely significant effects of the proposed development on the environment and proposed measures to mitigate these effects. Scott Wilson Limited was employed by MVV as planning and environmental consultants for this project in March 2009. The Scott Wilson Group has since been acquired by the URS Corporation, so Scott Wilson Limited has changed its name to URS Scott Wilson Limited. URS Scott Wilson Limited prepared the planning application and supporting documents, including the ES, and submitted them on MVV's behalf to Plymouth City Council on 23 May 2011 (planning application reference 11/00750/FUL).

A.1.4 URS Scott Wilson is a registrant to the EIA Quality Mark scheme run by the Institute of Environmental Management and Assessment.

A.2 Requirement for Further Information

A.2.1 The EIA process is continuing during the period of the planning application's consideration, taking into account the ES, and the views of Plymouth City Council officers as the Waste Planning Authority, statutory and non-statutory consultees, and the public. On 1 July 2011, Plymouth City Council wrote to URS Scott Wilson Limited requesting that further information be submitted. The request was made under the provisions of Regulation 19 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999[1]. A detailed list of specific requests for further information was provided but in summary further information is required in respect of the following matters:

- Adequacy of the alternatives studied and reason for the choice.
- Adequacy of the data required to identify and assess the main impacts.
- Adequacy of the measures envisaged to mitigate significant adverse effects.

A.2.2 This Planning Application and Environmental Statement Further Information report has therefore been prepared in response to the request from Plymouth City Council. It is divided into the following sections:

A. Introduction

B. Planning Application Drawings Further Information

C. Planning Application Supporting Statement Further Information

D. Environmental Statement Further Information

E. Response to Letters of Representation

A.2.3 A 'map' correlating the Regulation 19 request for further information and the location of the corresponding information in this report can be found below in Section A.4.

A.2.4 This Further Information report is a supplement to the documents submitted with the planning application in May 2011 and should be read in conjunction with them; where no amendments are made in this Further Information report, the original text in the May 2011 documents remains valid. It provides both further information and clarifications on information already submitted.

A.2.5 This Further Information report can be viewed on the MVV website at: www.mvv-environment.co.uk.

A.2.6 A hard copy can be purchased at a cost of £75.00. Electronic copies can be purchased at a cost of £5.00. Cheques should be made out to MVV Environment Devonport Ltd. Copies are available from:

Ian Roach
URS Scott Wilson
3rd Floor, Mayflower House
Armada Way

[1] These Regulations have now been replaced with the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (SI No. 1824) which came into force on 24 August 2011. The Further Information is therefore submitted under Regulation 22 of the EIA Regulations 2011, which 'replaces' Regulation 19 under the EIA Regulations 1999.

Plymouth
PL1 1LD

A.2.7 Copies are also available for viewing by the public in the Department of Development of Plymouth City Council at the following address:

Plymouth Civic Centre
Plymouth
PL1 2AA

A.2.8 The offices are open Monday to Friday, between 08:30 and 17:00.

A.2.9 Comments can be made to Plymouth City Council at the address above.

A.3 Executive Summary

Planning Application Drawings

A.3.1 Following consultation responses received from the Environment Agency the following Planning Application Drawings have been revised:

- PA 19a Site Access Right Turn Option Revision B
- PA 19b Site Access Long Section Revision A
- PA 21 Drainage Layout Plan Revision E
- PA 17 Landscape Masterplan Revision R

A.3.2 The following additional Planning Application Drawing has also been provided, again in response to a consultation response from the Environment Agency:

- PA 21-1 Drainage Layout Plan – Bull Point Access Road Detail

Planning Application Supporting Statement

Planning Application Supporting Statement

A.3.3 Amendments have been made to the text of the Planning Application Supporting Statement, predominantly to reflect clarifications and further information relating to the Landscape and Visual Impact Assessment (ES Chapter 8), the Statement of Community Involvement, the Climate Change and Sustainability Statement and the Energy, Economy, Employment and Education Benefits Statement.

Design and Access Statement

A.3.4 The Landscape Masterplan (Drawing PA17 Revision P) which was appended to the Design and Access Statement has been amended as a result of minor amendments to site access road and site drainage details, so it is now replaced by Drawing PA17 Revision R

Statement of Community Involvement

A.3.5 Additional information regarding the publicity of the submission of the planning application, the round of public exhibitions held after the submission of the planning application, and the

community benefits has been provided. An Addendum to the Statement of Community Involvement has been produced and provides details of the public exhibitions held after submission of the planning application.

Climate Change and Sustainability Statement

A.3.6 Further information has been prepared to demonstrate the compatibility of the proposed EfW CHP facility with climate change and carbon management targets and policies of Plymouth City Council and its Local Strategic Partnership members, providing evidence of the fit between the proposed development and city-wide corporate policy regarding sustainable development.

A.3.7 The substantial carbon off-set and climate change benefits of this high efficiency, EfW CHP facility have been identified, demonstrating their sustainability credentials in comparison to the current residual municipal waste management solution (disposal to landfill). Although not directly comparable because of the different methodologies and units used, the annual saving would represent roughly a 5% annual saving for Plymouth's carbon footprint. This would be a significant contribution towards the current reduction targets set out in corporate policy, in particular the 20% greenhouse gas (GHG) emissions reduction target for 2013 and 60% GHG emissions target for 2020 (although the EfW CHP facility is not expected to be fully operational until 2015).

A.3.8 MVV's commitment to carbon footprint monitoring and a continuous improvement programme to reduce GHG emissions on a rolling basis reflect Plymouth City Council's own commitment to carbon management auditing, reporting and pledge to achieve year on year reductions. There is a direct match between the sustainable procurement principles adopted by Plymouth City Council and the exemplary levels of service delivery which MVV will deliver over the lifetime of the facility.

Energy, Economy, Employment and Education Statement

A.3.9 Further information has been provided to address Plymouth City Councils request for additional information on the energy, economy, employment and education benefits.

A.3.10 The principal energy benefits are:

- The provision of electricity and steam to the Dockyard under the Energy Supply Agreement.
- EfW CHP facility efficiency – the facility will operate at a 49% net efficiency at maximum CHP output.
- CO_2 savings – the EfW CHP facility will result in a reduction of 73,504 tonnes CO_2 equivalent per annum.
- EfW CHP facility meets the "Good Quality CHP" definition – almost unique in UK EfW.

A.3.11 Against the SWDWP's Business Case estimated cost of a new solution, MVV's EfW CHP development is estimated to save the SWDWP around £388 million over the life of the contract. This saving for the local residents is further enhanced by Defra's Private Finance Initiative grant contribution of £177 million resulting in a solution which is potentially £565 million less than estimated. In addition, the EfW CHP facility will bring wider economic benefits to the local community.

Health and Wellbeing

A.3.12 A section of the 'Health and Well-being' paper is clarified as meaning it is the process of promoting control, inclusion and participation of members of the local communities in the operation of the facility – in this case through dialogue – that seeks to have a positive impact on wellbeing.

Habitats Regulations Assessment

A.3.13 Further information has been provided in relation to the Habitats Regulations Assessment report.

A.3.14 The inclusion of other programmes and projects, including the Shoreline Management Plan policies, the maintenance dredging, the Devonport Landing Craft Co-location Project (DLCCP) and the other existing consented discharges in the Habitats Regulations Assessment will not change the water quality effects related to the EfW CHP facility project and the conclusions of the Habitats Regulations Assessment.

A.3.15 The Project Manager for the DLCCP has been contacted and they have provided a copy of their construction programme to MVV. There is no overlap in the piling activities associated with the two projects.

Planning Policy Analysis

A.3.16 MVV has produced a paper reviewing the proposed EfW CHP facility against the recently published Review of Waste Strategy for England. The June 2011 DECC report "Review of the generation costs and deployment potential of renewable electricity technologies in the UK" has also been considered.

A.3.17 MVV have also reviewed the proposal in regard to the Government's July 2011 published consultation on a Draft National Planning Policy Framework.

A.3.18 The proposed development is not only consistent with the policies in the existing Development Plan for Plymouth but meets the Draft National Planning Policy Framework and the guidance which planning authorities should follow in determining planning applications.

Section 106 Agreement Draft Head of Terms

A.3.19 The Section 106 Agreement Draft Heads of terms will be the subject of negotiations during September and October between MVV and Plymouth City Council.

A.3.20 New clauses regarding biodiversity enhancements off-site and a community landscape and biodiversity benefits delivery mechanism are proposed.

Environmental Statement

Land Use: the Site and Surrounding Area

A.3.21 No further information was required by Plymouth City Council in its Regulation 19 request nor is it required in order for the planning application to be determined, but for reasons of completeness information is submitted concerning reptile habitat creation and translocation.

A.3.22 A planning application was made by MVV on 11 August 2011 for the installation of three trial piles to provide information to support potential development of land at North Yard, Devonport.

Alternatives to the Proposed Development

A.3.23 Following the Regulation 19 request for further information, Chapter 5 of the ES, 'Alternatives to the Proposed Development', has been re-written and has been provided as an appendix.

Description of the Proposed Development

A.3.24 The Environment Agency requested additional information regarding ash residues, the tipping hall / waste bunker, liquid effluent, materials storage, and construction method statements. Further information has been provided in these respects.

A.3.25 The Public Protection Service of Plymouth City Council stated that the planning application documents make no mention to undertaking a comprehensive site survey for vermin, to include all redundant sewers and drain networks, or comprehensive baiting programme prior to site clearance and construction; an operational plan to deal with the control of pests and vermin will also be required. MVV is prepared to undertake a site survey for pests, a pre-baiting programme and a baiting programme in advance of construction. A number of good operational practices have been identified to manage and control the risk from vermin, insects and pests during operation. MVV will inspect the facility on a weekly basis for pest infestation and, where a problem arises, appropriate action will be taken by a suitably licensed pest control sub-contractor.

Ecology and Nature Conservation

A.3.26 A new security grill of 150mm x 150mm gauge will be installed under the proposed open span bridge crossing Weston Mill stream. It is not considered that the grill would have any detrimental effect on the migration of juvenile or adult European eel up or downstream of the structure. The Environment Agency considers this gauge of grill to be sufficient to allow the passage of otters.

A.3.27 MVV and its consultants have considered the Environment Agency's suggestions regarding further biodiversity enhancement of the surface water swale that runs at the back of the site. Some of the suggestions have been incorporated into the design but some are not viable.

A.3.28 The Ecological Management Plan has been updated and is provided as an appendix.

A.3.29 Ecological mitigation and enhancement measures proposed in the ES are summarised. It is recommended that biodiversity gain is achieved by the provision of off-site enhancements at a local site or sites of wildlife interest in accordance with Plymouth City Council's Core Strategy Policy CS19.

A.3.30 A marine estuary survey has been undertaken and the results provided. The results do not alter the conclusions of the ES.

A.3.31 Clarifications and further information have been provided concerning emissions from the chimney and their effects on ecological receptors.

Landscape and Visual

A.3.32 Following comments received from Plymouth City Council's Urban Planning Co-ordinator, and subsequent discussions, URS Scott Wilson's Chartered Landscape Architect and Landscape and Visual Impact Expert Witness have revised the landscape and visual impact assessment.

A.3.33 The key amendments are as follows:

- The policy section has been updated with a greater emphasis on objectives in the Core Strategy and Plymouth Waste DPD, and criteria within the Sustainable Design SPD.
- Additional photomontages have been produced showing vapour plumes in varying climatic conditions.
- Amendments have been made to the 'sensitivity' and 'magnitude of impact' categorisation of certain Landscape Character Areas (LCAs) and Visual Receptors. These amendments have then been reflected in the overall 'Significance of Effect'.
- The notes within Appendix 8.1, Table C: Visual Receptors, Impacts and Effects have been refined to adhere more closely with the Landscape Institute and Institute of Environmental Management and Assessment (2002) 'Guidelines for landscape impact and visual assessment' 2nd Edition.

A.3.34 In conclusion, these modifications have resulted in no change to the impacts for the LCAs. There has been some increase in the number of Visual Receptors experiencing significant adverse effects. However, this has not altered the overall conclusion of the landscape and visual impact assessment. It remains the case that the siting, orientation, design and materials have all been developed by the experienced design team to create a landmark and feature building which will complement the surrounding Dockyard and form a positive, impressive feature within the landscape of Plymouth.

Cultural Heritage

A.3.35 A photomontage has been prepared to show the relationship between the proposed development and the group of listed buildings at HMS Drake. The Cultural Heritage assessment identified a visual link between the EfW CHP facility and HMS Drake; however, the significance of the setting of the listed buildings will not be impacted. This is not because of the level of the visibility, but rather the nature of the historic site as an enclosed complex with historic and evidential value as a group. It is the relationship of the buildings to one another that is of importance, rather than their relationship with elements outside the complex, which has already been eroded by modern development. The photomontage provides an idea of the impact of existing modern development surrounding the site. The proposals will not impact on views of one building to another or the parade ground and therefore on the significance of the historic structures as a group.

A.3.36 The proposed cable and pipeline routes for the EfW CHP facility run along areas of previously disturbed, truncated, levelled or reclaimed land. The only archaeological potential identified in the ES was the possibility of the alluvial layers beneath the made ground in the areas of reclaimed land to contain palaeoenvironmental evidence. None of the proposed cable or pipe routes will be inserted below the depth of the made ground and will therefore have no impact. Where proposed cable routes run in areas of archaeological potential such as the 33kV route near the listed buildings of HMS Drake, it will be ensured that the insertion of the cable does not damage any of the fabric of the listed structures. There is not likely to be any below-ground impact on this route due to the extensive development which took place in the later 20th century with the creation and expansion of the dockyard. This is likely to have truncated any archaeological deposits in the area.

A.3.37 Due to the negligible quantity of sulphur dioxide that will be present in the ambient air as a result of the EfW CHP facility the construction of the EfW CHP facility is not expected to pose a risk to the fabric of buildings at HMS Drake.

Contamination: Land and Water Quality

A.3.38 Additional monitoring of ground gas levels at the site has been undertaken and a supplementary report has been appended. The report found that there is no valid potential source of harmful landfill-type ground gases that may affect the proposed development. Ground gas precautions in addition to the "basic" precautions outlined in BRE BR211 (2007) are not necessary for the proposed building. As there is no valid mechanism for ground gas emissions to increase it is considered that there will be little benefit in undertaking additional ground gas monitoring. It is considered that the proposed development is in compliance with guidance published in PPS23 (2004).

Hydrology, Hydrogeology and Flood Risk

A.3.39 Evidence has been prepared to show that the Planning Policy Statement 25: Development and Flood Risk 'Sequential Test' has been adequately carried out for the proposed EfW CHP facility. The assessment, coupled with the Flood Risk Assessment (FRA) and the alternative sites evaluation in ES Chapter 5, concludes that there are no alternative sites with a lower probability of flooding which would be appropriate for the EfW CHP Facility.

A.3.40 Amendments to the surface water drainage strategy have been made and further information provided.

A.3.41 Details have been provided as to the monitoring programme proposed to access hydrological change.

Traffic and Transport

A.3.42 A number of clarifications / queries posed by Plymouth City Council's Transportation Unit regarding junction models and traffic growth forecasts have been addressed.

A.3.43 Further information on the numbers of HGV movements has been provided. The results of the percentage impact calculations show that for the assessed junctions (Saltash Road, Wolseley Road/A3064, Carlton Terrace, and A38 junctions) the percentage change for all traffic between the without-development and with-development scenarios is below or just over 1% at all of the junctions. The largest impact is at the A38 junctions when a 12 hour flow is considered. This impact however is very low at 1.12%. With regard to the percentage impact of HGVs the largest increase in vehicles is in the afternoon peak at the Wolseley Road / A3064 junction with a 60.49% increase in HGVs. This increase looks high, however it should be noted that actually represents 16 HGVs, which equates to one HGV every 3 to 4 minutes.

A.3.44 A number of clarifications have been made regarding on-site layout and vehicle movements.

A.3.45 Clarifications sought regarding loss of car parking spaces, cycle parking and construction workers have been addressed.

A.3.46 Trip generation data has been clarified.

A.3.47 The Waste Miles Assessment methodology has been amended.

A.3.48 Queries regarding the assumed amount and delivery timings of Commercial and Industrial waste arriving have been addressed. Clarification as to the working / operational year has been provided.

A.3.49 Further analysis has been undertaken concerning the operation of the constituents of the Weston Mill junction complex. It is not considered that the proposed development would have a detrimental impact on the operation of the Highways Agency's Strategic Road Network.

A.3.50 A Technical Report has been produced concerning the road safety record of the A38 Weston Mill junction. The report indicates that the development may lead to an increase in traffic passing through the junction, however this will not have a significant effect on the overall safety of the junction.

Air Quality

A.3.51 The results of the complete air quality monitoring survey, providing a summary of the total of ten months of diffusion tube monitoring and ten months operation of the continuous monitoring station, have been provided. The results do not change the conclusions of the air quality assessment presented in the ES.

A.3.52 A clarification has been made in respect of other existing and proposed industrial emission sources in the area.

A.3.53 Further information has been provided regarding emissions to air (odorous and pollutant) that will be associated with the commissioning of the plant and the restarting of the plant after periods of shut down for maintenance and/or breakdown. Cold and warm start ups have been covered.

A.3.54 Further information has been provided regarding fuel oil content and usage.

A.3.55 The ES is clarified as having considered emissions of $PM_{2.5}$.

A.3.56 While odours are in theory possible during excavation due to decomposing organic material and hydrogen sulphide, the risk of odorous emissions during the construction phase is considered negligible.

A.3.57 Each partner council in the SWDWP has reviewed their current and future delivery vehicle arrangements and have considered the associated potential odour and emission issues. Further information is provided in this respect. Under the terms of its Environmental Permit, MVV will be required to maintain and implement an Odour Management Plan.

A.3.58 Further information regarding the vehicle emission standards of the waste delivery vehicles has been provided.

A.3.59 The potential for construction dusts to have adverse effects on amenity has been clarified and appropriate references to the ES made.

A.3.60 For clarification, the wind roses shown in Figure 3.1 within ES Appendix 13.1 show the direction from which the wind is blowing, not the direction to which the wind is blowing.

Noise and Vibration

A.3.61 Further information regarding the impact of construction noise and mitigation concerning nearby residential properties has been provided.

A.3.62 Further information has been submitted regarding noise during plant commissioning and start-up, noise from exhaust vents on the roof of the boiler house, and third octave sound power levels.

A.3.63 Significant noise attenuation features have been designed into the plant, including:

- High performance ventilation openings to buildings.
- High performance wall and roof cladding to buildings.
- High performance exhaust fan silencer and acoustic enclosure.
- Very low noise air cooled condenser (ACC) fans.

A.3.64 However, the statement that the plant will be one of the quietest in the UK cannot be proved conclusively, so the statement at ES paragraph 14.5.3 is withdrawn.

A.3.65 The operational noise model was revised to include HGVs queuing on the access road into the site. During normal daytime operation it is unlikely that noise levels to any receptor will be greater than 5 decibels above the background level.

A.3.66 Additional noise monitoring was undertaken in July 2011 along Weston Mill Drive. The noise impacts to properties on Weston Mill Drive and Wolseley Road are dominated by existing traffic conditions, not the proposed EfW CHP facility traffic.

Socio-economics

A.3.67 According to the Index of Multiple Deprivation 2007 (IMD 2007), Plymouth is the 76th (out of 354) most deprived borough in England. The IMD 2010 have now been published. Plymouth is now ranked 72 out of 326 local authority areas. The 2010 rank is similar to the 2007 rank.

Health and Wellbeing

A.3.68 Further information has been submitted and referrals made to appropriate sections of the planning application documents to address the Public Protection Service of Plymouth City Council's comments regarding noise and well-being.

A.3.69 Further information has been submitted and referrals made to appropriate sections of the planning application documents to address the Public Health Development Unit of the Plymouth NHS Trust's concerns.

A.3.70 A section of the 'Health and Well-being' paper is clarified as meaning it is the process of promoting control, inclusion and participation of members of the local communities in the operation of the facility – in this case through dialogue – that seeks to have a positive impact on wellbeing.

Response to Letters of Representation

A.3.71 A number of letters of representation have been received in relation to the planning application. MVV has analysed these and has provided its responses.

A.4 'Map' of Responses to Request for Further Information

A.4.1 A 'map' correlating the points in the Regulation 19 request for further information and the location of the corresponding information in this report can be found overleaf.

Source	Issue in Regulation 19 Request	*Further Information Report* Section Reference Number
1)	**Adequacy of the alternatives studied and reason for the choice**	
Bruce Braithwaite and PCC Planning Services case officer	Clarification of need and implications of the recent Waste Strategy Review	C8
	Further information on the analysis and justification for the choice of site and for the alternative sites grade assessments and for the conclusions put forward on Ernesettle and Coypool and for the justification for this site over others	D5
2)	**Adequacy of the data required to identify and assess the main impacts**	
Alexis Huggins (Scott Wilson) and Bruce Braithwaite and case officer	Noise from plant and roof top mechanical ventilation and information on third octave band data to allow us to consider the application of a tonal penalty.	D14
	Noise during commissioning phase and noise from queuing traffic on the site access road.	D14
	Ground gas monitoring latest information and analysis	D10
	Air Quality monitoring data latest information and analysis	D13

	Odour, noise and health impact data associated with HGVs visiting the site and from the existing/proposed fleet of RCV's visiting the site, passing residential and school properties close to the access road and Camels Head junction.	D12, D13, D14
	Emissions to air (odorous and pollutant) that could be associated with the commissioning of the plant and the restarting of the plant after periods of shut down for maintenance and/or breakdown.	D13
	Ecology – monitoring and latest information and analysis	D7
	Visible assessment data concerning possible plume effect – photomontages required.	D8
	Update of the Landscape and Visual Impact data as concerns were expressed to you on 2nd June concerning data relating to Volume 1, Main Text Chapter 8, Volume 2, Figures, Part B Assessment, 8 Landscape & Visual, Volume 3, Appendices, Appendix 8.1 Landscape & Visual Impact Assessment Tables**.**	D8
	Information on the proposed commitment to the delivery of alleged Energy, Economy, Employment and Education benefits (together with any evidence of support from the beneficiaries)	C5
	Clarification of Carbon reduction opportunities to be delivered in the residential neighbourhood	C5
	Clarification of further Energy efficiency and carbon reduction measures for upgrading and extending steam pipe network across the dockyards (and any evidence of support from the dockyards) and clarification of associated monitoring arrangements	C4, C5
	Quantification of any long term employment to be secured by the proposal and any evidence of support from the dockyards.	C5
	Information on the current distribution of Plymouth RCV's on the network and in particular the number of RCV's that currently travel through the junctions of Carlton Terrace/Weston Mill Drive and Weston Mill Drive/Wolseley Road. (to demonstrate that not all of the movements associated with the EfW plant would be new to the network in this location).	D12

3)	**Adequacy of the measures envisaged to mitigate significant adverse effects**	
Alexis Huggins (Scott Wilson) and Bruce Braithwaite and case officer	Adequacy of S106 Heads of Terms	C9
	Adequacy of measures for mitigating social impacts of the proposed development including adequacy of community fund and justification for the amount suggested and adequacy of community involvement in defining community benefits	C3, C5
	Justification of Health and Wellbeing Assessment conclusions particularly in terms of mental and social well-being as the site is close to some of the poorest and most disadvantaged neighbourhoods presenting significant health inequalities.	D18
	Information about the educational / community role of the Visitor Centre and access to the facilities mindful of responses to date	C5
	Clarification of employment benefits locally, and information about links with local apprenticeship schemes and justification for the number suggested	C5
PCC Transportation Unit	North Yard Noise Assessment – the primary issue is the lack of base survey data in respect of traffic noise along the Weston Mill Drive corridor; it would appear that all assessment work and predictions are based upon calculations which have not been validated by base survey/monitoring data. This needs to be addressed.	D14

	There is an existing, identified traffic noise problem along Weston Mill Drive. The development could result in a significant increase in HGV movements to and from the site and on the local road network and a worsening of the noise environment. Mitigation measures should be provided for the residential housing and sensitive receptors within and adjacent to the area of concern. (This could include low noise road surfacing, noise attenuation barriers and/or improved window glazing and confirmation is required about the delivery of adequate measures).	D14
	Revised traffic modelling data needed.	D14
	Detailed requirements dated 15th June in respect of further TA information has been sent to you (further copy attached)	D12
HSE Nuclear Directorate	Awaited	-
English Heritage	Letter dated 30th June attached. There is a key relationship for which they require further details: A view looking across HMS Drake towards the proposed facility	D9
	[Also in letter from EH but not specifically in Reg 19 table: Potential effects of new pipes and cables on archaeology.]	D9
Natural England	Received, dated 28.06.11.	C7, D7
Highways Agency	The Highways Agency Direction dated 25th June is attached. This directs that permission be not granted for 6 months to enable the Agency to consider additional information to fully assess the impact on the strategic road network. Information required includes the requirement to: Model the development impacts upon the operation of the A38/St Budeaux By-Pass junction (rather than just identify the percentage impacts)'	D12

Environment Agency – General	The views of the EA dated 20th June were sent to you directly. Further information required by the Agency and PCC include information in respect of: Flood Risk – Sequential Test;	D11
	Safe access during periods of extreme flooding;	D11
	Updated drainage details and details for the routing of surface water discharge to the creek;	D11
	The viability of watercourse improvements adjacent to the site;	D7
	Fish and otter passage;	D7
	Biodiversity enhancement potential of the surface water swale and adjacent watercourses	D7
	Application of the correct critical load levels in the nutrient nitrogen assessments for interest features of sites of ecological interest - SACs and potential air quality impact on Ernesettle CWS with a requirement for clarifying Predicted Environmental Concentrations	D7
Environment Agency – HRA	1.2.3 – The EA is also a competent authority and must undertake an HRA in support of the Environmental Permits. The EA point out that this HRA will help inform the EA's HRA.	C7
	1.3.3 - The figure in Appendix 1 shows the location of the European sites in relation to the proposal area. The screening criteria used for the assessment is 10km and therefore it would be useful for figure 1 to show the 10km distance.	C7
	2.5.2 - Other plans or projects that need to be included are SMP policies and maintenance dredging.	C7
	3.2.4 - It is important to understand that impacts to birds can arise when birds are pushed (as a result of disturbance) from one area to another area which already supports a valuable/notable bird population. The birds within the new area are then also impacted and the overall impact is therefore intensified.	C7

	4.1 noise / vibration - Whilst it is recognised that noise and vibration impacts from the development are unlikely to affect interest features of the SPA or SAC alone, there are 2 other plans that could act in combination and should be noted. These are the piling and dredging proposed as part of the DLCCP project and MOD maintenance dredging. If these project where to coincide at the same time noise and vibration impacts could be significant to both allis shad and SPA interest features.	C7
	It needs to be noted that SPA interest features are mobile, with Little egret having been observed in Western Mill Lake, and are not restricted to the boundary of the SPA.	C7
	4.2.4 - Confirmation is needed that hot water will not be discharged in an emergency.	C7
	4.2.21 - The report only considers the in combination effects from Environment Agency discharges. There are other water quality plans or projects that should be considered e.g., DLCCP and maintenance dredging.	C7
	4.3.9 - The APIS critical load for shore dock is 10-25 KgN/ha/yr. The more stringent 10 kgN/ha/yr should be used within the modelling.	D7
Environment Agency – Pollution Prevention	The EA seek clarification on a number of issues before it is able to provide a recommendation on this planning application. Ash residues: Will bottom ash be classified as hazardous waste like the air pollution control residues?	D6
	Ash residues: We would like to receive further details on the volumes of bottom ash, the recycling options (these may need exemptions), analysis of bottom ash and residues, details of where it will be stored (dust issues?) and information on how and where residues will be disposed?	D6

	Tipping Hall / waste bunker: Although tipping Hall is controlled, under pressure will staff working conditions (sorting through waste to find canisters) result in doors left open instead of rolled shut? This could produce a vermin issue (Seagulls, flies etc.)?	D6
	Tipping Hall / waste bunker: Will the waste bunker and tipping hall produce leachate?	D6
	Liquid Effluent: What happens in Water treatment Hall?	D6
	Liquid Effluent: Does the water bath ever get drained?	D6
	Liquid Effluent: Waste bunker and bailing process will surely produce leachate/ liquid effluent?	D6
	Materials storage: Oil storage?	D6
	Construction and demolition Are there any underground tanks in the area?	D6
	Documents required: Construction method statements, Environmental management system, emergency response plan, analysis for excavated material, plan of where piling has taken place	D6
SWW	Having considered the details of the water requirements for the process element of the development SWW require information upon points of connection.	D6
MOD Defence Estates Safeguarding	Received, dated 01.07.11.	-

Tamar Estuaries Consultative Forum	The Consultative Forum seeks further information to assist them in commenting upon the application: Further information is sought on how the proposal will take account of the other plans and projects for piling and noise/vibration impacts in the vicinity of the site which could in combination affect the features of acknowledged importance.	C7
	Information needed on measures proposed to minimize the risk of any litter or detritus entering the SAC	C7
	Further information is sought on measures to secure fish and otter passage through adjacent watercourses.	D7
	Further information is sought on the intertidal baseline study and assessment of impacts. To date this has not been provided and information on the assessment of impact on the intertidal Biodiversity Action Plan Priority habitats needs to be quantified, particularly given the proposal to build a new bridge over the watercourse.	D7
	Also, details of the monitoring programme to assess any hydrological change need to be provided.	D11

PCC Public Protection Service (PPS)	The PPS seeks further information to assist them in commenting upon the application: Air Quality. Areas where more information is missing or further clarification required. Diffusion Tube Monitoring, Section 4.5 The diffusion tube results monitoring carried out by the applicants is presented as a period mean and annualised averages which have not been bias adjusted. When the final results are presented, the PPS would like to see the results presented as raw (unadjusted data) and bias adjusted with the 2010 locally derived bias adjustment factor of 1.09. PPS would also like to see the results presented with the individual month averages.	D13
	Industrial Sources/Cumulative Effects The application needs to be taken into consideration along with the cumulative impacts of all other current applications or operational industrial processes within the vicinity/area..... the following significant sources have not been considered. 1.) Viridor Clinical Waste Incinerator 2.) Planning Permission has been granted for a “Timber Resources Centre” at Belliver Way, Southway. 3.) Efford Crematorium. [Text edited by IR for brevity – see original Regulation 19 document when reviewing.]	D13

	Construction Phase Odorous emissions during the construction phase need to be analysed. The site, when excavated will likely give rise to short term odorous emissions which will impact on surrounding residents. Clarification is needed of whether an odour management plan for the construction phase is proposed to be submitted prior to commencement of works together with a site specific (non generic) construction management plan.	D13
	Commissioning Phase / Restarting after maintenance and breakdown. The AQ section does not provide adequate information on emissions to air (odorous and pollutant) that will be associated with: • The commissioning of the plant • The restarting of the plant after periods of shut down for maintenance and/or breakdown. The EfW will be shut down for maintenance and repair at least twice a year not including unforeseen breakdowns. Therefore more information is required on the impacts, in terms of air quality, under these circumstances.	D13
	Operational Phase Fuel Oil It would appear that the combustion chamber/boiler unit would be provided with oil burners for the purposes of igniting the waste at the start up of the facility following shut down periods, and to act as standby burners which automatically cut in, in the event of the combustion temperature in the combustion chamber/boiler unit falling below 850 o C. Information is needed about the type of fuel oil that will be used on site, and quantities. (It is understood that Sita's site at St Dennis can use up to 300,000 litres per annum and it is required to report on its consumption annually. Has this been taken into account with modelling?)	D6, D12, D13

	Emissions to air PM $_{2.5}$ The Waste Incineration Directive requires the operator and the Environment Agency to monitor PM10's on a continuous basis but not PM2.5. Section 13.5 discusses the control measures to be put in place to control and monitor emissions to air from the incineration process. However, it refers to particulate matter in a general way. Clarification is needed if the mitigation measures and controls will capture PM 2.5 as well as PM 10.	D13
	Odour from refuse vehicles, both using main access routes and on site. Information is needed about the impact of odour from RCV's arriving and leaving, particularly with regard to the impact of the number of vehicles passing residential and school properties close to the roadside. Information is also needed on the impact of odour whilst vehicles queue to access the weighbridge, which during peak hours could be a considerable number of vehicles.	D13
	Dust during construction phases. This section in 13.9.1 concludes that short term impacts will be found from dust emissions during construction within 100metres. This lacks information in terms of nuisance, and although has been declared as not being a health impact, could cause a nuisance problem. Further clarification needs to be made.	D13
	Noise PCC requested further information from the applicants relating to: Noise from queuing traffic on the site access road. (This has been submitted and is under consideration)	D14

	Exhaust stack vents, and noise impacts (still awaited)	D14
	Third octave band data to allow us to consider the application of a tonal penalty (still awaited)	D14
	PPS asked also for octave band levels at various receptors i.e. a noise contour map broken down by octave bands – (This has been provided in table form which is acceptable).	D14
	Commissioning information from a noise perspective, and the length of time. PPS do not accept that this can be resolved at a local level after the plant is completed and commissioning can take a considerable length of time, and is not covered by the permit application (still awaited)	D14
	Section 14.5.3 is newly added but it is not backed up with any evidence - If it is claimed it is "one of the quietest plant in the UK" are there quieter ones? If so where? Justification needed.	D14
	Health impacts 18.5.12 - PPS would like to understand the frequency of noise measurements being made, and information should be given on this.	D18
	14.6.11 and 18.6.6. This describes the impact of construction noise on residents in Talbot Gardens. Information is needed on how much time construction would be close to these properties (as construction is likely to last 2 years across the site which is a significant time period). Further information on mitigation measures need to be provided and detailed.	D14 (Appendix D.14.1), D18
	18.6.10 This section discusses the positive effect on the social determinants of well-being throughout the construction phase. Information is needed on whether there would be any positive effects when adverse impacts for residents in Talbot Gardens in particular require mitigating.	D18
	18.6.26, 18.6.31. The noise chapter was amended prior to being published on line, and some amendments were made to remove certain elements, including references to ambient noise levels. The health impacts chapter has not been updated since the changes were made and consequently, the second bullet point in this section may not be appropriate as it has no reference to the noise chapter. PPS would suggest that the applicant reconsiders this reference.	D18

	18.6.32 Clarification is needed of what is the absolute noise level?	D18
	Control of Pests/vermin Plymouth City Council's Pest Control Section frequently treat and bait for pests and vermin at residential properties in the vicinity and site clearance, excavation works and construction works could displace pests and vermin which could impact on residents surrounding the site.	D6
	A comprehensive site survey for vermin is warranted to include all redundant sewers and drain networks, or information is required on a comprehensive baiting programme (to be implemented prior to site clearance and construction).	D6
	An operational plan to deal with the control of pests and vermin would be required (this may also be required in the permit from the Environment Agency).	D6
NHS Plymouth primary care trust	Letter of concern dated 16th June attached. A clear non-technical explanation of the likely noise impacts of both the plant and the traffic is requested.	D18
	The Trust suggest that the developers work with the local authority and the different groups within the local community to ascertain the best methods for delivering community benefit within a flexible interpretation of the 'CIL Regulations'.	D18
	The Trust indicates that further information is needed: on the potential air pollution caused by the extra lorry journeys and other traffic generated by the development;	D18
	on whether the development would add to local bad odour problems;	D13, D18

	must include consideration of how the development might impact upon the determinants of mental health such as 'enhancing control' (belief in own capabilities, independence etc) and 'increasing resilience' (emotional wellbeing, healthy lifestyle etc).	D18
	clarifying whether any significant job creation benefits would arise from the development	C5
	clarification of cumulative health risks on the area	D18
	a review of the latest data regarding the safety of the site in the light of extreme weather and climatic changes affecting the proposed plant	D18
	clarification needed of adequacy of mitigation measures proposed that have the potential to improve the overall health and wellbeing of the population' as residents of Barne Barton need to benefit from reduced price 'heating… supply' and electricity produced by the EfW plant. The PCT realise that the heating supply may be subject to a feasibility study but hope the electricity supply at reduced cost could be confirmed.	C5
	more details of the annual apprenticeships scheme and some guarantee that it would favour residents from the affected neighbourhoods.	C5
	provision of a larger Community Fund and clarification of its control and democratic management	C5, D18
	a positive neighbourhood management brief for the proposed Community Liaison manager	C5
	an undertaking to help sustain a taxi-bus service or similar for Barne Barton residents, to help overcome the isolation of the neighbourhood.	D18
	[Also in letter from NHS but not specifically in Reg 19 table: Severance effects on health.]	D18

4) Other		
Alan Hartridge	Requested copy of baling video in English	Provided separately by MVV, not part of Regulation 19 response
Alan Hartridge	Requested copy of latest animation	Provided separately by MVV, not part of Regulation 19 response
Alan Hartridge	Requested analysis of latest round of community involvement	C3

B.1 Planning Application Drawings Further Information

B.1.1 Following consultation responses received from the Environment Agency it has been necessary to revise the following Planning Application Drawings:

- PA 19a Site Access Right Turn Option Revision B – revised to raise the proposed level of the access road in the vicinity of the railway viaduct so that it falls within Flood Zone 1 and to show the proposed access road drainage.
- PA 19b Site Access Long Section Revision A – revised to show the raised level of the access road in the vicinity of the viaduct so that it falls within Flood Zone 1.
- PA 21 Drainage Layout Plan Revision E – revised to include greater detail and clarity of the proposed drainage scheme.
- PA 17 Landscape Masterplan Revision R – revised to account for revisions to Drawings PA 19a, PA 19b and PA 21.

B.1.2 The revised Planning Application Drawings are provided at Appendix B.1.1.

B.1.3 Following consultation responses received from the Environment Agency it has been necessary to prepare the following new Planning Application Drawing:

- PA 21-1 Drainage Layout Plan – Bull Point Access Road Detail.

B.1.4 This new Planning Application Drawing is provided at Appendix B.1.1.

C.1 Planning Application Supporting Statement Further Information

C.1 Planning Application Supporting Statement

Section 9 Environmental Effects and Amenity Impacts – Landscape and Visual Effects

C.1.1 Delete paragraphs 9.1.17 – 9.1.24 and replace with the following.

Visual Amenity: During Construction

C.1.2 9.1.17 - It is considered that the EfW CHP facility during construction will result in significant adverse effects on five residential visual receptors (3) Talbot Gardens, (4) Savage Road, (6) Cardinal Way, (9) Carlton Terrace and (16) Saltash Road (North). This is set in the context of existing Dockyard views which reflects constant change as ships come and go and industrial-type activities take place but is considered a significant deterioration to the existing views.

Visual Amenity: Year 1

C.1.3 9.1.18 - It is considered that the operation of the EfW CHP facility at Year 1 will result in significant adverse effects on five residential visual receptors: (4) Savage Road, (6) Cardinal Avenue, (9) Carlton Terrace, (12) North Prospect Road (North), (16) Saltash Road (North); and one recreational receptor (10) users of Bridwell Road (Central). This is set in the context of immature mitigation planting and in the context of existing panoramic dockyard views respectively, but is considered a significant deterioration to the existing views.

Visual Amenity: Year 15

C.1.4 9.1.19 - The operation of the EfW CHP facility will continue to result in significant adverse effects on the residential visual receptors: (4) Savage Road, (6) Cardinal Avenue, (9) Carlton Terrace, (12) North Prospect Road (North), (16) Saltash Road (North); and one recreational receptor (10) users of Bridwell Road (Central); however future development of the dockyards will lead to this being less significant than at Year 1.

Conclusion on Landscape and Visual Effects

C.1.5 9.1.20 - Since the assessment identifies some significant visual effects on nearby residential receptors, it is essential that the tall, built elements of the scheme take account of PCC's Core Strategy, Strategic Objective 2: Design. In accordance with that objective, the architectural design therefore has regard to key design principles in support of PCC's vision for a high quality city. It is particularly important, not only in terms of simply complying with policy, but also for the benefit of local residents and visitors to Plymouth, that the architecture of the built form should be of a very high quality. As a building which cannot be entirely absorbed into its setting, it has therefore had to be designed to be seen and to form a local landmark – a flagship feature even – and this is what the scheme as proposed will achieve. So, in line with the expectations of LDF Policy CS02: Design, the new development is well designed to respect the character, identity and context of Plymouth's historic townscape and landscape and in particular Plymouth's unique waterfront, its local settlement pattern and wider moorland setting and nearby Tamar AONB.

C.1.6 9.1.21 - Although the building will result in changes to important local and longer-distance views due to its large scale, in accordance with CS02 it will also protect those views because of its striking design in terms of its form, massing, detailing, materials and colours. Also in line with CS02, in this way it will promote the image of the City, through enhancement of important gateway locations and key approach corridors, such as from the railway, and from the River Tamar. Overall, therefore, it will contribute positively to the area's identity and heritage in terms of scale, density, layout and access, as required by CS02 and additionally, at the local level, it will have public and private spaces that are safe, attractive, and accessible; and complement the built form.

C.1.7 9.1.22 - The facility will inevitably have a strong presence due to its nature, scale and form, but the proposals aim to set it appropriately within its landscape context. The surrounding Dockyard already has set a precedent for this scale in the form of the Frigate Complex at 46.6m tall; similar architectural scale to the proposed boiler house at 45m above ground level, and in the greys and whites which are the predominant colours of both buildings. The proposed design has evolved to be both modern and functional and, in accordance with LDF Strategic Objective 4, and Policy CS02, represents a world class EfW CHP facility to manage waste and produce electricity and heat representing a continuation of cutting-edge development in a dockyard that has been at the forefront of technological innovation for over two hundred years.

C.1.8 9.1.23 - PCC's Green Space Strategy cites the residential area of Barne Barton as a priority neighbourhood for green space investment and recognises Blackies Wood as non-accessible green space. In accordance with Objectives GSS16: Access to Nature and GSS19: The Educational Benefits of Green Space, and in conjunction with the proposed improvements to the public open space area of Barne Barton north-west of Blackies Wood, the landscape strategy proposals will enable coordinated and beneficial control of, and access to, Blackies Wood so that it can be managed both for the benefit of local communities and educational groups, and also to enhance and protect the biodiversity of the site.

C.1.9 9.1.25 - The proposals will substantially enhance Blackies Wood and the adjacent public open space along Savage Road, improving both the quality of the open space and the quantity of accessible space in a manner most beneficial to the local community, all in accordance with LDF Policy CS18: Plymouth's Green Space. Furthermore, the soft landscape proposals within the development area of the site will soften and assist in integrating the building into this sensitive setting comprising an unusual combination of potentially conflicting uses in the form of woodland, residential land and the industrial dockyard.

C.1.10 9.1.26 - These elements are particularly important in relation to addressing LDF Policy CS34: Planning Application Considerations. The iterative process of assessment and design has enabled the evolution of a scheme which is both functional in terms of its industrial purpose and pleasing in terms of its aesthetic appearance. The combination of built form, new landscape and management of existing landscape features will ensure that the scheme positively contributes to the townscape, landscape and biodiversity of the local environment, in line with that Policy. The design has evolved to be modern but functional: the facility will have a strong presence due to its nature, scale and form, but it will be carefully set within the landscape, its location and form, informed by the existing landform and natural features of the site and its immediate surroundings.

C.1.11 9.1.27 - It is therefore considered that such details are appropriate and sufficient to overcome the adverse visual effects classified by the EIA methodology as significant. Overall, despite its visual prominence from some locations, it is considered that the proposed scheme is in line with

LDF Policy CS34, in that it is compatible with its surroundings in terms of style, siting, layout, orientation, visual impact, local context and views, scale, massing, height, density, materials.

Section 10 Summary of Supporting Documents

Statement of Community Involvement

C.1.12 Section 10.2: Insert new paragraphs as follows after paragraph 10.2.6.

C.1.13 10.2.7 - Since the Statement of Community Involvement was written a further round of public exhibitions (June 2011) have been held and attendees from local communities actively encouraged to make suggestions for specific community benefits. Ideas from local residents included: tidying up and making improvements to Weston Mill Lake, developing Weston Mill creek into a wildlife haven, promoting walks from Blackies Wood to Ham Woods and the adjacent green areas nearby, providing a children's playground and public access and amenity infrastructure in Blackies Wood. Suggestions for use of the community fund included to start a local youth group, provide new play areas, support local schools and provide taxi bus services. It is understood that the taxi bus service is operating again and MVV is considering these and other initiatives, and has already set up a sponsorship fund for the local Barne Barton football team to enable the team to restart after a long absence.

C.1.14 10.2.8 - The Terms of Reference of the Liaison Committee, now renamed the Incinerator Liaison Committee (ILC) include making recommendations for the equitable distribution of MVV's Community Fund (as committed by Clause 6 of the Section 106 Agreement Draft Heads of Terms, provided at Appendix 8), and providing a vehicle for communication and engagement with the local community. To date, the initial meetings of the ILC have focussed on the membership, role and operation of the committee, and answering specific questions on the planning documents and consultation procedure. However, it is intended that the ILC will, in time, consider and give feedback on the community benefits proposed by MVV to the Community Fund Trustees, who will be responsible for the equitable distribution of the community fund.

C.1.15 10.2.9 - In developing its proposals for the Community Area, MVV has been mindful of Plymouth's Local Strategic Partnership, Plymouth 2020 objectives, as contained within the Sustainable Community Strategy and in particular objective SSC2 which seeks to improve community involvement and engagement in decision-making and service delivery.

Climate Change and Sustainability Statement

C.1.16 Section 10.3: Insert new paragraph as follows after paragraph 10.3.8.

C.1.17 10.3.9 - Further information has been prepared to identify the climate change and carbon management challenges set out in Plymouth City's Sustainable Development and Climate Change Frameworks and the associated corporate objectives, targets and actions which flow from the Climate Change and Carbon Management Plans as a result. Evidence of the complementary fit between the proposed development and the city-wide policy on sustainable development is demonstrated, including the substantial carbon off-set and climate change benefits of the EfW CHP facility. Although not directly comparable because of the different methodologies and units used, the annual saving provided by the EfW CHP facility would represent roughly a 5% annual saving for Plymouth's carbon footprint. This would be a significant contribution towards the current reduction targets set out in corporate policy, in particular the 20% GHG emissions reduction target for 2013 and 60% GHG emissions target for

2020 (although the EfW CHP facility is not expected to be fully operational until 2015). MVV's commitment to carbon footprint monitoring and a continuous improvement programme to reduce GHG emissions on a rolling basis reflect Plymouth City Council's own commitment to carbon management auditing, reporting and pledge to achieve year on year reductions. There is a direct match between the sustainable procurement principles adopted by Plymouth City Council and the exemplary levels of service delivery which MVV will deliver over the lifetime of the facility.

Energy, Economy, Employment and Education Benefits Statement

C.1.18 Paragraph 10.4.5: add additional sentence before final sentence which states:

C.1.19 The estimated financial benefit of MVV's EfW CHP facility over the SWDWP Reference Case (a single EfW facility) is a total of £388.8 million, broken down respectively as savings of £192.5m for Plymouth, £63.5m for Torbay and £132.8m for Devon.

C.1.20 After paragraph 10.4.10 insert additional paragraph as follows:

C.1.21 10.4.11- In developing its proposals to provide community benefits with respect to education and employment MVV has been mindful of Plymouth's Local Strategic Partnership, Plymouth 2020 objectives, as contained within the Sustainable Community Strategy. In particular, MVV believes that its proposals support objectives Wi1, Wi3, Wi4 and W2: by employing and training people of all ages to improve the skills of the working age population at all levels; by working with the University, City College and local schools on educational issues including Maths and English skills, to increase the numbers of young people participating in higher level education and skills training and improve educational achievement in these subject areas; and promoting local employment and engaging local suppliers wherever possible to reduce levels of worklessness.

Section 11 Compatibility with the Development Plan

C.1.22 Replace Paragraph 11.2.45 as follows:

C.1.23 11.2.45 - The assessment of adverse impacts on views from a range of locations, including residential properties, public areas and businesses, demonstrates that there are likely to be a small number of major adverse impacts on views from certain residential properties in the Barne Barton and Weston Mill Area. Chapter 8 of the ES quantifies these impacts, noting that significant adverse effects are limited to a small number of receptor locations, which vary though construction and operational phases of the development.

C.1.24 Replace Paragraph 11.2.46 as follows:

C.1.25 11.2.46 - The quality of views that are adversely affected, many of which are currently dominated by a disused and mixed-character industrial foreground and a monochromatic industrial backdrop of large scale buildings, has been taken into account in the EIA methodology.

C.1.26 Replace Paragraph 11.2.52 as follows:

C.1.27 11.2.52 - Chapter 8 of the proposed development, covering landscape and visual impact, concludes that the proposed development would have some long term beneficial effects on local landscape character and some significant adverse effects on visual amenity for a small number of residential visual receptors. The landscape and visual impact assessment concludes that the combination of built form, new landscape strategy and management of existing landscape features are appropriate and sufficient to overcome the adverse visual effects classified by the

EIA methodology as significant. The perception of significance of these adverse effects on views are also likely to be softened by a general public appreciation of the quality of the landmark building design and the important role played by the building in securing a sustainable future for the community.

C.1.28 Replace Paragraph 11.2.54 as follows:

C.1.29 11.2.54 - In the case of this development proposal, its has been demonstrated through a comprehensive EIA process, that the likely significant adverse impacts on the amenity of residents and other neighbouring users is limited to effects on views from a small number of residential visual receptors and possible short term construction noise. The ES reports that all other potential amenity impacts (such as those from dust, odour, vibration, operational noise and daylight and sunlight effects) will be mitigated by appropriate engineering design and good waste management practice measures.

C.2 Design and Access Statement

C.2.1 The Landscape Masterplan (Drawing PA17 Revision P) which was appended to the Design and Access Statement has been amended as a result of minor amendments to site access road and site drainage details, so it is now replaced by Drawing PA17 Revision R, presented in Section B of this Further Information report.

C.2.2 On 16 August 2011, a presentation of the proposals was made by MVV Environment Devonport Ltd, architects Savage and Chadwick, and landscape architects URS Scott Wilson to the South West Design Review Panel (SWDRP) of Creating Excellence. A subsequent letter received from the SWDRP can be found at Appendix C.2.1.

C.3 Statement of Community Involvement

C.3.1 In its consultation response, officers of Plymouth City Council requested additional information on the publicity of the submission of the planning application, the round of public exhibitions held after the submission of the planning application, and the community benefits.

C.3.2 An Addendum to the Statement of Community Involvement can be found at Appendix C.3.1. A summary of the information specifically requested by officers of Plymouth City Council is provided below.

Publicity of Planning Application

C.3.3 MVV widely publicised the submission of its planning application with press releases and other press coverage, interviews with local radio and TV, a newsletter circulated to more than 20,000 local households and directly to local Councillors and MPs through briefings held on the 2nd and 3rd of June 2011. This includes those who gave comments in February 2011 and also an email address.

Public Exhibitions

C.3.4 Since the Statement of Community Involvement was written a further round of public exhibitions have been held. To ensure that MVV obtained the views of the local community at these exhibitions, the feedback forms for the exhibitions were re-drafted to clarify the question regarding community benefits. Attendees from local communities were then actively encouraged to give their suggestions for specific community benefits, either directly to members of MVV's staff or via the feedback form. Attendees were also advised of other routes through which they could make suggestions for community benefits, for example, via MVV's website, e-mail, by letter or in person at MVV's office at Scott Business Park.

C.3.5 Both rounds of public exhibitions held in February and June 2011 produced some ideas for community projects from local residents. These are shown, together with MVV's response in the table below.

C.3.6 In addition to these suggestions MVV has already set up a sponsorship fund for the local Barne Barton football team to enable the team to restart after a long absence.

Area	Suggestions & comments by the public	Response/ action by MVV
Building appearance		
Building and building colours	• What will the colour of the chimney be? Can it be blue grey to blend in with the sky? • The building colours should blend into surroundings. • The dark colours of the building should not go too high up – otherwise it is too visible • It looks sympathetic to surrounding area • It looks functional and good	• Shading from grey at the bottom to white at the top reflects the sky more accurately. The sky is rarely blue. • The choice of colours reflects those in the Dockyard • The dark colours are at the bottom and they change to lighter colours from half way up.

	• Building very pleasing to the eye	
Lighting scheme	• I like the coloured lights • The building is ugly but the lights are pretty • I am against the coloured lights at night • The lighting is objectionable, it illuminates the night sky. Saltash has recently improved with downlighting on the streets. • Lighting looks pretty but it is a waste of money and electricity.	• The lighting will not be on the side closest to housing. • It will be managed not to illuminate the sky. • It is only proposed to illuminate the building from dusk until 11:00 pm. • The additional electrical demand for lighting the building will be provided from photovoltaic cells which it is proposed to position on the roof of the Tipping Hall.
Landscaping and tree planting		
Weston Mill Lake	• Improvements to Weston Mill Lake (tidy up) x 3 • Develop Weston Mill Creek into another wildlife haven and into an accessible and pleasant place	• MVV will organise for a "Clean the Creek" event in autumn 2011 and will consider repeating this over the lifetime of the project. • A viewing platform will be provided over the newly created wildlife pond which will link to Barne Creek (a tributary of Weston Mill Creek) • Subject to land ownership issues at Weston Mill Creek and Weston Mill Lake, MVV will follow up the idea of further improving Weston Mill Creek and Weston Mill Lake.
Tree planting	• Can we have London Plain trees as part of the landscaping as they are good at absorbing pollution? • As many trees as possible please! • Hide the building as much as possible	• Trees will generally reflect native species and be appropriate to setting. • The planting will help to screen the building from Savage Road as the relevant photomontages in the planning application documents show.
Use of Blackies Wood		
Blackies Wood	• Development of Blackies Wood into a safe haven for wildlife and a safe haven for residents would help in this repayment. I would like to see (where practicable) a local café for walkers, an activity centre for children, nature walks, a cycle path, dog waste bins. • Improve green areas x 2 • Playground for children x 2	• Blackies Wood will have a foot path which will be publicly accessible during the daytime • There will be benches, waste and recycling bins and interpretation boards about the surrounding environment alongside the foot path • An informal kick-about space will be provided on land adjacent to

	• Public access x 4 • Leave Blackies Wood as it is	Savage Road, subject to MoD approval as landowner. • A café is unlikely to be viable and MVV does not have a plan for this. • The extensive areas of woodland, existing and proposed trees, shrubs and grass in Blackies Wood are all to be managed to ensure their long-term survival and contribution to the locality as landscape and biodiversity features. • Bird, bat and insect boxes will be provided.
Connection to other green areas	• It is possible to walk from Blackies Wood and the proposed development site to Ham Woods and the adjacent green areas nearby. Promotion of these walks and provision of parking at the energy from waste plant would benefit local residents. Making these walks safe and enjoyable with clearly marked paths would be great. Maps and guides could be offered, and by developing local tourism for the area those that will suffer in respect of views from their properties or increased traffic will have something to be proud of in their area.	• MVV is aware of the Plymouth Green Infrastructure Project which has the objective of creating an interconnected network of green spaces in Plymouth. • MVV will investigate further how Blackies Wood could contribute to the objectives of the initiative or will be linked into it.
Use of community area		
Use of community area	• Meeting room for local organisations • Meeting room for forest school • Local CPD events from major institutions, eg IET, IMECHE, etc • Art gallery	• Subject to approval by SWDWP, it is MVV's intention to make the Community Area available for use by other local community groups, for example as a meeting venue, or a venue for specific local events. • MVV has already had discussions with the University of Plymouth and the City College regarding possible lessons in the community area where the topics discussed are connected to waste management issues. • The community area will also be

		used to give information on a wide range of topics in addition to waste awareness, for example ecology and biodiversity, local areas of interest such as the Dockyard and Tamar Valley.
Use of community fund		
Transport	• Reinstating Taxi Bus to enable disadvantaged residents to get to hospital etc. • Improve local transport	• MVV is currently investigating this although there is already a taxi bus service in the area which is supported by PCC.[2]
Conservation	• Conservation	• Enhancement measures are proposed for Blackies Wood and it will be maintained throughout the lifetime of the development.
Education & youth	• Education • For schools • Charity for disabled young and elderly • Contribution for a play area • Start a youth club for the local community	• The community area will be available for use by community in agreement with SWDWP • A sports pitch is already proposed as part of the landscape masterplan • The potential beneficiaries from the community fund will be decided by SWDWP following consultation with the Incinerator Liaison Committee.
Process	• Open for local projects! • There should be a process in which local organisations bid for funds for the projects!	• The community fund will be used for local projects. • MVV also proposes such a bid process.
Other		
Energy	• Can you provide cheap power or heating to local properties? • Please create a district heating system for the public	• MVV is actively investigating this in form of a scoping study for a district heating scheme in some areas adjacent to the energy from waste plant, particularly those areas which overlook the site.
Jobs	• What jobs will be available and how can they be applied for? • Try to ensure local employment where possible! • Create jobs!	• There will be 33 full-time jobs during the operational phase of the project. • For the vast majority of the jobs available, MVV will not start recruiting before 2013/ 2014. • Any job offers will be advertised locally and MVV is seeking to

[2] See http://www.plymouth.gov.uk/homepage/transportandstreets/publictransport/buses/taxibus.htm (17.08.2011)

		create local jobs wherever practicable. • MVV and its construction and process sub-contractors will undertake a "Suppliers & Employment Day" in Autumn 2011 to give local companies and individuals the chance to introduce themselves and investigate job and contract opportunities during construction and beyond. • This event will be widely advertised locally in due course.
Recycling	• The plant and the Council should promote more reuse and more recycling over the waste plant itself. A campaign to promote recycling over and above energy from waste would build trust with the public in that they would see the waste plant as supporting new ways of dealing with waste.	• MVV's Community Liaison Officer will have a specific responsibility to assist with promoting recycling, both at the plant in conjunction with site visit tours and with wider initiatives.
Transport	• Improve St. Budeaux by-pass please! • There used to be a rail line – can this be utilised for transporting the waste?	• MVV is in discussions with the Highways Agency about improvements and safety on St. Budeaux by-pass • The use of the railway line is not practical for short distance movement of waste. Half the waste delivered to the plant will arise in Plymouth and most of the remainder will be from within 20 miles. • Opening up the railway line would also be intrusive into Blackies Wood and bring noisy activities close to the houses on Savage Road and Talbot Gardens.

Community Benefits / Community Fund

C.3.7 Information regarding community benefits and the community fund is provided in Section C5.

Local Area Agreement Objectives

C.3.8 In developing its proposals for the Community Area, MVV has been mindful of Plymouth's Local Strategic Partnership, Plymouth 2020 objectives, as contained within the Sustainable Community Strategy. In particular, MVV believes that its proposals support the following objective:

- SSC2. Improve community involvement and engagement in decision-making and service delivery – please see the Statement of Community Involvement Addendum.

C.4 Climate Change and Sustainability Statement

Introduction

Purpose and Content of the Climate Change and Sustainability Statement

C.4.1 The purpose of the Climate Change and Sustainability Statement (CCSS) submitted with the planning application is to provide Plymouth City Council with information on the main sustainability credentials of the proposed development. The CCSS is supported by a BREEAM pre-assessment document (Appendix 1 to the CCSS) and a WRATE analysis (Appendix 2 to the CCSS) which models the forecast performance of the proposed thermal treatment facility including the facility's global warming potential.

C.4.2 Policy W8: 'Considerations for Waste Development Proposals' of the Adopted (April 2008) Plymouth Waste Development Plan Document (DPD) states (at clause 12) that all major applications for waste management facilities should include a CCSS. The suggested content of the CCSS is set out in the Adopted (2009) Sustainable Design in Plymouth Supplementary Planning Document (SPD) (hereafter referred to as the 'Design SPD'). Adopted (2008) Plymouth Core Strategy Policy CS34 'Planning Application Considerations' also requires that the on- and off-site impacts of a development in relation to climate change are considered for all individual planning applications. The supporting text to this policy states that Plymouth City Council will pro-actively use the Design SPD and Planning Obligations SPD to interpret this policy.

C.4.3 In accordance to these key LDF policies, the CCSS submitted with the planning application addresses the sustainable development and climate change issues set out in Chapter 3 and Chapter 10 of the Design SPD. Chapter 3 relates to 'Sustainable Communities', Chapter 10 covers 'Development that responds to the needs of the Future', including the topics of 'Adaptability' and 'Designing for Climate Change'. The SPD Design sets out a number of detailed considerations which a CCSS must consider, including in relation to: passive solar design, energy efficiency, renewable energy, sustainable modes of travel, sustainable waste management, water conservation and recycling, resilience to climate change, flood risk and reduction in carbon emissions through selection of materials. The Design SPD provides guidance as to how each of these issues should be considered, pointing to key LDF policy references where appropriate. Although the Design SPD does not refer to Plymouth City Council's various corporate / Local Strategic Partnership (LSP) strategies and action plans on carbon management and climate change, the Design SPD was adopted either after or within similar time frames to the adoption / publication of the corporate/LSP documents. Therefore it can be assumed that the corporate / LSP objectives and targets have informed the content of the Design SPD.

Purpose and Content of this CCSS Further Information

C.4.4 This further information has been prepared to demonstrate the compatibility of the proposed EfW CHP facility with climate change and carbon management targets and policies of Plymouth City Council and its LSP members, providing evidence of the fit between the proposed development and city-wide corporate policy regarding sustainable development. The following documents are considered:

- Securing a Sustainable Future Plymouth 2020's Sustainable Development Framework (Adopted 12 December 2008): http://www.plymouth.gov.uk/sustainable_development_framework.pdf.

- Plymouth's Climate Change Framework 2008/2010 (December 2008): http://www.plymouth.gov.uk/climate_change_strategy.pdf.
- Acting on Climate Change: The First Steps 2009-2011: Plymouth's Climate Change Action Plan: http://www.plymouth.gov.uk/acting_on_climate_change.pdf.
- Environment Policy and Forward Plan 2009 – 2012 Seeking Excellence by 2012 (November 2009): http://www.plymouth.gov.uk/environment_policy_-_november_2009.pdf.
- Plymouth City Council's Carbon Management Strategic Implementation Plan 2008/2013 (Submission Draft (26.03.08): http://www.plymouth.gov.uk/260308lacmfinalsubmission.pdf.

C.4.5 These Plymouth City Council / LSP documents are primarily concerned with strategic, city-wide activities which the Council and its partners will undertake in order to reduce their contributions to climate change, and prepare for and reduce vulnerability to climate change. They also call for residents and businesses to play their part in responding to the challenges of climate change.

C.4.6 The CCSS is tailored to the site and project-specific details of the EfW CHP facility planning application, i.e. it considers the climate change and sustainability implications of the particular development for which planning permission is sought. The further information presented below demonstrates that the proposed development complies not only with the planning policy requirements for individual projects to address climate change and sustainability, but that it will also make a wider contribution to corporate activity and objectives at the strategic level.

C.4.7 The following sections provide a brief summary of the key commitments and policies within each of the corporate / LSP documents. Following these, analysis is presented which demonstrates the consistency between the EfW CHP facility proposals and these higher level strategies.

Securing a Sustainable Future Plymouth 2020's Sustainable Development Framework (Adopted December 2008)

C.4.8 The Sustainable Development Framework embeds a common set of sustainability principles into local decision making through the Sustainable Community Strategy and Local Area Agreement, encouraging LSP partner organisations to do the same. The LSP's sustainability objectives include tackling climate change and moving towards a low carbon economy, and commit to the process of monitoring movement towards improved sustainability through regular reviews of baseline information and key indicators. Two significant city-wide (LSP) targets have been adopted for the reduction of greenhouse gas emissions. These are as follows:

- In comparison with agreed baseline levels, to contribute to reducing city-wide emissions of greenhouse gases by 20% by 2013, 60% by 2020 and an additional 20% (to 80%) by 2050.

  Source: Climate Change Framework, IPCC and UKCIP data and SW Climate Change Action Plan 2008)

- To work together to reduce the carbon footprint of the city's residents from 5.8 tCO_2 to 5.0 tCO_2 by 2013.

  (Source: Local Area Agreement target W6)

C.4.9 The LSP have also agreed to adopt a sustainability monitoring format, drawn from Forum for the Future's Sustainable Cities Index, to enable the 'future proofing' of local decision making. Among the high level indicators used to provide an annual progress report it is intended that over time, future proofing targets, including Plymouth's overall carbon footprint, will be reported through an annual Sustainability Statement.

C.4.10 Plymouth's carbon footprint is calculated as the sum total of the emissions from energy use (from domestic, housing, commercial and transport sectors) and is measured by the Government each year and compared with the overall population. Research for LAA targets calculated Plymouth's carbon footprint as just over 1,488,000 tonnes of CO_2 based on Defra figures from 2005. The footprint for each resident was therefore calculated as just over 5.8 tonnes of CO_2 per year. The UK average (calculated from estimates for 2006 and published by DEFRA) is 8.84 tCO_2, and the South West average is 8.27 tCO_2 per person.

C.4.11 Information presented below sets out the contributions that the EfW CHP facility will make to reducing emissions of greenhouse gases including CO_2. Although the EfW CHP facility will not be operational until 2015, once fully commissioned it will make a substantial contribution to the reduction targets. The EfW CHP facility will deliver a reduction of 73,504 tCO_2eq per year which is approximately 5.2% of Plymouth's 2010 carbon footprint of 1,414,000 t CO_2 per year. MVV have also agreed to report annually on their carbon footprint and further details of this monitoring and reporting system are provided below.

Plymouth's Climate Change Framework 2008 / 2010 (December 2008)

C.4.12 Nationally, the Climate Change Act 2008 sets legally binding targets for reducing greenhouse gas (GHG) emissions in the UK by at least 80% from 1990 levels by 2050. The UK's first Carbon Budget commits the UK to reducing GHG emissions by at least 34% in 2020 relative to 1990 levels. These targets are mirrored and exceeded by Plymouth's Climate Change Framework which recognises the potential the city has to make proactive changes.

C.4.13 Plymouth's Climate Change Framework identifies a framework for addressing the challenges of climate change, calling for commitment to this framework at a city-wide level and amongst LSP partners. The document reiterates the two high level targets set out in the Sustainable Development Framework and establishes that Plymouth's Climate Change Strategy and Action Plan will set out in detail the actions needed to meet the key targets. The document sets out a number of high level priority objectives and actions for addressing climate change. 'Key Mitigating Actions' relevant to the development proposals include:

- Embedding long term carbon management and resource efficiency in business continuity planning, investment and economic development;
- Stimulating the increased installation of renewable energy technologies; and
- Supporting and co-ordinating the delivery of low and zero carbon development by 2016 (for housing) and 2019 (non domestic sector).

C.4.14 MVV will embed long term carbon management into the operational planning and on-going service investment for the EfW CHP facility through the preparation of a Carbon Management Plan supported by annual auditing and reporting and a continuous improvement programme. Details are provided further below. The EfW CHP facility will deliver renewable energy technology and a low carbon development, especially in comparison to the existing waste management solution for residual municipal waste (landfill); consistent with the key mitigating actions listed above.

Acting on Climate Change – The First Steps 2009-2011 Plymouth's Climate Change Action Plan

C.4.15 As established above, Plymouth's Climate Change Framework sets out a series of ambitious targets for the city. Led by the LSP and Plymouth City Council, it was developed to build on

Plymouth's commitment to the internationally recognised Nottingham Declaration on Climate Change.

C.4.16 Interpreted for Plymouth's use, the Framework sets out the basis for public debate and raised awareness. It also sets the framework for the actions to be taken to limit or mitigate the impact of climate change, to reduce the emission of contributing GHG and to adapt / reduce vulnerability to climate change. The Action Plan subsequently provides a series of commitments / actions for the period from 2009 – 2011. To meet the first target (reducing the city's overall carbon footprint by 20% by 2013 (from a 2006 baseline), by 60% by 2020 and by 80% by 2050) Plymouth's carbon footprint would need to reduce by 282,000 tonnes of carbon dioxide by 2013. In 2008/09 Plymouth City Council made savings of almost 35,000 tCO_2 through a Carbon Management Plan. This Carbon Management Plan (discussed below) provides a template for the Low Carbon Network, a group of local companies who have signed up to the challenge to create their own footprints and gradually reduce them. The Council has set itself a target of 186 companies, which would need to find only 1516.13 tCO_2 each.

C.4.17 To meet the second target (to reduce the per capita (individual) carbon footprint from 5.68 tCO_2 per person (revised 2006 baseline) to 5.00 tCO_2 per person by 2013) the per capita carbon footprint must be reduced by 13.8% by 2013.

C.4.18 Key priorities for change include improving energy and resource use by improving energy efficiency; increasing the use of renewables; introducing carbon accounting; and making the most of an economy based on green technologies, low energy use and best practice in energy management. Among the potential opportunities identified is waste management – using the reduce, reuse, recycle hierarchy to reduce carbon footprints; and meeting energy demand through renewables of all forms.

C.4.19 The EfW CHP facility demonstrates an excellent match with these key priorities for change, as it represents a highly energy efficient facility (achieving an average efficiency of 39% compared with a typical facility in the UK without CHP which would currently achieve approximately 23%) and it increases the use of renewable energy, as the process qualifies as a renewable energy source. The EfW CHP facility will deliver a reduction of 73,504 tCO_2eq per year which is approximately 5.2% of Plymouth's 2010 carbon footprint of 1,414,000 t CO_2 per year. MVV has calculated that the current annual fossil fuel demand (gas) of the combined North and South Yard boiler system and the Naval Base FAC system is 103,000,000 kWh. With the EfW CHP facility in operation the energy savings will amount to 82,200,000 kWh per annum of natural gas and a saving of 15,194.671 tonnes of CO_2 per annum. This equates to a reduction of approximately 90% of current emissions. The users of this green energy (i.e. the North Yard and the Naval Base) will therefore be substantially reducing their carbon footprint. MVV has committed to undertake carbon accounting through the production and regular auditing of a Carbon Management Plan for the facility. The facility will make the most of an economy based on green technologies and best practice in energy management. The scheme qualifies as a Good Quality CHP scheme, and the energy and heat generated by the process will be used to support the local economy by supplying the Dockyard and the Royal Naval Base. It is also consistent with the potential carbon saving opportunities identified in the Action Plan regarding waste management and meeting energy demand through the use of renewables of all forms.

The Environment Policy and Forward Plan 2009-2012 Seeking Excellence by 2012 (November 2009)

C.4.20 The Environment Policy and Forward Plan is a corporate document which sets out Plymouth Council's commitment to reduce its own impact on the environment, including the production of a

five year Carbon Budget that sets out activities and associated carbon and financial savings; and a commitment to undertake formal carbon accounting ahead of the governmental deadline of 2012. The plan recognises that from 2009 onwards, the Council's carbon footprint and use of natural resources will be formally audited as part of a Comprehensive Area Agreement (CAA).

C.4.21 The Council's first carbon footprint was calculated in 2006 and included figures for waste management. The total for 2005/06 was 121,737 tCO_2 (although this figure has subsequently been revised downwards). (In 2010 the reported figure was 1,414,000 tCO_2).

C.4.22 The plan focuses on five themes, the first being the reduction of carbon emissions and adaptation to climate change. The actions required to deliver this change on a corporate basis are set out in the Council's adopted Local Authority Carbon Management Plan 2008/2011 (discussed below). The Plan commits the Council to deliver the targets required by: National Indicator (NI) 185 (the carbon footprint of the local authority), NI 186 (reducing the per capita carbon footprint from 5.8 tCO_2 per person to 5.0 tCO_2 by 2013) and NI 188 (planning to adapt to climate change). Under this theme the Council commits to:

- Audit our use of renewable energy sources to supplement grid supply wherever possible and promote renewables through our energy and planning policies.
- Promote development that meets high standards of energy efficiency … using our planning and building control powers to encourage low carbon solutions.

C.4.23 Under the Sustainable Procurement theme the Council commits to:

- "Promoting a 'whole life' approach to procurement taking in to account the carbon footprint of goods and services and any reductions in emissions that can be achieved"
- "Encourage all those offering goods and services to the Council to consider their own carbon footprint and, through the involvement of the Low Carbon Network (Plymouth 186) to choose options that reduce carbon emissions, their impact on the environment and their contribution to locally agreed targets for reductions".
- "Further reducing the carbon footprint of goods and services by challenging how far they are transported and sourcing closer alternatives".

C.4.24 MVV has committed to preparing a Carbon Management Plan and to undertake regular carbon auditing over the lifetime of the service contract. MVV has also committed to achieving year on year reductions in GHG emissions. The EfW CHP facility addresses the need to provide a local solution to the management of Plymouth's residual municipal waste, avoiding the need for waste to travel to the Lean Quarry landfill site in Cornwall, which is a 42 mile round trip from Plymouth. It also provides for the residual municipal waste disposal requirements for Torbay, Teignbridge, South Hams and West Devon. The renewable energy produced will substitute National Grid supply and a surplus will be generated which can be exported to the National Grid. As already mentioned the CHP scheme achieves a high level of energy efficiency (39% on average). This is consistent with the Council's sustainable procurement requirements.

Plymouth City Council's Carbon Management Plan (Local Authority Carbon Management Programme Submission Draft Strategy and Implementation Plan, 26.03.08)

C.4.25 Plymouth City Council was selected in 2007 to take part in the Local Authority Carbon Management programme. The nine authorities participating in the programme were required to systematically audit energy use and provide a baseline, assess the options and opportunities for

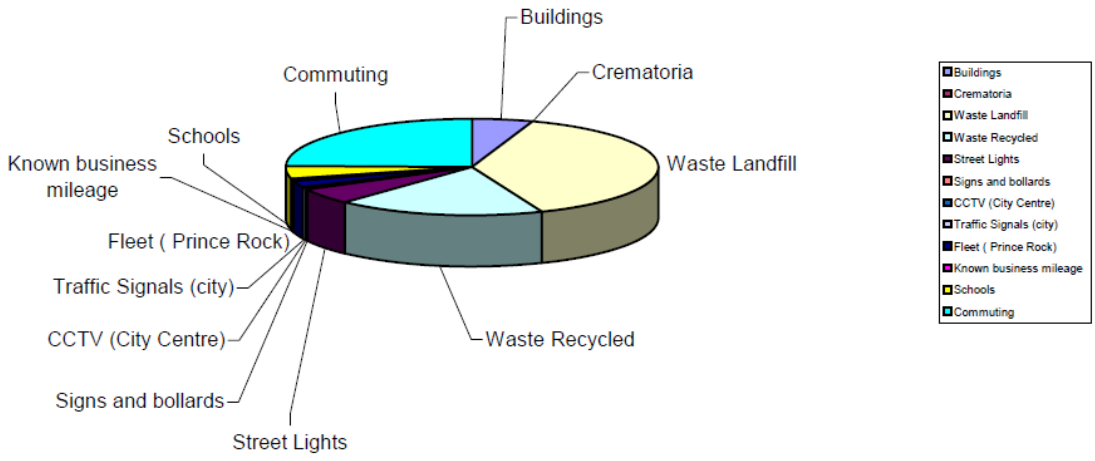
reductions in emissions and costs, and prepare a Strategic Implementation Plan (SIP) (with the support of the Carbon Trust). This document sets out the Council's SIP, a five year plan to gradually reduce the Council's carbon footprint and highlight where both monetary and carbon dioxide savings can be made. The Plan commits the Council:

- "To lead by example by striving to reduce the Council's corporate emissions by 20% by 2013 through the delivery of the Carbon Management Plan set out in this document".

C.4.26 Strategic priorities include achieving a reduction in both the carbon emissions and costs associated with the running of the Council's business and services. The Plan identifies that the service of waste management is a key driver of the Council's emissions baseline and that the closure of Plymouth's landfill site at Chelson Meadow continues to provide a challenge for the City Council. It recognises that initially, the Council's footprint will be increased as municipal waste is being transferred to Liskeard in Cornwall (for a seven year period). In order to reduce this burden, there are plans to increase recycling rates and, in due course, to introduce a waste to energy plant.

C.4.27 The calculated baseline (2006/07) for waste was 104,305 tonnes of waste (landfilled) resulting in the production of 46,624 tCO_2 and 49,816 tonnes of waste which was recycled resulting in the production of 22,268 tCO_2. Within the overall emissions footprint, waste and commuting dominate the figures due to their high emission factors. The following is taken from the SIP:

Table 2 : Plymouth City Council's Carbon Footprint (including waste and commuting data)



C.4.28 The EfW CHP facility will deliver a reduction of 73,504 tCO_{2eq} per year which is approximately 5.2% of Plymouth's 2010 carbon footprint of 1,414,000 t CO_2 per year. These data demonstrate a response to the need to reduce the City's waste emissions footprint. They identify the substantial contribution that the EfW CHP facility will make on an annual basis to reducing the carbon footprint of the Council, particularly when compared against the current residual waste management solution (landfill).

How does the proposed development fit with corporate activity on climate change and carbon management?

C.4.29 MVV recognises that the management of waste contributes significantly to UK GHG emissions through the transport, processing, treatment and, of particular importance, release of methane from degrading waste in landfills. MVV is fully aware of the need for new facilities to be built with carbon reduction as a key priority.

C.4.30 To support the achievement of this goal, MVV committed at the bidding stage of the SWDWP contract to the development and implementation of a Carbon Management Plan for the facility. The production and regular review of this Carbon Management Plan will include the following activities:

- Calculating and reporting of the baseline carbon footprint on an annual basis;
- Review of the major sources of GHG associated with the operation of the facility and the setting of realistic rolling targets for reducing these emissions;
- The preparation of annual carbon reduction plans to ensure emissions targets are met: and
- Consideration of the off-setting of any carbon emission reduction shortfalls.

Predicted Carbon Footprint of the Development

C.4.31 The WRATE model is a tool that can be used to predict the global warming potential (GWP) of a waste management solution. GWP is a relative measure of how much heat a greenhouse gas traps in the atmosphere. It compares the amount of heat trapped by a certain mass of the gas in question to the amount of heat trapped by a similar mass of carbon dioxide (and is therefore expressed in terms of tonnes of CO_2 equivalent). A GWP is calculated over a specific time interval, commonly 20, 100 or 500 years, to reflect the fact that the GWP value depends on how quickly the gas concentration decays over time in the atmosphere. This recognises that a gas which is quickly removed from the atmosphere may initially have a large effect, but over longer time periods as it has been removed becomes less important. GWP is expressed as a factor of CO_2 (where GWP is standardised to 1).

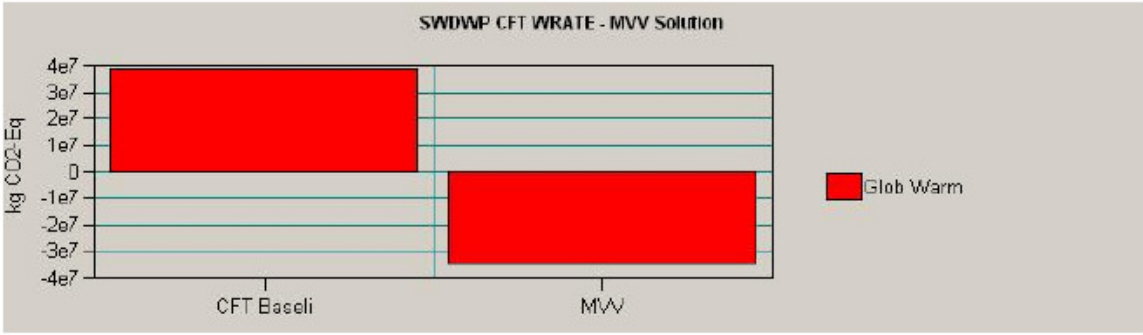
C.4.32 A WRATE analysis (Appendix 2 of the CCSS) of the proposed EfW CHP facility has been undertaken in order to model the forecast performance of the proposed facility in terms of its GWP over 100 years (see section 4, page 19 of Appendix 2 of the CCSS). This analysis provides an indication of the carbon footprint of the facility, taking into account the energy yielded from the waste, as combined heat and power.

C.4.33 These figures, in turn, have been compared to the current carbon footprint resulting from the disposal of the SWDWP's waste to landfill sites. These elements of the carbon footprint are taken into account when considering the overall waste management footprint.

C.4.34 The WRATE analysis predicts that 34,625 tCO_2eq will be offset by generating energy through the combustion of waste and that a further 38,879 tCO_2eq will be saved by diverting waste from landfill, which is the most carbon intensive way of dealing with waste. This equates to a total saving of 73, 504 tCO_2eq per annum and 1,840,000 tCO_2eq over the 25 year service contract for the facility.

C.4.35 Figure 2 overleaf (taken from the submitted WRATE analysis, Appendix 2 of the CCSS, page 19) represents the WRATE graphic for GWP100 to compare the performance of the proposed solution against the baseline (disposal to landfill).

Figure 2: WRATE graphic: GWP100



C.4.36 Defra publishes annual estimates of emissions of CO_2 for Local Authority (NUTS4) and Government Office Region (NUTS1) areas and this data is available for the years 2005-2008 (see: http://www.decc.gov.uk/en/content/cms/statistics/climate_stats/gg_emissions/uk_emissions/2008_local/2008_local.aspx).

C.4.37 DEFRA's figures issued in Autumn 2010 show that Plymouth's current footprint has dropped by 75,000 tCO_2 over the last five years, down by 5 per cent from 1,489,000 tCO_2 to 1,414,000 tCO_2.

C.4.38 The Defra estimates include business and commercial, domestic energy use and transport and are calculated on a national basis. Emissions are assigned on an end-user basis and wherever possible, are based on 'real' local data such as electricity and gas consumption, and emissions from sites where pollution is regulated. All emissions from energy production are allocated according to where energy is actually consumed by householders and businesses, rather than where the source of the energy produced is located. Other emissions are calculated at point of emission (e.g. the remaining emissions are assigned to local areas on the basis of other local information such as traffic, population, employment and data on household fuel types).

C.4.39 Although not directly comparable because of the different methodologies and units used, the annual saving would represent roughly a 5% annual saving for Plymouth's carbon footprint, as currently calculated by Defra. When compared to the city's overall carbon footprint, it would be a significant contribution to the savings required to meet the city's reduction targets. It should be noted that the WRATE modelling is more sophisticated than the Defra calculations because it calculates the impact of all greenhouse gas emissions produced by the facility, not just CO_2 – hence the calculations are expressed in terms of CO_2 equivalent. With this in mind, it is very likely that the future DEFRA calculations will pick up the reductions created by the energy from waste plant and will reflect a reduced carbon footprint for the city.

C.4.40 MVV has calculated that the current annual fossil fuel demand (gas) of the combined North and South Yard boiler system and the Naval Base FAC system is 103,000,000 kWh. With the EfW CHP facility in operation the energy savings will amount to 82,200,000 kWh per annum of natural gas and a saving of 15,194.671 tonnes of CO_2 per annum. This equates to a reduction of

approximately 90% of current emissions. The users of this green energy (i.e. the North Yard and the Naval Base) will therefore be substantially reducing their carbon footprint.

Comparison with PCC Targets

C.4.41 The EfW CHP facility will deliver a reduction of 73,504 tCO_2eq per year which is approximately 5.2% of the 2010 footprint of 1,414,000 t CO_2 per year. The facility is expected to come into operation in 2015. Although it will not contribute to the City's target to achieve a reduction in the overall carbon footprint of 20% by 2013, it will certainly contribute to the target 60% reduction for 2020, especially if this target is revised downwards to reflect more accurate carbon emission reporting.

On-going Carbon Monitoring

C.4.42 The actual (as opposed to predicted) baseline carbon footprint for the EfW CHP facility will be established at the time of plant commissioning. The footprint will be calculated using actual plant measurements and collated data from the commissioning process. This will be modelled through an Environmental Performance Evaluation (EpE) Excel spreadsheet tool. This data will provide the baseline upon which possible further reductions in carbon emissions will be identified over the service period.

C.4.43 MVV will identify a series of Key Performance Indicators (KPIs) and monitoring targets set on the basis of the initial carbon and energy audits. The KPIs and targets will include:

- Implementation of focussed environmental management plans for operational performance improvement;
- Efficiency objectives and targets for the EfW CHP facility; and
- Development of a Carbon Reduction Strategy incorporating rolling carbon reduction targets.

C.4.44 Annual energy and carbon audits will be undertaken throughout the service period and will inform updated targets in the Carbon Management Plan. MVVs Integrated Management System (IMS) will provide a framework for monitoring and recording progress against the Carbon Management Plan. This information will be communicated to all employees to ensure the full backing and involvement of employees in achieving these savings.

C.4.45 MVV will use the World Resources Institute's Green House Gas (GHG) Protocol and Corporate Accounting and Reporting Standards (Corporate Standard) to account for and manage GHG emissions resulting from the facility. The GHG Protocol Corporate Standard (www.ghgprotocol.org/standards/corporate-standard) provides standards and guidance for companies and other organisations preparing a GHG emissions inventory and covers the accounting and reporting of the six greenhouse gases covered by the Kyoto Protocol — carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF_6).

C.4.46 The calculation tools provided are consistent with those proposed by the Inter-governmental Panel on Climate Change (IPCC) for compilation of emissions at the national level and are believed to represent the current "best practice".

C.4.47 The GHG Protocol Corporate Standard will allow MVV to:

- Prepare a GHG inventory that represents a true and fair account of the service emissions, through the use of standardised approaches and principles.
- Build an effective strategy to manage and reduce GHG emissions, specifically carbon.
- Accurately report the service's GHG emissions performance using internationally recognised accounting and reporting tools and standards.
- The scope of GHGs accounted for will include direct emissions from operations as well as indirect emissions resulting from the use of electricity from the National Grid.

Continuous Improvement

C.4.48 During the initial stages of operation there will be opportunities to reduce carbon emissions, as the process is fine-tuned and amended to obtain the best operating efficiency. Once the solution is operating normally MVV will aim for an annual reduction in carbon emissions for each year of the contract. These further reductions in carbon emissions will be achieved by:

- Fitting new carbon efficient technology to recover more energy or consume less energy as it becomes available, in accordance with the planned equipment replacement programme;
- Using greener fuels for vehicles as they become available;
- Adopting new carbon efficient practices;
- Education of employees on energy use such as idling of vehicle engines and turning of unnecessary equipment;
- Maximisation of site operations efficiency to minimise the queuing of waste delivery vehicles;
- Regular maintenance of all equipment to maintain efficiency; and
- Implementing the proximity principle by keeping the distances travelled to a minimum.

C.4.49 In determining the most appropriate action, MVV will use the established hierarchy for energy and carbon reduction:

- Reducing energy usage and carbon emissions whilst improving energy efficiency as the first option;
- Utilisation of renewable sources as the second option; and
- Finally, offsetting unavoidable carbon emissions.

C.4.50 This hierarchy will assist MVV with identifying the most appropriate measures to take to reduce carbon emissions.

C.4.51 MVV will have control of the direct carbon emissions that arise from sources owned or controlled by MVV, and will take all available steps to reduce direct emissions. Indirect emissions – those that stem from outside organisations – will be harder to control. MVV will however implement a policy of selecting contractors who have a sound environmental policy, including a commitment to continuous environmental improvement and reducing carbon emissions.

C.4.52 Any significant changes to waste management practices will be reviewed as part of the Carbon Management Plan. The current WRATE model would be revised prior to implementation of any

changes in order to assess the carbon benefit, or cost, of any change. These findings would be assessed as part of the overall decision making process in consultation with the SWDWP.

Conclusion

C.4.53 This further information has identified the climate change and carbon management challenges set out in Plymouth City's Sustainable Development and Climate Change Frameworks and the associated objectives, targets and actions which flow from the Climate Change and Carbon Management Plans as a result. The purpose of this further information has been to provide a concise summary of the complementary fit between the proposed EfW CHP facility and these corporate objectives and targets.

C.4.54 The substantial carbon off-set and climate change benefits of this high efficiency, EfW CHP facility have been identified, demonstrating their sustainability credentials in comparison to the current residual municipal waste management solution (disposal to landfill). Although not directly comparable because of the different methodologies and units used, the annual saving would represent roughly a 5% annual saving for Plymouth's carbon footprint. This would be a significant contribution towards the current reduction targets set out in corporate policy, in particular the 20% GHG emissions reduction target for 2013 and 60% GHG emissions target for 2020 (although the EfW CHP facility is not expected to be fully operational until 2015).

C.4.55 MVV's commitment to carbon footprint monitoring and a continuous improvement programme to reduce GHG emissions on a rolling basis reflect Plymouth City Council's own commitment to carbon management auditing, reporting and pledge to achieve year on year reductions. There is a direct match between the sustainable procurement principles adopted by Plymouth City Council and the exemplary levels of service delivery which MVV will deliver over the lifetime of the facility.

C.5 Energy, Economy, Employment and Education Benefits Statement (EEEEBS)

Energy and Economy Benefits

C.5.1 Plymouth City Council requested additional information on the energy benefits.

Energy Benefits

C.5.2 The principal energy benefits are:

- The provision of electricity and steam to the Dockyard under the Energy Supply Agreement (the Agreement itself cannot be provided due to commercial confidentiality).
- EfW CHP facility efficiency – the facility will operate at a 49% net efficiency at maximum CHP output.
- CO_2 savings - the EfW CHP solution will result in a reduction of 73,504 tCO_2eq per annum
- The proposed EfW CHP facility meets the "Good Quality CHP" definition – this is almost unique for UK EfW plants.

C.5.3 The North Yard site lends itself easily to the supply of both heat and power. MVV will supply energy in the form of electricity and heat (Combined Heat and Power/CHP) to the Devonport dockyard. An Energy Supply Agreement is in place to facilitate this. A letter of support for the project from the MoD is included at Appendix C.5.1. Further letters of support from Babcock, the Royal Navy's main support contractor at Devonport, can also be found at Appendix C.5.1.

C.5.4 Government policy encourages the application of CHP wherever possible as part of its general policy of increasing sustainability and reducing greenhouse gases. Under the Good Quality CHP Scheme the method for assessing the quality of CHP Schemes is based on energy efficiency and environmental impact, and defines threshold criteria for Good Quality CHP, notably the Power Efficiency and the Quality Index (QI). Details are available on www.chpqa.com. To qualify as Good Quality CHP an EfW plant must achieve a Quality Index score of 100 for its entire annual power output during normal operating conditions and 95 during initial operation. The proposed facility easily meets the criteria for Good Quality CHP, achieving a Quality Index rating of 104.21 during normal operating conditions and 102.19 under Initial Operation. Copies of MVV's CHP Quality Certificates for the scheme can be found at Appendix C.5.2.

C.5.5 The facility is designed to maximise the recovery of energy from waste and when operational, will be one of the most efficient EfW plants in the UK. Operating with maximum CHP output the gross efficiency of the plant will be 52 % and the net efficiency 49%, this compares to a typical operating efficiency of 23% for most EfW facilities operating in power mode only. Plant efficiency is explained in detail within the Sustainable Community Energy Initiatives Scoping Report at Appendix C.5.3.

C.5.6 The operation of the facility will result in an overall net reduction in greenhouse gas emissions through the generation of renewable electricity, coupled with the diversion of biodegradable waste from landfill. A WRATE (Waste Resources Assessment Toolkit) Assessment has been carried out for the EfW CHP facility in order to quantify the reduction in greenhouse gas emissions. The WRATE assessment shows an annual reduction of 73,504 tCO_2eq per year, equating to 1,837,601 tCO_2eq emissions over the course of a 25-year contract.

C.5.7 The table overleaf shows the estimated reduction in tCO_2eq emissions for each of the local authorities within the SWDWP based on the percentage of waste received from each authority.

Authority	Approximate reduction in tCO_2eq per year	Approximate reduction in tCO_2eq over 25 year contract
Plymouth	34,928	873,201
Torbay	12,669	316,735
South Hams	9,734	243,353
Teignbridge	9,943	248,568
West Devon	6,230	155,744
Total	**73,504**	**1,837,601**

Future CHP

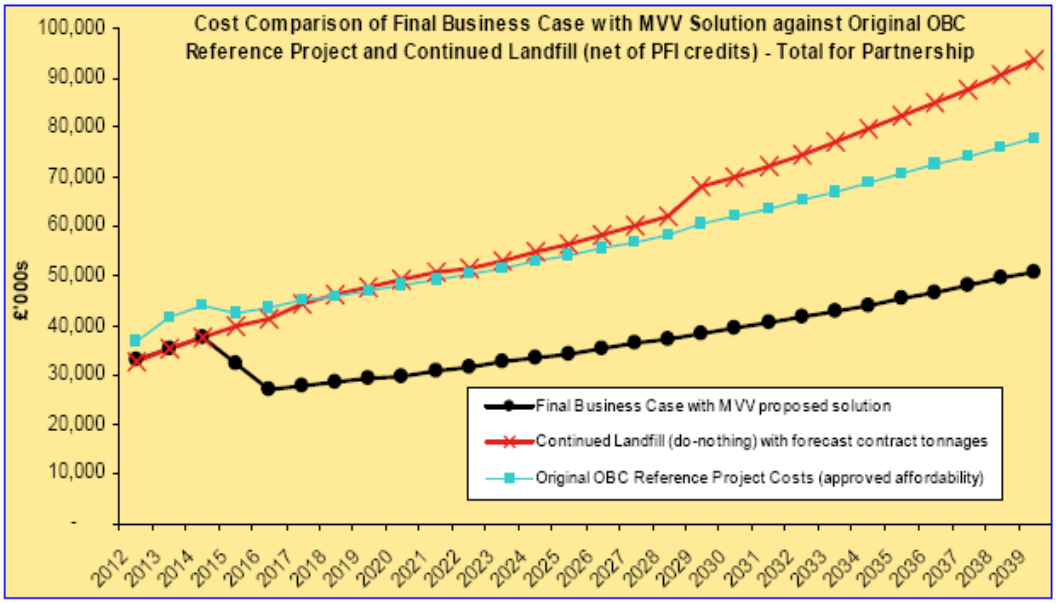
C.5.8 The MVV Energie Group is already one of Germany's leading district heating companies with over 50 years of experience in the provision of CHP/District heating systems. In addition to the operation of a 15 km of process steam network for business customers and a 600 km district heating network in Mannheim, MVV operates district heating systems in 17 cities in the Czech Republic. MVV will bring the value of this experience to support the local authority further in exploring the potential for District Heating at a number of locations in the Plymouth area. MVV has already submitted an expression of interest in response to a market testing exercise conducted by Plymouth City Council for the proposed Plymouth District Energy project. This is a separate project which will be taken forward by the Plymouth District Energy Procurement Partnership.

C.5.9 MVV has undertaken a scoping study to determine the potential for supplying district heating or other sustainable energy measures to residents living close to the plant (see Sustainable Community Energy Initiatives Scoping Report, Appendix C.5.3). Following on from the scoping study, a full feasibility study is planned for 2012.

Economy Benefits

Financial implications to the residents of the South West Devon Area

C.5.10 Significant financial benefits to local taxpayers will be provided by MVV's proposed solution, against both the "do nothing" (i.e. continue to landfill) scenario and SWDWP's original Outline Business Case. See the graph below.



C.5.11 The graph above clearly shows the significant economic benefit to the South West Devon Waste Partnership of the MVV EfW CHP solution and that the financial benefits will flow over the life of the contract. By securing this solution with defined costs over 25 years each of the partner Authorities is able to strategically plan ahead and channel finances into improving front line services for the benefit of all citizens in the Devon area.

C.5.12 Against the SWDWP's Business Case estimated cost of a new solution, MVV's EfW CHP development is estimated to save the Partnership around £388 million over the life of the contract. This saving for the local residents is further enhanced by Defra's PFI Grant contribution of £177 million resulting in a solution which is potentially £565million less than estimated.

C.5.13 The table overleaf summarises the savings to each of the Authorities comprising the South West Devon Waste Partnership over the life of the 25-year contract.

Savings to SWDWP Authorities

	SWDWP Total £m	Plymouth Total £m	Torbay Total £m	Devon Total £m
SWDWP Reference Case estimate (single EfW facility with updated tonnage including tonnage previously assumed to landfill added into Contract Waste)	824.9	404.7	134.9	285.3
MVV's EfW CHP facility cost at Contract Close 25th March 2011	436.0	212.2	71.4	152.5
Estimated financial benefit of MVV's EfW CHP facility over SWDWP Reference Case	**388.8**	**192.5**	**63.5**	**132.8**
PFI revenue support grant	177.0	82.9	29.3	64.8

C.5.14 As well as considering the financial benefits that MVV's EfW CHP facility will bring to the South West Devon Waste Partnership Councils, it is also important to consider the consequences of a delay to implementing the solution or worse still a complete failure to implement the scheme.

C.5.15 The Partnership has undertaken a detailed cost and modelling analysis to estimate the financial consequences of a planning delay and/or failure to secure planning. This analysis has drawn on the factual costs and agreements contained within the commercial contract between SWDWP and MVV, current gate fee costs within existing waste disposal contracts and reasonable assumptions for indexation, re-procurement costs and benchmarked alternative non CHP solutions. As a result it has been possible to estimate the additional costs to the Partnership Councils of a 3 month, 6 month and 24 month delay, and also the cost impact of having to re-procure an alternative solution which is assumed to be energy from waste (as option analysis indicates this to be the most economic solution) but without CHP, as this is rarely achieved.

C.5.16 The table overleaf sets out the total estimated cost impact to the Partnership Councils for delay or failure to achieve planning. These costs are shown in total as some of the cost elements included in arriving at these costs are commercially sensitive, as they reflect MVV and SWDWP's commercial contract positions.

Table: Financial Cost Impact to SWDWP Authorities of planning delay or failure

	Total estimated cost impact to SWDWP £million
3 month delay (possible delay in determining initial planning application)	1.08
6 month delay (possible delay in determining initial planning application)	3.93
24 month delay (realistic timescale to appeal initial planning application refusal)	27.32
Failure to secure planning following an appeal (assumes alternative EfW non CHP solution eventually procured but Defra PFI credit support lost)	284.95

C.5.17 As can be seen from the table above, SWDWP estimate that the impact of a delay in implementing MVV's solution will cost over £1m for a 3 month delay rising to over £27m if this extends to 2 years. More significantly re-procuring an alternative similar EfW solution but without CHP will result in a cost impact to the partner Councils of around £285m over the 25 year contract life. These costs are based on realistic estimates and would result in the partner Councils having to divert more financial resources to waste disposal at the expense of improving and sustaining vital front-line services to local residents.

Wider Economic Benefits

C.5.18 Paragraph 2.1.20 of the EEEBS submitted with the planning application stated that according to the Index of Multiple Deprivation 2007 (IMD 2007), Plymouth is the 76th (out of 354) most deprived borough in England. The IMD 2010 have now been published. Plymouth is now ranked 72 out of 326 local authority areas. The 2010 rank is similar to the 2007 rank.

C.5.19 In addition to the savings shown above, the EfW facility will bring wider economic benefits to the local community. As well as the direct construction and operational phase employment generated by the project itself, which is described below, there will be an increase in local employment arising from the indirect effects of the construction activity.

C.5.20 A proportion of the income of the construction workers and supply chain employees will be spent in Plymouth, generating further local employment. Income will flow into the local economy as a result of employees working on the construction site, who will require accommodation locally as well as food and other consumer products. It is estimated that the gross output per construction employee in the South West is £96,929.

C.5.21 Employment growth will arise locally in supply chain firms during both the construction and operational phases of the project. During the operational period of the contract MVV will require

sub-contracting companies to provide specialist maintenance and support services these will include:

- Metalwork services (welding)
- Electrical engineering
- Industrial cleaning
- Works on pressure parts
- Refractory works
- Non-destructive testing
- Servicing of fittings and valves
- Grate works
- Pump maintenance
- Fan servicing
- Maintenance of electrical motors
- Painting and coating services
- Process control system / software
- Crane / lifts
- Fire extinguishing system

C.5.22 To support the local economy and ensure that local people and smaller companies are able to access the opportunities offered by the project, MVV and its construction and process sub-contractors will undertake a "Suppliers & Employment Day" in Plymouth, in Autumn 2011. The event will invite local companies and individuals to attend, introduce themselves and investigate job and contract opportunities during the construction period and beyond. This event will be widely advertised locally.

C.5.23 Paragraphs 2.3.1 and 2.3.2 of the EEEEBS both refer to wider economic benefits to Plymouth and the South West's economies. To clarify, paragraph 2.3.1 is introductory and paragraph 2.3.2 itemises the specific benefits.

C.5.24 Paragraph 2.3.1 of the EEEEBS stated that the proposed development will have also beneficial impacts on land use. To elaborate on this, the proposed development will utilise a redundant HMNB site, bring it back into use and intensify employment numbers on site relative to the last existing use.

Employment and Education Benefits

C.5.25 In its consultation response, Plymouth City Council requested further evidence of the employment and education benefits.

C.5.26 MVV met with two members of Plymouth City Council's Economic Development Team on 16th March 2011 to present its proposals for local recruitment and obtain guidance from them on how to best to proceed in order to maximise the employment benefits available to the local community.

C.5.27 MVV's proposals received a positive response from the Plymouth City Council Economic Team. In particular, the team advised that it would be helpful to address the following areas in relation to MVV's proposals:

- Describe the nurturing ethos of the company, especially in relation to training and the opportunities available for knowledge transfer within the company.
- Explain how jobs could be filled from the local area and the basic levels of knowledge required to access these posts.
- Let local people know what basic skills levels are required for specific roles to support them in accessing these posts, including those for construction roles.
- Explain what types of support service companies MVV will be looking to work with during the operational period.

C.5.28 Since the meeting, MVV has responded to these suggestions by:

- Engaging with local educational establishments to identify skills gaps and ensure that these are filled so that jobs are accessible to local people.
- Advertising jobs locally through Job Centre Plus, using a local recruitment agency, and advertising posts in the local press. Future roles will also be advertised locally via the University, City College, local Job Centre, local press, and local recruitment agency.
- Arranging an industry and potential suppliers' day for Autumn 2011 where local companies will be invited to meet MVV and its sub-contractors.

C.5.29 MVV has established an on-going relationship with the University of Plymouth and Plymouth City College. Letters of support and indicative programmes of engagement with these establishments can be found in Appendices C.5.4 and C.5.5 respectively. Recently discussions with the University have been expanded to include MVV's civil engineering contractor, Kier.

C.5.30 There has been positive feedback from the University and City College on proposals to align educational activities to curriculum requirements, e.g. Diploma in Engineering for 14 – 19 year olds.

Employment During Construction

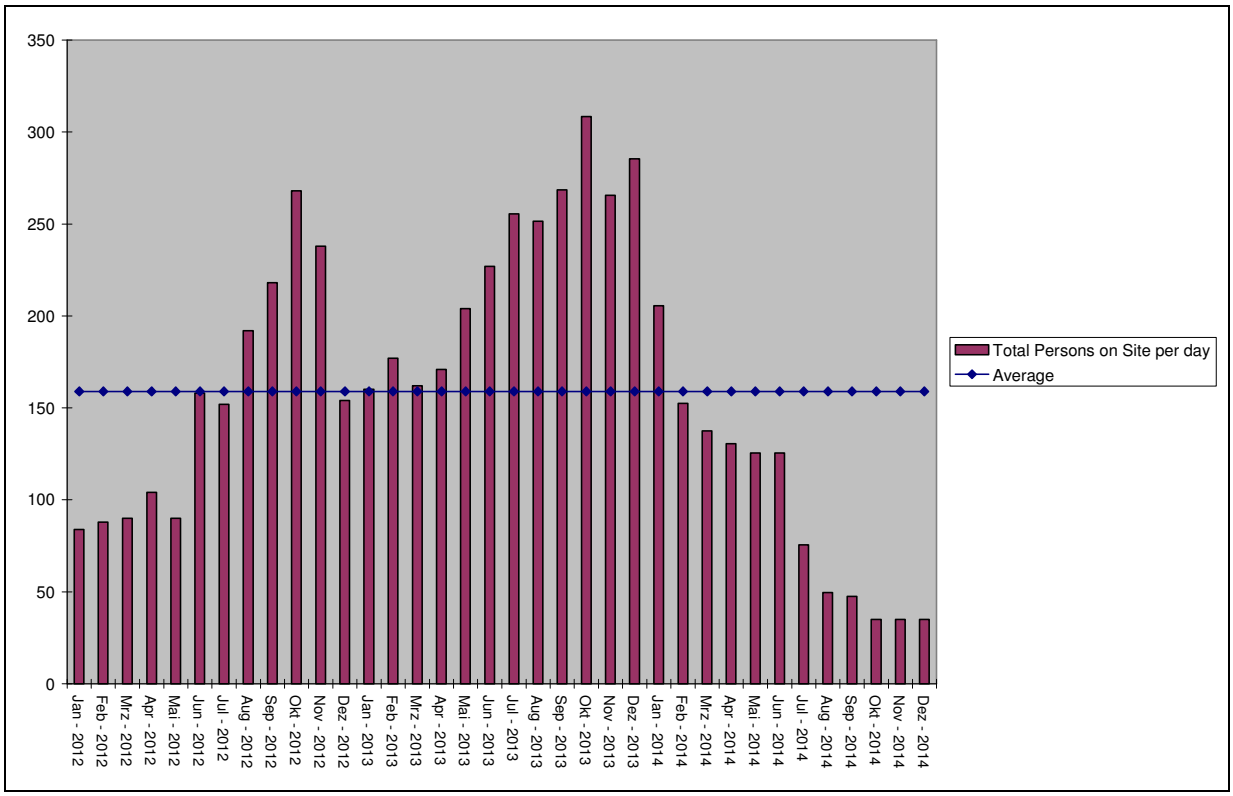
C.5.31 MVV and its sub-contractors have used the experience that they have gained from working on previous similar projects, together with a defined scope of works and project timescale, to calculate the number of staff that they will each require for the project. MVV's sub-contractors together with their experience are listed in the table below.

Sub-contractor	Area of work	Years of experience
Kier Construction Ltd.	Civil and building works	40
SAR Elektronic GmbH	Electrical power and control and instrumentation systems	15
LAB GmbH	Air pollution control system	50

Sub-contractor	Area of work	Years of experience
Imtech GmbH	Water steam system incl. turbine generator, ACC and water treatment system	10
Baumgarte Boiler Systems GmbH	Grate, furnace/boiler	75

C.5.32 This coupled with MVV's own 47 years of experience in designing and building Energy from Waste plants gives a combined total of 237 years of experience.

C.5.33 It is estimated that there will be an average of 159 persons employed on the construction site each day of the 30 month construction period. The peak will be reached during October 2013 with about 309 persons employed on site. The graph overleaf shows the predicted number of persons on site during the construction and commissioning period.



C.5.34 MVV's civil engineering contractor, Kier, will employ approximately 70%-80% of its local labour, predominantly from Plymouth but also Devon and the wider South West area. This is in line with Kier's commitment to use a local workforce for the EfW CHP project and can be demonstrated through their previous projects in Devonport Royal Dockyard and Langage Energy Centre where local labour made up approximately 70% of the workforce. Experience shows that the remaining proportion of the workforce would be brought in from elsewhere due to their having very specific skills or experience which is not necessarily available locally.

C.5.35 The table overleaf shows a breakdown of the different civil and building elements of the proposed project, where they will be sourced and the percentage of the total value each element represents.

C.5.36 In addition to the MVV and Kier employees who will be located in Plymouth during the construction period, MVV's process sub-contractors, for example Baumgarte and Imtech, will also locate staff in Plymouth to assist with the project. These staff will be using local services such as hotel and bed and breakfast accommodation, local restaurants and other retail outlets. Based on MVV's experience for every direct job created a further two are created locally in support services such as these.

Local Civil Engineering and Building Resources – Approximate by Value

Plymouth and Devon	%	Southwest	%	National	%
Earthworks	1.5	Reinforcement	10	Piling	11
Concrete	10	Cladding	5	Structural Steelwork	5
Formwork	4	Mechanical Services	9	Elevators	0.50
Precast	0.5	Doors and Windows	2	Design	6
Ancillaries	0.5	Louvres	1		
Masonry	1				
Floor and Ceiling Finishes	1				
Furniture and Fixtures	1				
External Structures (ACC, Bridge, Offices)	3				
Surfacing, Roads and Fencing	3				
Water Supply and Drainage	2				
Staff, Labour and Temporary Works	17				
Accommodation and Security	6				
TOTAL %	**50.5**	**TOTAL**	**27**	**TOTAL**	**22.5**

Employment During Operation

C.5.37 During the 25 year operational period of the project, MVV will require 33 full time equivalent posts for the operation and maintenance of the EfW plant. These positions will range from posts requiring a high level of training, knowledge and education, such as the Operations and Maintenance Engineers, through to roles with a lower entry level, such as weighbridge operators, shift team members and tipping hall supervisors. MVV intends to recruit to operational positions locally wherever possible.

C.5.38 In addition to those members of staff directly employed at the plant, MVV will require other support services, such as welding, industrial cleaning, painting and coating, process systems and IT support amongst others, for the period of the Contract. These services and skills will be required to support MVV in undertaking both scheduled and ad-hoc maintenance tasks.

C.5.39 MVV intends to source these support services locally where they exist and offer the best value for money. The company believes that a strategy of engaging local companies will bring the following benefits to both the company and the local community:

- Support MVV participation in the structural development of the area,
- Bring local knowledge to the project,
- Enable quick responses to maintenance issues,
- Increase and support the local skills base,
- Facilitate a wider understanding and acceptance of the facility,
- Widen community participation
- Support MVV's corporate social responsibility goals and objectives.
- MVV anticipates that sourcing support services locally will create a further 70 local jobs.

C.5.40 MVV is aiming to promote local employment with its other sub-contractors as far as possible and has already undertaken actions to establish contacts with local organisations which can help in this regard. These include the Plymouth City Council Economic Team, the University of Plymouth, Plymouth City College, Regular Forces Employment Association (RFEA) Ltd. and the Career Transition Partnership (CTP) who provide resettlement services for those leaving the Armed Forces, operating as an intermediary service for employers.

C.5.41 MVV met with RFEA Ltd. and the CTP on 18th May 2011 to discuss opportunities to work with these organisations to recruit staff for the project. Subsequent to the meeting of 18th May, MVV have also discussed, with their civil engineering contractor Kier, opportunities for them to work with the CTP and RFEA Ltd. in sourcing staff for the construction phase of the project. A letter of support from the CTP can be found in Appendix C.5.6.

C.5.42 MVV, together with its sub contractors and suppliers, will hold an industry and employers day in Autumn 2011. The aim of the event will be to familiarise local business and potential local suppliers with the project, outlining the types of support services that MVV and its sub-contractors will require during the construction and operational phases. MVV will also separately provide a small area at the event where individuals can come and talk to the company about the potential roles available.

C.5.43 Recruitment to the post of Executive Assistant to the Managing Directors is currently underway. The role was advertised locally via the Plymouth Herald and in the local Job Centre from the week commencing 15th August 2011.

Apprenticeships

C.5.44 Plymouth City Council requested additional information on the proposed apprenticeships.

C.5.45 MVV will use its existing rolling two year apprenticeship scheme to train potential employees for the roles of Operations Engineer and Mechanical Engineer. In the first instance this will create two apprenticeships. This apprenticeship scheme will then be kept under review by MVV to see if it can be repeated.

C.5.46 The apprentices will undergo a comprehensive training programme which will cover both practical and theoretical knowledge. The post holders will initially be trained at MVV's EfW

facility in Mannheim with the additional possibility of internships at MVV's other facilities, such as MVV's EfW plant in Leuna. They will also undergo training in power plant management at the Kraftwerkerschule Essen (Essen Power Plant College) before being assigned to the EfW facility in Plymouth. In addition, the basics of commercial activity will be taught commensurate with the requirements of these engineering roles. Following this, they will then be deployed as operations, planning and maintenance engineers, on smaller projects.

C.5.47 To facilitate these apprenticeships MVV has already instigated and attended a number of meetings with Plymouth City College and Plymouth University to determine how it can best link these apprenticeship opportunities into their existing programmes.

C.5.48 Job advertisements for these apprenticeships will be placed with the local JobCentre as well as all the organisations listed, to ensure that local residents are aware of, and can apply for these posts. The apprenticeship posts will be advertised from mid-September 2011; the draft job advertisement can be found in Appendix C.5.7. In order to support employment and educational opportunities within affected neighbourhoods MVV will interview all local candidates who apply for these positions and meet the job criteria. However, MVV cannot guarantee that the apprenticeships will be filled by residents from affected neighbourhoods, as this would be discriminatory.

C.5.49 In addition to the two apprenticeships to be created directly with MVV, the company is intending offer a sponsorship fund of £15,000 p.a. to support up to five local apprenticeships under the S.106 agreement, which at the time of writing is at a draft stage. It is MVV's intention that this fund should be used to support small local businesses, such as those described above, who are engaged to supply services for the project, to enable them to take on apprentices.

C.5.50 MVV have also discussed the issue of apprenticeships with our civil engineering contractor, Kier, who are currently implementing a bespoke apprenticeship initiative as part of their Corporate Social Responsibility programme. This initiative targets the creation of specific numbers of apprenticeships in proportion to the economic value of a build. In the case of this project this would equate to the creation of 3 apprenticeships. These apprenticeships will be advertised via the national apprenticeship website, but with a local commitment.

C.5.51 One of MVV's key objectives in its engagement with local bodies is to let local people know what basic levels of knowledge and skills are required to enable them to access, not only the apprenticeships, but other specific roles required for the project. To this end, MVV are working with the University and City College to determine how the company can best support these, and other, local organisations in delivering the skills and knowledge required.

Education

C.5.52 During its meetings with Plymouth City Council's Economic Team, the University of Plymouth and the City College, MVV have discussed a number of other ways in which they can further support education within the local area. These include:

- The provision of internships for students of engineering, design, communications, media studies and ecology.
- Creation of work experience opportunities for students of engineering, design, communications, media studies and ecology.
- Site visits for construction students aligned to the requirements of the curriculum, in conjunction with our civil engineering contractor, Kier.

- Engagement of local students in the development and publication of educational literature for both the construction and operational period. This would also involve participation by local primary schools, such as Weston Mill and Tamar View, working with the University.
- Periodic talks to engineering students at the City College and University to cover both civil and process engineering.
- Involvement of students from creative disciplines in the design of the interior of the Community Area
- An independent project to design and build the sculpture to be sited at the entrance to the facility. It is intended that the project would include students from both creative and engineering disciplines.
- Participation in the University's business event, FLUX, on 16th November 2011.

C.5.53 Letters of support and indicative programmes of engagement with the University of Plymouth and Plymouth City College can be found in Appendices C.5.4 and C.5.5 respectively.

C.5.54 MVV will continue to evolve and develop its programme of engagement with local educational establishments in partnership with its sub-contractors, local educational establishments and other community bodies.

Local Area Agreement Objectives

C.5.55 In developing its proposals to provide community benefits with respect to education and employment MVV has been mindful of Plymouth's Local Strategic Partnership, Plymouth 2020 objectives, as contained within the Sustainable Community Strategy. In particular, MVV believes that its proposals support the following objectives:

- Wi1. Improve the skills of the working age population at all levels – by employing and training people of all ages.
- Wi3. Increase the numbers of young people participating in higher level education and skills training – by working with the University, City College and local schools on educational issues.
- Wi4. Improve educational achievement – especially Maths and English – by working with the City College to support Maths and English skills.
- W2. Reduce levels of worklessness – through a policy of promoting local employment and engaging local suppliers locally wherever possible.

Community Benefits

Community Fund

C.5.56 Plymouth City Council requested additional information on the value of the Community Fund and further details of the community benefits.

C.5.57 Clause 6 of the Section 106 Agreement Draft Heads of Terms, provided at Appendix 8 to the Planning Application Supporting Statement, undertakes:

> *"To set up a Community Fund and to contribute £52,000 per annum. The Community Fund shall be used for specific purposes as defined in the Section 106 Agreement to be similar to those used for the Landfill Tax Credit Scheme and will be managed by the Developer*

and the Council who shall jointly consult with the Local Liaison Committee on the application of the funds."

C.5.58 When deciding on the value of the Community Fund MVV took into consideration the scale of the project and sought to align the Community Fund to this. MVV believes that the figure of £52,000 per annum (£1,000 per week), coupled with the other community benefits proposed, examples of which are listed below, represents a significant contribution to the local community commensurate with the scale of the project. Examples of additional community benefits include:

- Employing a Community Liaison Manager – c. £50,000 p.a.
- Providing an apprenticeship fund - £15,000 p.a.
- Subject to approval by SWDWP, making the Visitors Centre available for local community use for the operational life of the project - £10,000 p.a.
- Implementing, and maintaining a woodland management scheme to enhance Blackies Wood and land adjoining Weston Mill Creek with managed public access. c.£250,00 capital cost and £10,000 p.a. maintenance.

C.5.59 The Community Fund has not yet been discussed specifically with the Liaison Committee, now renamed the Incinerator Liaison Committee (ILC). The Terms of Reference for the ILC include making recommendations for the equitable distribution of MVV's Community Fund and providing a vehicle for communication and engagement with the local community. To date, the initial meetings of the ILC have focussed on the membership, role and operation of the committee, and answering specific questions on the planning documents and consultation procedure. However, it is intended that the ILC will, in time, consider and give feedback on the community benefits proposed by MVV, which MVV will consider whilst also taking into account the further feedback received during the round of public exhibitions in June 2011, held after the planning application was submitted.

C.5.60 The Community Fund would be managed in a similar way to a landfill tax community fund, i.e. as a separate trust fund with potentially trustees from SWDWP, PCC and MVV.

C.5.61 Trustees will be responsible for the equitable distribution of the community fund and, as described above, will be advised in this by the ILC. In seeking to ensure equitable distribution the trustees will consider, amongst others, the following:

- Geographical location;
- Benefit to the local community;
- Diversity and equality issues;
- Potential barriers to accessing the available funds; and
- Value for money and sustainability.

C.5.62 Use of the Community Fund and sponsorship programme will be monitored for effectiveness and feedback will be obtained from recipients. This information will then be used to inform future funding decisions with the aim of ensuring that maximum benefit is provided to the local community.

Public Feedback Regarding Community Benefits

C.5.63 Feedback forms for the post-application exhibitions were specifically re-drafted to clarify the question regarding community benefits. Attendees from local communities were actively encouraged to give their suggestions for specific community benefits, either directly to members of MVV's staff or via the feedback form. During the public exhibitions, MVV received positive verbal feedback on its proposals for the use of the Community Area and Community Fund.

Visitor Centre / Community Area

C.5.64 Plymouth City Council and the Tamar Estuaries Consultative Forum requested additional information on the Visitor Centre / Community Area.

C.5.65 The Community Area will be provided to help develop public awareness and understanding of waste management and other wider waste reduction issues through effective engagement with a range of visitor groups, including those from schools, universities, colleges, community groups and local residents.

C.5.66 The public waste awareness agenda will develop and evolve during the lifetime of the project as a result of feedback from visitors. Initially, it will deliver support to the South West Devon Waste Partnership (SWDWP) wider waste awareness initiatives as well as the objectives of the recent Government Waste Strategy Review of June 2011 including removing potential barriers identified by the Government:

- Financial: where limited funding for activity makes supporting action by communities difficult;
- Skills and capacity: where organisations trying to deliver objectives in waste do not have sufficient skills or capacity to meet their needs; and
- Education and information: where community groups lack key information to be able to develop and deliver their own outcomes.

C.5.67 The Community Area and Incinerator Liaison Committee (ILC) will also support the broader aims of the Waste Strategy Review by:

- Supporting greater civil society engagement with work delivered by the Waste and Resources Action Programme (WRAP) and the Environment Agency;
- Providing a platform for community input to local policy development and delivery on issues such as waste prevention and fly-tipping; and
- Building on best practice examples of partnership working between civil society, and the public and private sector.

C.5.68 Whilst focussing on waste education and awareness issues the agenda will also include ecological topics relevant to the site (such as the ecology of Blackies Wood, Barne Brake, Weston Mill Creek, Plymouth Sound and Estuaries Special Area of Conservation and other local areas of significance) and the operation and history of Her Majesty's Naval Base Devonport.

C.5.69 Other than that the access road is long MVV does not consider that the site has restricted access. The Community Area will be situated within the EfW CHP Facility's administration block and will comprise:

- An entrance area where visitors will be received and registered and from where access to other areas can be controlled. The entrance area can also be used for smaller exhibitions and receptions;
- A main room with a capacity to host parties of around 60 visitors at any one time;
- A kitchen, equipped with a refrigerator, cupboards with a kettle, glasses, other dishes and pots, a sink and draining board with hot and cold water taps, and hot plates;
- Toilets for men, women and disabled people;
- A roof terrace, with planting and an interpretation board; and
- A storage room for chairs, tables, boards and other equipment required for the Community Area.

C.5.70 The main room will be equipped with audio-visual aids and IT equipment, including a projector and screen, computer systems, public address system and induction loops. The main room will generally be arranged to accommodate theatre style presentations but can also be adjusted for exhibitions or seminars.

C.5.71 The Community Area will be provided to suit the different needs of a range of visitor groups and MVV will prepare a set of presentations to suit the different needs of these groups. Presentations will also serve the purpose of introducing the facility and its functions before a site tour is undertaken.

C.5.72 MVV's staff will arrange site visits and ensure that trained personnel are available to meet and escort visitors around the EfW CHP Facility and explain the site's operations. Appropriate literature will be provided to demonstrate and explain the principles behind energy recovery from waste incineration and place this in the context of SWDWP's waste policy.

C.5.73 Exhibitions and meetings conducted by SWDWP can also be held in the Community Area and MVV will support SWDWP with regards to the content and the organisation of such exhibitions.

C.5.74 The Community Area will also be made available to host meetings of the ILC.

C.5.75 It is MVV's intention to make the Community Area available for use by other local community groups, for example as a meeting venue, or a venue for specific local events, subject to approval by SWDWP.

C.5.76 The Community Area will be available five days a week and in addition, where required, Saturdays, Sundays and Bank Holidays but not Christmas Day, Boxing Day, New Year's Day and Easter Sunday. Regular opening hours will be between 9 a.m. and 5 p.m. during which the general public will have supervised (pre-booked) access.

C.5.77 Community groups and organisations will be able to meet outside the opening hours, by prior arrangement.

C.5.78 The Community Liaison Manager will be responsible for managing the programme of visits and bookings of the Community Area and will be supported by the full-time secretary/receptionist with regards to the organisation of visits, exhibitions and seminars. It has always been MVV's intention that the role of Community Liaison Manager, whilst focussed on the waste awareness agenda, should be flexible to include the wider environmental education curriculum, as well as a broad remit for engagement with local communities and other relevant stakeholders. A job

description for the role of Community Liaison Manager can be found in Appendix C.5.8. A job advertisement for the role of Secretary can be found in Appendix C.5.9.

C.5.79 Access to the Community Area and visits to the plant will need to be pre-booked but will be provided free of charge.

C.5.80 Visitors to the Community Area will be required to sign in at the weighbridge office, from where they will be directed to the visitors' car park/bus parking space via a safe route. Outside the opening hours of the weighbridge, visitors will be admitted by staff in the control room and will have to sign in when entering the administration building.

C.5.81 Visitors and MVV staff arriving at the administration building will be welcomed by the receptionist during reception opening times. Outside of these hours another member of staff will be present to welcome visitors. In both cases visitors will receive a short verbal briefing on escape routes and assembly points within the building.

C.5.82 Two site tour route options will be available; one a Community Route for the general public (for example school classes); this will keep visitors away from any potential hazards in the facility. Another route will be provided for a more technical audience, which will cover more elements of the EfW process, focussing in particular on the technical aspects of the plant. All visitors to the operational parts of the facility will receive a safety briefing prior to the commencement of the tour and will be equipped with the necessary Personal Protective Equipment.

C.5.83 The use of the Community Area will be promoted locally via a variety of communications channels such as the ILC, regular local newsletters, posters, MVV's local office, press releases for specific events, engagement with local educational establishments and MVV's website.

Community Liaison Manager

C.5.84 Plymouth City Council and the Tamar Estuaries Consultative Forum requested additional information on the role of the Community Liaison Manager.

C.5.85 Clause 5 of the Section 106 Agreement Draft Heads of Terms, provided at Appendix 8 to the Planning Application Supporting Statement, undertakes:

> *"To employ a full time Community Liaison Manager to educate the local community on recycling and support SWDWP's work to achieve a per capita reduction in waste arisings within the Partnership area and to achieve a combined waste recycling and composting rate of 50%."*

C.5.86 It has always been MVV's intention that the role of Community Liaison Manager, whilst focussing on the waste awareness agenda, should be flexible to include wider engagement with local communities and other relevant stakeholders.

C.5.87 One of the tasks in the job description for the Community Liaison Manager is to develop education activities and create brochures, webpages and other information and educational material not only on waste minimisation and reduction and the role of various waste management technologies but also on the ecology of Blackies Wood; Barne Brake; Weston Mill Creek; the Plymouth Sound and Estuaries Special Area of Conservation and other local areas of significance.

C.5.88 A job description for the role is attached for information at Appendix C.5.8.

C.6 Health and Wellbeing

C.6.1 The 'Health and Well-being' paper presented at Appendix 5 to the Planning Application Supporting Statement is a summary of ES Chapter 18. Within the Regulation 19 request for Further Information, detailed questions were asked about the content of ES Chapter 18, and these are addressed in turn in Section D.18 of this Further Information report. There is only one point specifically relating to the 'Health and Well-being' paper presented at Appendix 5 to the Planning Application Supporting Statement that requires clarification here. Paragraph 2.15.1 of the aforementioned paper refers to mitigation measures incorporated into the design and operational stages of the EfW CHP facility seeking to have a positive impact on wellbeing. To clarify, it is the process of promoting control, inclusion and participation of members of the local communities in the operation of the facility – in this case through dialogue – that seeks to have a positive impact on wellbeing.

C.7 Habitats Regulations Assessment

Chimney Emissions and Impacts on Designated Sites

C.7.1 Consultation responses were received from the Environment Agency and Natural England in relation to chimney emissions and impacts on designated sites. The subject is applicable both to the Habitats Regulations Assessment and the Environmental Statement. The further information in response to the consultees is presented below in Section D: Environmental Statement Further Information, specifically Section D.7, and to avoid duplication the reader is directed there for the relevant information as it applies also to the Habitats Regulations Assessment.

C.7.2 Some other consultation responses related solely to the Habitats Regulations Assessment and these are discussed as follows.

Map of European Sites

C.7.3 In its consultation response, the Environment Agency stated that the Figure in Appendix 1 shows the location of the European Sites in relation to the proposal area. The Environment Agency suggested that since the screening criteria used for the assessment is 10km it would be useful for Figure 1 to show the 10km distance.

C.7.4 The Figure has been updated to add the 10km distance and is presented at Appendix C.8.1.

Water Quality

C.7.5 In its consultation response, the Environment Agency stated that other plans or projects that need to be included in the Habitats Regulations Assessment are Shoreline Management Plan (SMP) policies, maintenance dredging and the Devonport Landing Craft Co-location Project (DLCCP).

C.7.6 We agree that these are also relevant to water quality.

C.7.7 The SMP policy for Plymouth is primarily to hold the existing defence line.

C.7.8 The MoD has advised us that it has a contractor that periodically undertakes bathymetric surveys on its behalf to identify areas where dredging is required, and then undertakes that dredging where necessary in order to maintain adequate water depths at wharves and in shipping channels.

C.7.9 The Project Manager for the DLCCP has been contacted and they have provided a copy of their construction programme to MVV. This shows that the dredging activities required for the DLCCP will take place between 31/10/11 and 27/04/12.

C.7.10 In addition, it is also prudent to consider consented discharges. As noted in ES Chapter 11, paragraph 11.4.35, the Envirocheck Report (September 2009) indicates that a total of 21 discharge consent licences are held within 1 km of the site (see Figure 11.3 of the ES). These discharge consents are associated with South West Water (Camels Head sewage treatment works and storm sewage overflows), Devonport Dockyard (trade discharges and storm sewage overflows) and Bull Point Depot (trade discharges and treated effluent discharges). All 21 discharge consents discharge directly or indirectly (via the Weston Mill Stream and Weston Mill Lake) to the Tamar Estuary.

C.7.11 However, the inclusion of the SMP policies, the maintenance dredging, the DLCCP and the other existing consented discharges in the Habitats Regulations Assessment will not change the water quality effects related to the EfW CHP facility project. The ES has shown that with proposed mitigation in place, it is not likely that a significant water quality effect on the interest features of the SAC will occur due to the construction or operation of the EfW CHP facility.

C.7.12 In its consultation response, the Environment Agency requested confirmation that hot water will not be discharged in an emergency.

C.7.13 There will be no EfW CHP facility process discharges at any time to the river, either hot or cold.

Litter

C.7.14 In its consultation response, the Tamar Estuaries Consultative Forum stated that in order to minimise the risk of any litter or detritus entering the SAC, further information is needed on how MVV will prevent detritus from being blown out of the vehicles using the site and into the water. Also, further confirmation was sought that bales of waste will not be stored outside, for the same reason.

C.7.15 All waste (both Contract waste and Commercial and Industrial waste), products and residues will be transported in enclosed containers or on netted/sheeted vehicles minimising the risk of litter being blown out of vehicles and into the water. MVV will report any vehicles that it notices that have defects to the relevant Waste Collection Authority or commercial / industrial waste company.

C.7.16 All waste will be tipped from vehicles in a designated reception and tipping hall (which are enclosed) will be maintained under negative pressure to prevent fugitive emissions. The tipping hall itself will be equipped with a roller shutter door or similar. The door is specified as a rapid opening / closing type due to its size in order to minimise waiting time for any vehicles that do arrive when the door is closed. It is a requirement of the contract between the SWDWP and MVV that these doors be kept closed as often as possible.

C.7.17 Each tipping bay inside the tipping hall and the tipping hall itself will be equipped with roller shutter doors.

C.7.18 With regard to baled waste, as stated in ES chapter 6, paragraph 6.2.9:

"In the event of the Bale Store being required, waste will be compressed into bales measuring approximately 1.5m^3 to remove air from the waste, wrapped in strong polyethylene film and stored in this area until the plant is back in operation. The polyethylene film provides a full seal against the ingress of air and pests, and is highly resistant to cuts and tears. Under ambient conditions the waste in the bale does not biodegrade as the oxygen and moisture conditions are not at the necessary level to allow biodegradation. Such baling is used in Germany, where bales are even stored outside…... In the proposed EfW CHP facility the bales will be stored entirely inside the Bale Store. Storing waste in this way avoids the need for waste to be diverted to landfill."

C.7.19 MVV will not be baling or storing baled waste outside at the EfW CHP facility.

C.7.20 In its consultation response, the Tamar Estuaries Consultative Forum requested information be provided on litter clearance. It stated that the planning application documentation states that litter and detritus will be cleared up to a 10m distance from the site boundaries. The Forum

stated that this will need to be carefully monitored to ensure that it is sufficient distance for clearing up, and a methodology statement needs to be provided.

C.7.21 The risk from litter will be managed and controlled by implementing good operational practice and by appropriate design features of the EfW CHP facility:

- Waste reception area within a building with fast acting doors.
- Tipping chutes with roller shutter doors which will be closed following the tipping of waste into the bunker.
- The site premises will be monitored for the presence of windblown litter and any litter accumulating on sites or access roads will be collected. Daily litter picking within the operational site and in the surrounding area will be carried out and any litter escaping the site or deposited by site users will be cleared up to a nominal 10m distance[3] from the site boundaries where safe access can be achieved.
- Maintenance of site access roads to a high standard of cleanliness through frequently removing and disposing of any accumulation of waste, litter and detritus.
- All waste vehicles arriving at the site will be enclosed, minimising the risk of litter being blown out of vehicles and into the water. MVV will report any vehicles that it notices that have defects to the relevant Waste Collection Authority or commercial / industrial waste company.
- Staff will ensure that all delivery vehicles are directed to the enclosed reception hall area where tipping will be carried out under cover and in a controlled manner.
- A perimeter fence will be in place around the site, which will help stop windblown litter escaping the site. The different fencing types will be of sufficient gauge to contain litter and are shown on the Landscape Masterplan, which can be found at Appendix B.1.1.

C.7.22 MVV will undertake daily inspections of the site and litter will be removed in accordance with the provisions of the Performance Measurement Framework of the Contract with the SWDWP. Within this contract, there is a litter-related Key Performance Indicator against which MVV will be measured, with financial penalties for non-compliance.

Noise and Vibration

C.7.23 In its consultation response, both the Environment Agency and the Tamar Estuaries Consultative Forum stated that whilst it is recognised that noise and vibration impacts from the development are unlikely to affect interest features of the SPA or SAC alone, there are two other plans that could act in combination and should be noted: piling and dredging proposed as part of the DLCCP and maintenance dredging. The consultees stated that if these projects were to coincide at the same time noise and vibration impacts could be significant to both Allis shad and SPA interest features.

C.7.24 Noise impacts could be significant in the circumstance described, but any such impact would be overwhelmingly dominated by that from the 'in river' piling/dredging works, with the land-based works making a minimal contribution. The type of piling being utilised is rotary bored piling, which causes less noise and vibration than impact piling.

[3] This 10m distance will be monitored once the facility is operational and increased/reduced as necessary to prevent any accumulation of litter.

C.7.25 The Project Manager for the DLCCP has been contacted and they have provided a copy of their construction programme to MVV. This shows that the piling (both marine and land based) and dredging activities required for the DLCCP will take place between 31/10/11 and 27/04/12. Piling works for the EfW CP facility, which are all land-based, are planned to take place between 14/05/12 and 05/11/12 and thus there is no overlap in the piling activities associated with the two projects.

C.7.26 It is worth noting that both the EfW CHP facility and DLCCP projects commit to cleaning up litter, rubble, etc in Weston Mill Creek so there are expected to be some beneficial in-combination effects.

Displacement of Birds

C.7.27 In its consultation response, the Environment Agency stated that it is important to understand that impacts to birds can arise when birds are pushed (as a result of disturbance) from one area to another area which already supports a valuable/notable bird population. The birds within the new area are then also impacted and the overall impact is therefore intensified.

C.7.28 We agree with this statement. However, due to the distance of the SPA from the site (approximately 2km to the north-west) and the fact that noise levels will be effectively reduced to background noise well within 2km of the development site, significant effects are unlikely and thus we do not consider that this would alter the conclusions of the Habitats Regulations Assessment.

C.7.29 The Environment Agency also stated that SPA interest features are mobile, with Little egret having been observed in Western Mill Lake, and are not restricted to the boundary of the SPA.

C.7.30 We note that the SPA interest features are mobile, although the majority of suitable habitat is within the SPA area.

C.8 Planning Policy Analysis

Amendments to the Submitted Text

C.8.1 Section 2.2.7: insert additional text after paragraph 4 as follows:

C.8.2 A sequential test assessment has been carried out (full documentation at Appendix D.11.1 of the Further Information Report) in accordance with PPS25. The assessment, coupled with the Flood Risk Assessment (FRA) and the alternative sites evaluation in ES Chapter 5, concludes that there are no alternative sites with a lower probability of flooding which would be more appropriate for the EfW CHP Facility.

C.8.3 Section 5.9: insert paragraph as follows after paragraph 4 following policy CS21:

C.8.4 Proposed mitigation to raise the levels along the small section of access road within Flood Zone 2 would ensure the site of the proposed EfW CHP facility would be entirely within Flood Zone 1. A sequential test assessment has been carried out (full documentation at Appendix D.11.1 of the Further Information Report) in accordance with PPS25. The assessment, coupled with the Flood Risk Assessment (FRA) and the alternative sites evaluation in ES Chapter 5, concludes that there are no alternative sites with a lower probability of flooding which would be more appropriate for the EfW CHP Facility.

C.8.5 Page 47, Section 6.2.4.3: replace paragraph 5 as follows:

C.8.6 The assessment of adverse impacts on views from a range of locations, including residential properties, public areas and businesses, demonstrates that there are likely to be a small number of major adverse impacts on views from certain residential properties in the Barne Barton and Weston Mill Area. Chapter 8 of the ES quantifies these impacts, noting that significant adverse effects are limited to a small number of receptor locations, which vary though construction and operational phases of the development.

C.8.7 Page 47, Section 6.2.4.3: replace paragraph 6 as follows:

C.8.8 The quality of views that are adversely affected, many of which are currently dominated by a disused and mixed-character industrial foreground and a monochromatic industrial backdrop of large scale buildings, has been taken into account in the EIA methodology.

C.8.9 Page 48, Section 6.2.4.5: replace paragraph 4 as follows:

C.8.10 Chapter 8 of the proposed development, covering landscape and visual impact, concludes that the proposed development would have some long term beneficial effects on local landscape character and some significant adverse effects on visual amenity for a small number of residential visual receptors. The landscape and visual impact assessment concludes that the combination of built form, new landscape strategy and management of existing landscape features are appropriate and sufficient to overcome the adverse visual effects classified by the EIA methodology as significant. The perception of significance of these adverse effects on views are also likely to be softened by a general public appreciation of the quality of the landmark building design and the important role played by the building in securing a sustainable future for the community.

C.8.11 Page 49, Section 6.2.4.5: replace paragraph 3 as follows:

C.8.12 In the case of this development proposal, its has been demonstrated through a comprehensive EIA process, that the likely significant adverse impacts on the amenity of residents and other neighbouring users is limited to effects on views from a small number of residential visual receptors and possible short term construction noise. The ES reports that all other potential amenity impacts (such as those from dust, odour, vibration, operational noise and daylight and sunlight effects) will be mitigated by appropriate engineering design and good waste management practice measures.

Waste Strategy 2011 Priorities

Introduction

C.8.13 The Coalition Government has undertaken a Review of Waste Strategy for England which was published in May 2011, just after the planning application for the EfW CHP facility was submitted. The text below comprises a supplementary paper reviewing the proposed EfW CHP facility against the recently published Review of Waste Strategy for England. The Coalition Government has also looked at the potential to generate renewable energy and the Department for Energy and Climate Change (DECC) has published a report by Arup which looks at the both the potential and relative costs of producing renewable energy from, among other sources, waste including conventional Energy from Waste and using Gasification and Pyrolysis technologies.

Emerging Policy

C.8.14 The Review of Waste Strategy for England sets out the objective of reducing the volume of waste sent to landfill and increasing recycling. It states that *"we can and must go further and faster. If we do, we will see the benefits not only in a healthier natural environment and reduced impacts on climate change, but also in the competitiveness of our businesses through better resource efficiency and innovation, helping to create a new, green economy."* By driving waste up the hierarchy the objective is to *"ensure that the UK meets its EU obligations and targets on waste management."*

C.8.15 The Coalition Government believes that particularly in urban areas and within a tight funding settlement, *"On recycling, we must continue to increase the percentage of waste collected from both households and businesses which is recycled, at the very least meeting the revised waste framework directive target to recycle 50% of waste from households by 2020. This will include overcoming some challenges ahead, particularly in urban local authorities, and to ensure that smaller businesses have access to cost effective recycling services."*

C.8.16 The Review of Waste Strategy for England states that *"Waste services are a matter for local authorities to develop fit for purpose local solutions. However the Government believes that better procurement and joint working can improve the efficiency of collections while improving the frontline service for the public in an affordable and practical manner."*

C.8.17 The authorities which comprise the SWDWP have worked together to procure the development of the proposed EfW CHP facility through a competitive procurement process to deliver a *"fit for purpose solution"* which delivers best value for money; which meets the objective of diverting biodegradable waste from landfill; and which will not compromise the target to meet the EU obligation to recycle at least 50% of waste from households.

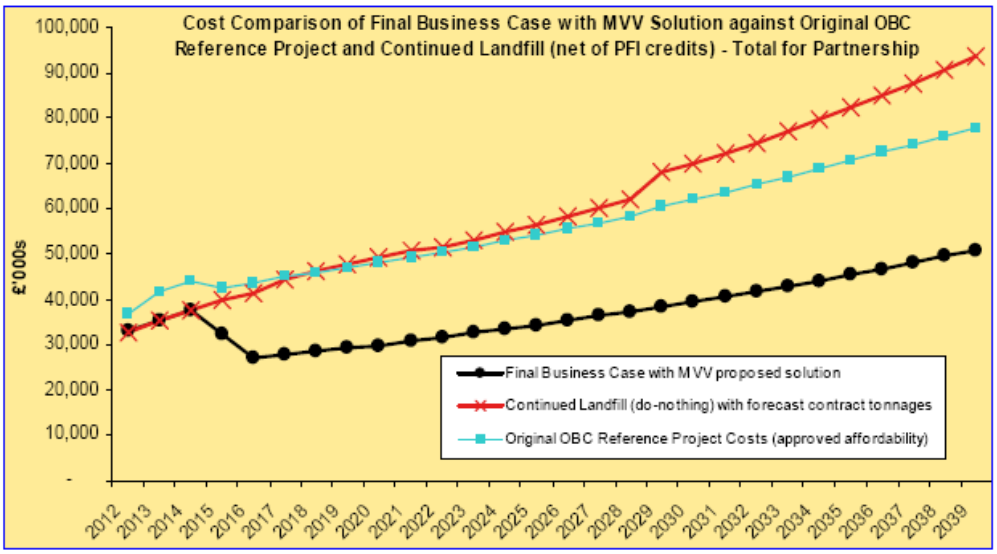
C.8.18 In paragraph 22 the Review of Waste Strategy for England states that *"Government supports efficient energy recovery from residual waste which can deliver environmental benefits, reduce*

carbon impacts and provide economic opportunities." The stated aim is *"to get the most energy out of genuinely residual waste, not to get the most waste into energy recovery."* The Review of Waste Strategy for England acknowledges that *"Anaerobic digestion offers a positive solution to food waste, and the Government is publishing separately an anaerobic digestion strategy."* However it continues *"We will work to remove barriers to other energy from waste technologies by ensuring information is available and readily understood. We will publish a guide to energy from waste to help all involved make decisions best suited to their specific requirements. While remaining technology neutral, we will look to identify and communicate the full range of recovery technologies available and their relative merits – right fuel, right place and right time. The Government will also provide the necessary framework to address market failures and ensure the correct blend of incentives are in place to support the development of recovery infrastructure as a renewable energy source."*

C.8.19 The Review of Waste Strategy for England states at paragraph 26 that *"The Government continues to support local authorities in the provision of necessary waste infrastructure. We believe local communities should benefit from hosting waste infrastructure and be involved from an early stage in planning for infrastructure. We will support this by providing advice and support for local authorities on science and technology, drawing together and publishing data on likely waste arisings and treatment capacity in future years, and supporting efforts by local authorities through effective contract management to generate further efficiencies in waste collection, reprocessing and treatment. We will also seek to reduce commercial barriers to the effective financing of infrastructure."*

C.8.20 The involvement of the Department of Environment, Food and Rural Affairs (Defra) throughout the PFI procurement process of the EfW CHP facility has ensured that the proposal represents the right facility in the right place at the right time using the right fuel for the SWDWP area. The development of the EfW CHP facility and genuine anaerobic digestion facilities to process food waste are complementary. Wherever food waste is collected separately it should be taken to an anaerobic digestion facility. However such facilities do not work efficiently if the food waste is contaminated with other material such as plastics, inert material or metal, and the residual waste which is collected from doorsteps and from business and commercial premises which remains after segregation at source is most efficiently diverted from landfill and converted to energy by well proven energy from waste technology.

C.8.21 MVV is financing the development of the EfW CHP facility but at the end of the 25 year operational contract the facility will become an asset owned by the three local authorities which comprise SWDWP and the facility will have to be handed over in good working order with five years' operational life. Defra has reviewed the technology to ensure that it is appropriate and the Government is supporting the project by providing £177m of PFI funding over the life of the contract.

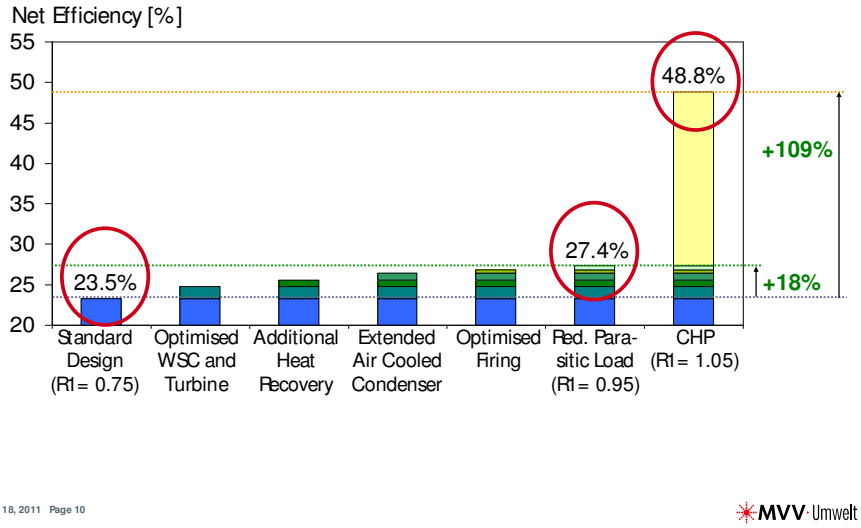


	SWDWP in total £m	Plymouth City Council £m	Torbay Council £m	Devon County Council £m
Reference Case estimate (single EfW facility with updated tonnage including tonnage previously assumed to landfill added into Contract Waste)	**824.9**	**404.7**	**134.9**	**285.3**
MVV's solution cost at Contract Close	**436.0**	**212.2**	**71.4**	**152.5**
Estimated financial benefit of MVV's solution over Reference Case	**388.8**	**192.5**	**63.5**	**132.8**
PFI Revenue Support Grant	**177.0**	**82.9**	**29.3**	**64.8**

C.8.22 In June 2011 DECC published a report prepared by the independent consultants Arup which was titled *"Review of the generation costs and deployment potential of renewable electricity technologies in the UK."*

C.8.23 The Arup Report at 14.4.4 states *"EfW plants are one of the most proven technologies for the thermal treatment of mixed waste biomass fuel. There is a range of technology providers and project developers established in the market, and they have demonstrated their ability to successfully deliver EfW plants. No particular innovation is expected regarding EfW technology given that it is a well established and researched technology. The main challenge will be to make better use of the heat generated to improve the overall energy efficiency of EfW plants resulting in better environmental performance (e.g. reduced greenhouse gas emissions). Efficient EfW plants can also be classified as energy recovery operations (R1 facilities) rather than waste disposal."*

C.8.24 The EfW CHP facility will be eligible to be classed as an Energy Recovery Operation with a normal electrical efficiency of over 27% compared with the 20% efficiency assumed in the Arup Report. It will deliver Combined Heat and Power from Day 1 giving it an overall efficiency of 38% in summer and almost 49% in winter.



C.8.25 The Arup report notes that only five plants in the UK operate in CHP mode and that *"Developing heat transmission networks is challenging because there is a number of barriers to their deployment, for example, availability of heat customers (e.g. food and drink industry, homes, hospitals, universities etc) located in close proximity to the EfW plants, and affordability (e.g. capital costs of the heat network and connections)."* The location of the proposed EfW CHP facility in the North Yard where there is an existing steam pipe network makes this much easier to deliver than alternative sites within Plymouth and the SWDWP area but it will still be necessary to invest over £4m in upgrading the existing pipe network.

C.8.26 In contrast with Energy from Waste, which the Arup report describes as proven technology, Chapter 16 of the report opens by stating

C.8.27 *"Gasification and pyrolysis are still considered to be emerging and unproven technologies for the treatment of waste biomass fuel. To our knowledge, there are very few commercial scale gasification and pyrolysis plants operating in Europe and world-wide. In particular, there are very few large-scale commercial plants (i.e. >150,000 tonnes / annum) in operation.*

C.8.28 *However, there has been some significant interest in the UK in developing ACT plants. ACT plants face, or have faced, significant technical challenges in terms of treating heterogeneous waste streams, and there are several cases where plants failed to achieve their design throughput or air emission standards. The two UK gasification plants (i.e. Scotgen, Dumfries and Energos, Isle of Wight) have both encountered technical problems during plant commissioning resulting in significant programme delays. Based on the two existing gasification and pyrolysis plants in the UK and other examples of gasification and pyrolysis plants world-wide, UK project developers are likely to encounter technical problems in commissioning and operating these types of plants. This has already adversely affected the bankability and deployment rate of these technologies.*

C.8.29 *It is considered that there is a low potential of significantly increasing the current electricity generation from waste biomass fuel in the short-term (i.e. 5 to 10 years) using gasification and*

pyrolysis technologies. The key innovation required is to develop enough technical knowledge and expertise to address some of the technical challenges and demonstrate successful commercial operation of these plants, which would help to establish these plants as proven technology and increase deployment rates to 2030. There is relatively little information available on the actual overall energy conversion efficiency of gasification and pyrolysis plants. Based on our research and experience, the overall efficiency (i.e. net electrical efficiency) is often not higher than that achieved via a conventional Rankin steam cycle energy conversion system where steam is used to drive a turbine generator to produce electricity."

C.8.30 This independent technical report commissioned by Government clearly casts doubt on the commercial case for investing in these technologies and why they are not being developed in preference to conventional mass burn Energy from Waste which the report describes as *"one of the most proven technologies for the thermal treatment of mixed waste biomass fuel".*

Greening the Economy

C.8.31 From Day 1 of its commercial operation the proposed EfW CHP facility will provide both steam and electricity for use in Devonport Naval Base by both the MoD and Babcock. It will also provide electricity into the National Grid. The existing pipe network in the Dockyard will be extensively replaced and made more efficient and the EfW CHP facility will provide an alternative to the use of fossil fuel in the existing Dockyard boilers.

C.8.32 The Review of Waste Strategy in England states that

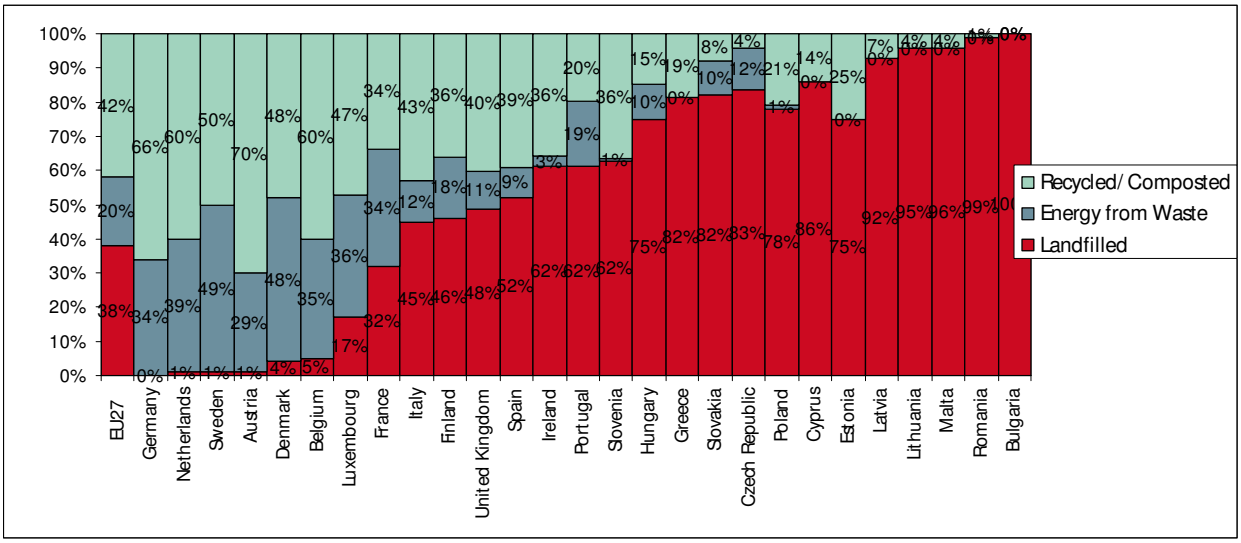
C.8.33 *"A green economy is one in which value and growth are maximised across the whole economy while managing natural assets sustainably. Environmental damage will be reduced, while increasing energy security, resource efficiency and resilience to climate change. The green economy will be supported and enabled by a thriving low carbon and environmental goods and services sector. Our vision of a Zero Waste Economy acknowledges that there will continue to be a long-term market in "waste" materials, with significant opportunities for growth in the collection, recycling, reprocessing and recovery of waste. The UK's waste and recycling sector is currently valued at over £11 billion and is forecast to grow by approximately 3-4% a year for at least the next few years. The 2010 Energy & Utility Skills report estimated that the waste management and recycling industry would grow by 37% by 2020. These industries are central to the development of a green economy.*

C.8.34 *The waste industry is currently in transition from one traditionally focussed on disposal of waste to landfill towards much greater reuse, recycling and recovery of waste materials. So while some areas of the industry will continue to contract, others have significant scope to grow. This is above all true in the collection, sorting and reprocessing of key materials such as biowaste, textiles, plastics, glass, paper and metals. There will be growth opportunities to both the waste management industry and the wider supply chain, including the repair, re-processing and remanufacturing sectors. Renewable energy needs provide an opportunity for strong growth in energy from waste and anaerobic digestion sectors."*

C.8.35 Devonport Dockyard is significantly the largest power user in south west Devon. If the new EfW CHP facility was not located in the Dockyard but in one of the sites allocated in the City Council's Waste Development Plan Document or Devon County Council's Waste Local Plan, it would not be able to deliver steam directly into the Dockyard and therefore achieve the same level of efficiency which it will in the North Yard location. The choice of site is a key element in delivering the "Green Credentials" of this facility and contribute significantly to the carbon savings that arise from the project.

C.8.36 The choice of mass burn Energy from Waste has been criticised in a number of quarters as discouraging recycling, but optimised kerbside recycling and mass burn Energy from Waste facilities are a good fit as recycling performance in mainland Europe demonstrates, with high levels of recycling and a high proportion of the waste which is not recycled used to generate energy in mass burn incinerators.

C.8.37 In order to maximise the recycling opportunity and value of materials they need to be separated at source so that they do not contaminate each other. Regrettably many manufacturers who claim to use recyclable products in their packaging weld them together in ways that negate their recycling potential as isolated products.



C.8.38 Most materials which are recycled do not constitute a good calorific value feedstock for an Energy from Waste facility. Metal containers, glass and wet garden waste do not burn very well, if at all. Removing paper from the waste stream before it is contaminated with the residues from food tins and liquids in bottles maintains its value. Once it has been mixed with these other wastes it has a very low value and is more efficient as a fuel. The same is true of most waste collected from street sweepings and refuse bins in the street. The materials such as food wrappings are mixtures of paper / cardboard and plastic, often with a high grease content. They are of no value to the recycling industry but generally have a high calorific value. In contrast if they were to continue to be sent to landfill they would be a significant contributor to greenhouse gas emissions.

Employment

C.8.39 The Review of Waste Strategy in England looked at the changing employment opportunities in the waste industry. It states that *"At present, these industries employ between 120,000 and 150,000 people according to the most recent studies. Opportunities for growth and employment exist in design, repair and reuse as well as in both infrastructure build and the consequent operation of waste treatment facilities. The extent to which, in coming years, there will be net 'new' jobs created, rather than jobs displaced from other aspects of waste management which are in decline, is not fully understood. But overall there is evidence that recycling operations are more labour-intensive than disposal operations. The type of jobs created will change as the UK*

moves to more complex technological solutions to waste management. Jobs are likely to require an increasing level of competence – there will be a need for further growth of skilled labour, particularly in some professional and technical roles."

C.8.40 Already the planning application has maintained employment in Plymouth with the team preparing the planning application and Environmental Statement being based in the city. Kier Construction Ltd. has been appointed to undertake the main civil engineering work and they are also based in Plymouth and will not only be employing local labour but have an established policy in taking on local apprentices.

C.8.41 During the construction period, in addition to the local labour that will be used, a specialist workforce will be brought over from Europe by MVV's process sub-contractors. These workers will be spending time in the city, and will be staying in hotels and boarding houses thereby contributing to the economy of Plymouth.

C.8.42 Once the plant is being commissioned and in operation there will be over 30 people directly employed by MVV on site. These positions will range from posts requiring a high level of training, knowledge and education, such as the Operations and Maintenance Engineers, through to roles with a lower entry level, such as weighbridge operators, shift team members and tipping hall supervisors. An additional 70 people will be employed at different times of year through sub-contracted maintenance and associated operations.

C.8.43 MVV has a well established track record of training and recruiting apprentices and graduates. Contact has already been made with Plymouth University, Plymouth City College and the Regular Forces Employment Association about recruiting local staff and ensuring there is a match between the skill needs and the training available. Plymouth City College has sent a representative over to Mannheim to discuss training opportunities and requirements with MVV and MVV has given undertakings to make its staff available to lead technical workshops and give guest lectures. In addition there will be opportunities for students from a wide variety of backgrounds to gain either work experience or to undertake research based not only on the waste technology and operation of the plant but ecology, education and communications among other fields.

C.8.44 MVV is committed to taking on technical apprentices themselves and Kier has a well established track record in Plymouth of training apprentices, and this will continue as part of their Corporate Social Responsibility programme. In addition MVV will through the Section 106 Agreement fund the training cost of up to 5 local apprentices each year even if they are not employed by MVV directly. They could be training to work with external companies associated with the maintenance of the plant or from the local area and who need help with funding for their College or University fees.

Government Estate

C.8.45 The Review of Waste Strategy in England recognises the leadership role that Government has to play in the way that it manages its own waste and its approach to *"greening"* the government estate. It states that *"In support of our wider policy goals on reducing and managing waste more efficiently the Government needs to be doing at least what it demands of others and, ideally, leading by example."*

C.8.46 The Government is committed to tackling its own waste and leading by example. It has set itself targets in the Greening Government Commitments, including a commitment to cut the waste we produce by 25% by 2014/15 (from 2009/10). In support of this it will be cutting its paper use by

10% in 2011/12, and ensuring that redundant ICT equipment is re-used or responsibly recycled, as well as looking to tackle waste that is currently sent to landfill. Agreement has been reached with both MoD and Babcock that, with the explicit exemption of nuclear waste (even very low level radioactive waste), waste from the Dockyard that is not recycled will be delivered to the EfW CHP facility and not sent to landfill.

Regulation and Enforcement

C.8.47 The proposed EfW CHP facility will have to operate within both the conditions on the planning permission and the strict Environmental Permit conditions. In the Review of Waste Strategy in England it states *"the Government will develop approaches that ensure all waste it generates is kept within the legal waste management sector right through to final recovery or recycling or, where not possible, final disposal. The Government will promote this approach across the wider public sector to minimise the risks of any waste generated or collected by public authorities ever being subject to illegal treatment here or abroad."* This is an additional reassurance about the strict standards to which the plant will have to operate and the types of material that can be accepted.

C.8.48 The Review of Waste Strategy in England also sets out the position of the Government and the Environment Agency to enforcing standards. *"...the risk based approach to regulation will focus on enforcement against those who, through poor management or inadequate infrastructure are repeatedly non-compliant and cause nuisance such as dust and odour or risk harm to health and the environment."*

Empowering Local Communities

C.8.49 The Review of Waste Strategy in England sets out a desire for an increased role for the public and local communities in developing waste policy and delivering improved performance in reducing waste arisings and higher recycling performance. The Community Area and the Community Liaison Manger, who will be responsible for the Community Area, will be available to SWDWP and the local community to help educate schools, and other local community groups with an interest in the environment and local policy and the wider community in general to achieve these objectives.

Supporting Local Authorities

C.8.50 The Review of Waste Strategy in England identifies a number of barriers to improved recycling performance. MVV as part of its contract with SWDWP has an obligation to help improve recycling performance by supporting SWDWP to promote waste awareness and waste reduction initiatives. The facilities and staff at the EfW CHP facility will be available to help deliver these objectives identified in Review of Waste Strategy in England:

- Policy and regulation: where Government policies and regulation limit the ability of civil society to take action or create an uneven playing field;
- Financial barriers: where limited funding for activity makes supporting action by communities difficult;
- Skills and capacity: where organisations trying to deliver objectives in waste do not have sufficient skills or capacity to meet their needs; and
- Education and information: where community groups lack key information to be able to develop and deliver their own outcomes.

Business Waste Collection

C.8.51 The Government wants to work in partnership with businesses in all parts of the economy to encourage and spread best practice in waste prevention and resource management, and so reap the economic and environmental benefits for society and the economy. Business and Government can take joint and complementary actions. There is also a role for local enterprise partnerships who can provide the vision, strategic leadership and support needed to enable businesses in their area to deliver these changes.

C.8.52 Government states in the Review of Waste Strategy in England that it is looking for businesses to *"send less of their waste to landfill"* and the capacity of the proposed EfW CHP facility to receive commercial and industrial waste of a similar nature to household waste will help to deliver that objective by diverting commercial and industrial waste away from landfill and enabling it to be used to generate renewable energy.

Energy Recovery

C.8.53 The proposed facility is part of the government's PFI programme to provide infrastructure to divert waste from landfill and reduce the carbon footprint of managing waste.

C.8.54 The Coalition Government states in the Review of Waste Strategy in England that *"We will need to have sufficient infrastructure in place to support increasingly efficient recovery that is flexible enough to adapt to changing feedstocks over time. As we recycle more, we need to understand how we can adapt to recover the best value from what is left, while delivering the best environmental outcomes. We are aiming to get the most energy out of the residual waste, rather than to get the most waste into energy recovery.*

C.8.55 *Our overarching goals are to ensure that:*

- *Recovery of energy from waste and its place in the waste hierarchy is understood and valued by households, businesses and the public sector in the same way as re-use and recycling.*
- *Energy is recovered in a variety of ways, using the best technology available for the circumstances. The resulting electricity, heat, fuel or other products are seen as commodities with real economic value. Where necessary incentives and regulation are aligned to reflect this value.*
- *Recovery of energy from waste makes an important contribution to the UK's renewable energy targets, minimising waste to landfill and helping to meet UK carbon budgets.*
- *With increased trust in energy from waste and innovative incentives, recovery infrastructure is generally accepted, and industry and communities make use of energy from waste to routinely meet a proportion of their energy and waste management needs."*

C.8.56 The Review of Waste Strategy in England also states that *"The role of government is to facilitate informed decisions by communities, local authorities and businesses about how they recover value from their residual waste. To do this we will:*

- *Support the role of energy recovery from waste within the waste hierarchy and aim to improve understanding of this role.*

- *Provide a clear position on the health implications of the recovery of energy from waste, based on the best available evidence, to support a reasoned, evidence based evaluation of risks and benefits.*
- *Work with all involved to identify commercially viable routes by which communities can realise benefits from hosting recovery infrastructure;*
- *Work to identify and communicate the full range of recovery technologies available and their relative merits – right fuel, right place and right time. As part of this we will publish a guide on energy from waste to help all involved make decisions best suited to their specific requirements.*
- *Not 'pick winners' but we will provide the necessary framework to address market failures and deliver the most sustainable solutions.*
- *Ensure the correct blend of incentives are in place to support the development of recovery infrastructure as a renewable energy source that can make an effective contribution to renewable energy targets and carbon reduction commitments.*
- *Work with industry and delivery partners to develop effective fuel monitoring and sampling systems which allow the renewable content of mixed wastes and waste derived energy to be accurately measured to help facilitate an effective market.*
- *Ensure that waste management legislation and regulation provides a safe well monitored sector but does not have unintended consequences on development of energy recovery industry through unnecessary barriers or burdens."*

C.8.57 The choice of MVV and their EfW CHP solution has been reviewed by Government as part of the approval of the Final Business Case for PFI funding and it meets the Government's stated objectives.

C.8.58 Plymouth City Council in developing its Municipal Waste Management Strategy and Waste Development Plan Document explicitly identified Energy from Waste as a suitable technology and identified sites for that technology, held widespread public consultations on the policy, and took the plan through a Public Inquiry to obtain Government approval.

C.8.59 MVV has itself held over 20 exhibitions to explain its proposals to the local community and has distributed newsletters to over 20,000 households in Plymouth. By delivering Combined Heat and Power from Day 1 of its operation the EfW CHP facility has the potential to deliver all of these objectives.

Landfill Diversion Targets

C.8.60 Not only will the proposed EfW CHP facility help the SWDWP authorities achieve the Government's targets for recycling and composting, it will complement the 50% recycling performance for the SWDWP area by diverting all the residual waste away from landfill. In addition the Incinerator Bottom Ash will also be recycled and used as secondary aggregate thus avoiding the need for primary aggregate to be quarried.

Infrastructure and Planning

C.8.61 The Review of Waste Strategy in England sets out very clearly the challenges faced by planning authorities in considering applications for new infrastructure projects and the natural concerns of local residents over physically large structures using technologies they are not familiar with.

C.8.62 *"The planning system plays a critical role in delivering our ambition. A good planning system is essential for the economy, environment and society. The Government, however, recognises that there are some flaws in the planning system as it stands. Planning does not give members of the public enough influence over decisions that make a big difference to their lives. Too often, power is exercised by people who are not directly affected by the decisions they are making. This means, understandably, that people often resent what they see as decisions and plans being forced on them. The result is a confrontational system where many applications end up being fought over.*

C.8.63 *It is perhaps not surprising therefore that, although most applications are successful, the planning process is often cited as one of the most significant and time consuming barriers to the delivery of waste management infrastructure. Communities often do not perceive any direct benefit from hosting waste infrastructure yet feel that they have to bear the environmental cost (such as increased traffic, visual impact and noise but also pollution and health concerns). Too many decisions, particularly for specific types of waste infrastructure, are still determined by appeal, which costs both developers and councils significant time and money while resulting in decisions being made by people remote from the affected communities rather than the communities and their elected representatives*.

C.8.64 *Yet at the same time, the planning system plays a key role in rebuilding our economy by ensuring that the sustainable development needed to support economic growth is able to proceed as easily as possible. The Government is committed to replacing the adversarial system, remote from communities, with a collaborative one where close working with communities is the norm, and which acts as a driver for growth*.

C.8.65 *The Government clearly wants an efficient planning system with the right proposals to come forward in local areas so they are approved first time. This will involve cooperation and behaviour change between the key partners in the planning process: the local authority, the waste management industry and the local communities. There is considerable good practice being demonstrated, by local authorities and the waste management industry, in engaging with each other and with local communities. However, the Government considers that more must be done to challenge and change existing behaviours."*

C.8.66 The exhibitions and newsletters which are referred to above are part of MVV's efforts to help understanding of the project and that it will not represent a threat to health or introduce large volumes of traffic onto roads which are not suitable for that purpose.

C.8.67 MVV has established an Incinerator Liaison Committee with local residents to try and allay fears about the development, understand their concerns and provide reassurance.

C.8.68 The Review of Waste Strategy in England refers to *"The principle that those most impacted should benefit most should operate across all scales from street to neighbourhood to local authority. How to achieve this should be part of an ongoing dialogue between communities, local authorities, waste management companies and developers. Other industries, for example wind generation, have addressed this issue through the development of industry protocols for providing community benefits in relation to infrastructure development, and we will explore with the waste management industry whether such approaches could be suitable for waste infrastructure."*

C.8.69 MVV is offering a number of benefits to offset the visual impact of the development including improved landscaping and management of Blackies Wood with improved public access; the development of open space / play area on Savage Road; a £52,000 per annum community fund;

and working with Plymouth City Council's CESP initiative help with the increased cost of energy for nearby residents.

C.8.70 The Review of Waste Strategy in England concludes *"Localism imparts greater responsibility on local politicians to make decisions, and on their community to hold them accountable, based on clear evidence. We want to reach a stage where, as a result of effective engagement, applications which reach the formal planning process should present local politicians with the best possible evidence and a less polarised debate. With more informed debate there will also be a greater expectation that local politicians will take responsibility for these difficult decisions to ensure the waste produced by their communities is properly managed. Waste infrastructure is of national importance, to ensure we meet our commitments on waste and climate change. However, in the majority of cases, decisions on delivering that infrastructure should remain at the local level."*

Conclusion

C.8.71 Both SWDWP and MVV have sought to work with the local community to deliver a development which will comply with Government policy to divert waste from landfill; generate energy in the most efficient and effective way from genuinely residual waste; deliver value for money for the residents of the SWDWP area; contribute significantly to carbon reduction in Plymouth as a whole and Her Majesty's Naval Base, as part of the Government estate, in particular; not adversely affect the health of the adjoining residents in an area which suffers from deprivation including shorter life expectancy; help to retain existing employment opportunities and create new ones; and deliver benefits to the local community through a better environment by tidying up Blackies Wood and Barne Brake, creating a new play area and helping with reduced energy costs.

Draft National Planning Policy Framework

C.8.72 The Government in July 2011 published a consultation on a Draft National Planning Policy Framework which can be found at http://www.communities.gov.uk/documents/planningandbuilding/pdf/1951811.pdf

C.8.73 The period for consultation runs until October 2011. The consultation is not adopted policy but in its Guidance to Planning Inspectors The Planning Inspectorate states:

> *"Whilst it is a consultation document and, therefore, subject to potential amendment, nevertheless it gives a clear indication of the Government's `direction of travel' in planning policy. Therefore, the draft National Planning Policy Framework is capable of being a material consideration, although the weight to be given to it will be a matter for the decision maker's planning judgment in each particular case. The current Planning Policy Statements, Guidance notes and Circulars remain in place until cancelled."*

C.8.74 The consultation proposes the withdrawal of almost all Planning Policy Statements and Planning Policy Guidance but Planning Policy Statement 10 Planning for Sustainable Waste Management is one of the few which it is proposed to retain. However the Introduction states *"7. This Framework does not contain specific waste policies, since national waste planning policy will be published alongside the National Waste Management Plan for England."*

C.8.75 The associated consultation document states *"This Statement (PPS10) will be revised and annexed to the National Waste Management Plan. Until that Plan is finalised, the Statement will*

remain in force. However, local authorities preparing waste plans should have regard to policies in the National Planning Policy Framework."

C.8.76 The Draft National Planning Policy Framework: Consultation makes many proposals which are relevant to all planning applications and as the consultation document indicates which are therefore relevant to the application for the Energy from Waste Combined Heat and Power development in North Yard, Plymouth, but as the Guidance to Planning Inspectors states *"the weight to be given to it will be a matter for the decision maker's planning judgment in each particular case".*

C.8.77 The consultation sets out a very clear presumption in favour of granting planning permission:

> *"13. The Government is committed to ensuring that the planning system does everything it can to support sustainable economic growth. A positive planning system is essential because, without growth, a sustainable future cannot be achieved. Planning must operate to encourage growth and not act as an impediment. Therefore, significant weight should be placed on the need to support economic growth through the planning system.*
>
> *14. At the heart of the planning system is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan making and decision taking.*
>
> - *approve development proposals that accord with statutory plans without delay; and*
> - *grant permission where the plan is absent, silent, indeterminate or where relevant policies are out of date."*

C.8.78 All of these policies should apply unless the adverse impacts of allowing development would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole.

C.8.79 A clear exemption is made to the presumption in favour of approving applications where *"16. Development likely to have a significant effect on sites protected under the Birds and Habitats Directives would not be sustainable under the terms of the presumption in favour of sustainable development outweigh the benefits, when assessed against the policies in this Framework taken as a whole."* The proposed development contains extensive proposals to improve Blackies Wood and the frontage of Barne Brake adjoining the development as well as assessing the impact on the natural habitat and designated sites within 10 km of the proposed development and meets the objectives set out in paragraph 164.

> *"164. To achieve this objective, the planning system should aim to conserve and enhance the natural and local environment by:*
>
> - *protecting valued landscapes*
> - *minimising impacts on biodiversity and providing net gains in biodiversity, where possible; and*
> - *preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of land, air, water or noise pollution or land instability."*

C.8.80 The proposed development particularly meets the Core Planning principles set out in paragraph 19:

"planning should proactively drive and support the development that this country needs. Every effort should be made to identify and meet the housing, business, and other development needs of an area, and respond positively to wider opportunities for growth. Decision-takers at every level should assume that the default answer to development proposals is "yes", except where this would compromise the key sustainable development principles set out in this Framework

- *planning policies and decisions should enable the reuse of existing resources, such as through the conversion of existing buildings, and encourage, rather than restrict, the use of renewable resources (for example, by the development of renewable energy)*
- *planning policies and decisions should take account of and support local strategies to improve health and wellbeing for all; and*
- *planning policies and decisions should always seek to secure a good standard of amenity for existing and future occupants of land and buildings."*

C.8.81 There is clear guidance to planning authorities to support sustainable development:

"53. The primary objective of development management is to foster the delivery of sustainable development, not to hinder or prevent development.

54. To enable each local authority to proactively fulfil their planning role, and to actively promote sustainable development, local planning authorities need to:

- *approach development management decisions positively – looking for solutions rather than problems so that applications can be approved wherever it is practical to do so*
- *attach significant weight to the benefits of economic and housing growth*
- *influence development proposals to achieve quality outcomes; and*
- *enable the delivery of sustainable development proposals."*

C.8.82 The proposed development in North Yard meets the requirements in Policy W7 of the City Council's Waste Development Plan and therefore ought to be approached with a presumption that it should be approved.

"62. The planning system is plan-led. Therefore Local Plans, incorporating neighbourhood plans where relevant, are the starting point for the determination of any planning application.

63. In assessing and determining development proposals, local planning authorities should apply the presumption in favour of sustainable development."

C.8.83 It is considered that the proposals conform to the development plan and that as this is a full application there should be very few planning conditions. It is however recognised that there are some wider community benefits that can be delivered outside the site boundary and a draft Section 106 Agreement has been submitted with the application. However there will need to be negotiations to ensure that the requirements of the planning obligation are *"fair and reasonably related in scale and kind of development"* and bearing in mind the viability of the development.

"67. Local planning authorities should consider whether otherwise unacceptable development could be made acceptable through the use of conditions or planning obligations. Planning obligations should only be used where it is not possible to address unacceptable impacts through a planning condition.

68. Planning obligations should only be sought where they meet all of the following tests:

- *necessary to make the development acceptable in planning terms*
- *directly related to the development; and*
- *fair and reasonably related in scale and kind of development.*

69. Planning conditions should only be imposed where they are necessary, relevant to planning and to the development to be permitted, enforceable, precise and reasonable in all other respects.

70. Local planning authorities should avoid unnecessary conditions or obligations, particularly when this would undermine the viability of development proposals."

C.8.84 The priority of the government is to stimulate economic growth and to encourage a low carbon approach to energy generation and use. The proposed development meets those objectives very explicitly.

"71. The Government is committed to securing sustainable economic growth. In particular, there is an urgent need to restructure the economy, to build on the country's inherent strengths and to meet the twin challenges of global competition and of a low carbon future."

C.8.85 The proposals for Blackies Wood and the open space on Savage Road are consistent with the objective of *"Delivering open space, sports and recreational facilities".*

"128. Access to good quality open spaces and opportunities for sport and recreation can make an important contribution to the health and well-being of communities. The planning system has a role in helping to create an environment where activities are made easier and public health can be improved. Planning policies should identify specific needs and quantitative or qualitative deficits or surpluses of open space, sports and recreational facilities in the local area. The information gained from this assessment of needs and opportunities should be used to set locally derived standards for the provision of open space, sports and recreational facilities. Planning policies should protect and enhance rights of way and access."

C.8.86 The development is also in accordance with the draft guidance on flooding and coastal protection, taking into account climate change.

"148. The Government's objective is that planning should fully support the transition to a low carbon economy in a changing climate, taking full account of flood risk and coastal change. To achieve this objective, the planning system should aim to:

- *secure, consistent with the Government's published objectives, radical reductions in greenhouse gas emissions, through the appropriate location and layout of new development, and active support for energy efficiency improvements to existing buildings and the delivery of renewable and low-carbon energy infrastructure*

- *minimise vulnerability and provide resilience to impacts arising from climate change*
- *avoid inappropriate development in areas at risk of flooding by directing development away from areas at highest risk or where development is necessary, making it safe without increasing flood risk elsewhere; and*
- *reduce risk from coastal change by avoiding inappropriate development in vulnerable areas or adding to the impacts of physical changes to the coast."*

C.8.87 Considerable effort has been taken with the design of the building and not withstanding the draft guidance in paragraph 151 the building fulfils the objectives of good design in the City Council's design policy and respects the high architectural quality of the listed buildings in the Dockyard.

> *"151. Local planning authorities should not refuse planning permission for well-designed buildings or infrastructure which promote high levels of sustainability because of concerns about incompatibility with an existing townscape unless the concern relates to a designated heritage asset and the impact would cause material harm to the asset or its setting, and this harm is not outweighed by the proposal's wider social, economic and environmental benefits."*

C.8.88 The Energy Supply Agreement with MoD and Babcock to supply low carbon energy to the Dockyard is accredited by the Quality Certificates issued by DECC for ROC eligibility and the commitments to enter into obligations to provide low cost carbon saving energy to nearby homes which might consider that they are impacted by the proposed development are compliant with the draft policy on *"supporting the delivery of renewable and low-carbon energy".*

> *"152. To help increase the use and supply of renewable and low-carbon energy, local planning authorities should recognise the responsibility on all communities to contribute to energy generation from renewable or low-carbon sources. They should:*
>
> - *have a positive strategy to promote energy from renewable and low-carbon sources, including deep geothermal energy*
> - *design their policies to maximise renewable and low-carbon energy development while ensuring that adverse impacts are addressed satisfactorily*
> - *consider identifying suitable areas for renewable and low-carbon energy sources, and supporting infrastructure, where this would help secure the development of such sources*
> - *support community-led initiatives for renewable and low carbon energy, including developments outside such areas being taken forward through neighbourhood planning; and*
> - *identify opportunities where development can draw its energy supply from decentralised, renewable or low carbon energy supply systems and for co-locating potential heat customers and suppliers.*
>
> *153. When determining planning applications, local planning authorities should apply the presumption in favour of sustainable development and:*
>
> - *not require applicants for energy development to demonstrate the overall need for renewable or low-carbon energy and also recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions; and*

- *approve the application if its impacts are (or can be made) acceptable. Once opportunity areas for renewable and low-carbon energy have been mapped in plans, local planning authorities should also expect subsequent applications for commercial scale projects outside these areas to demonstrate that the proposed location meets the criteria used in identifying opportunity areas."*

C.8.89 The proposal also demonstrates in the Environmental Statement that it is consistent with the objectives to protect human health and not adversely impact on the natural environment.

"163. The Government's objective is that planning should help to deliver a healthy natural environment for the benefit of everyone and safe places which promote wellbeing.

164. To achieve this objective, the planning system should aim to conserve and enhance the natural and local environment by:

- *protecting valued landscapes*
- *minimising impacts on biodiversity and providing net gains in biodiversity, where possible; and*
- *preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of land, air, water or noise pollution or land instability.*

171. Local policies and decisions should ensure that:

- *new development is appropriate for its location, having regard to the effects of pollution on health, the natural environment or general amenity, taking account of the potential sensitivity of the area or proposed development to adverse effects from pollution; and*
- *the site is suitable for its new use taking account of ground conditions, pollution arising from previous uses and any proposals for land remediation.*

172. In doing so, local planning authorities should focus on whether the development itself is an acceptable use of the land, and the impact of the use, rather than the control of processes or emissions themselves where these are subject to approval under pollution control regimes. Planning authorities should assume that these regimes will operate effectively. Equally, where a planning decision has been made on a particular development, the planning issues should not be revisited through the permitting regimes operated by pollution control authorities.

173. Planning policies and decisions should aim to:

- *avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development*
- *mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions, while recognising that many developments will create some noise; and*
- *identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.*

174. Planning policies should sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas. Planning decisions should ensure that any new development in Air Quality Management Areas is consistent with the local air quality action plan.

175. By encouraging good design, planning policies and decisions should limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation".

Conclusion

C.8.90 The proposed development is not only consistent with the policies in the existing Development Plan for Plymouth but meets the Draft National Planning Policy Framework and the guidance which planning authorities should follow in determining planning applications.

C.9 Section 106 Agreement Draft Heads of Terms

C.9.1 The Section 106 Agreement Draft Heads of terms will be the subject of negotiations during September and October between MVV and Plymouth City Council.

C.9.2 Following further discussions with Natural England, the following new clause is proposed with regard to off-site biodiversity enhancements:

- To achieve biodiversity gain through the provision of off-site enhancements at local sites of wildlife interest in accordance with Plymouth City Council's Core Strategy Policy CS19. The selected sites would be local to the EfW CHP facility site and will complement Plymouth City Council's Green Infrastructure (GI) Delivery Plan. Sites identified could include, but are not limited to, Plymouth Sound and Estuaries Special Area of Conservation (SAC), Kinterbury Creek County Wildlife Site (CWS), Ernesettle Complex CWS and Ham Woods proposed Local Nature Reserve (LNR). The exact sites would be agreed with Plymouth City Council. A budget of £10,000 per annum could be made available by MVV to facilitate improvements and enhancement works to the agreed sites, which could include improved access; habitat maintenance and enhancement works; habitat provision, such as bat, bird and insect boxes; freshwater pond creation and bee banks. Financial contributions may also be used to fund interpretation boards and self guided walk leaflets. Implementation will deliver a positive net gain on biodiversity.

C.9.3 In order to provide a delivery mechanism for the community landscape and biodiversity benefits proposed, MVV are considering establishing a Trust as follows:

- To explore establishing a Trust, similar to a Landfill Trust, to act as a mechanism for delivering the community, landscape and biodiversity benefits over the next 25 years. Trust members could apportion money between the community, landscape and biodiversity funds and would be balanced and unbiased in the allocation of funds. Trust members who could be responsible for making financial decisions on behalf of projects may include MVV, PCC, MoD and NGO's. The allocation of funds for specific projects could be managed by the Community Liaison Manager.

D.1 Environmental Statement Further Information

D.1 Introduction

D.1.1 No Further Information is submitted in relation to ES Chapter 1: Introduction.

D.2 EIA Legislation and General Methodology

D.2.1 No Further Information is submitted in relation to ES Chapter 2: EIA Legislation and General Methodology.

D.3 The Need for the Proposed Development

D.3.1 No Further Information is submitted in relation to ES Chapter 3: The Need for the Proposed Development.

D.4 Land Use: the Site and Surrounding Area

Reptiles

D.4.1 The following information concerning reptiles was not requested by Plymouth City Council in its Regulation 19 request for Further Information, nor is it considered to be required in order for the planning application to be determined, but it is provided for completeness.

D.4.2 For the purposes of the EIA, a Reptile Survey was undertaken at the site during the period May to October 2010. This identified a minimum of seven adult slow-worms around the large aggregate spoil and bare ground areas within the site. Evidence of breeding was also recorded with a minimum of three juveniles noted. One common lizard was also recorded. On this basis both the slow-worm and common lizard populations on the site have been estimated as low[4]. The methodology and results are reported in the Reptile Survey Report which is Appendix 7.5 to the ES.

D.4.3 This information was considered in detail by the MoD, as landowner, and MVV. With the consent of the MoD as landowner, and in order to meet its intended EfW CHP facility development programme of commencing work on site in early 2012 subject to receiving planning permission for the EfW CHP facility, MVV commissioned Conservation Contractors Ltd, under the supervision of Ecologists from URS Scott Wilson Ltd, to prepare a parcel of land adjacent to the site of the proposed EfW CHP facility as a reptile 'receptor' site during early summer 2011. These works are also of benefit to the MoD in relation to the responsible management of its land, both for its own purposes but also for any other use of the land that might take place in the future.

D.4.4 A description of the works as well as a location map can be found in Section 7 of the Reptile Survey Report, Appendix 7.5 to the ES. In summary the works comprised the clearance of vegetation, the construction of four reptile 'hibernaculae', the installation of 210 metres of low-level reptile fencing, and the cultivation of the receptor site as suitable reptile habitat. Some photographs are provided overleaf. These works were undertaken under appropriate supervision by a qualified Ecologist, do not in themselves require planning permission, nor do they pre-judge or prejudice the decision on the planning application for the EfW CHP facility.

D.4.5 The receptor site is approximately 0.27ha in area and was comprised of semi-improved grassland, scrub and occasional semi-mature trees. Part of the receptor site, approximately 0.06ha in area, was comprised of scrub, including three semi-mature ash trees approximately five to six metres in height, which needed to be removed to enable sufficient sunlight to reach the receptor site and make it more suitable for reptiles. All clearance works were undertaken under ecological watching brief. No birds nests were recorded within the trees, which were surveyed prior to felling on the day by experienced and qualified Ecologists.

D.4.6 The original intention was to install the reptile fencing at the foot of the existing site security fence. However, due to reasons of security, the MoD did not permit this. It was therefore necessary to install the reptile fence approximately 3m back from the existing security fence,

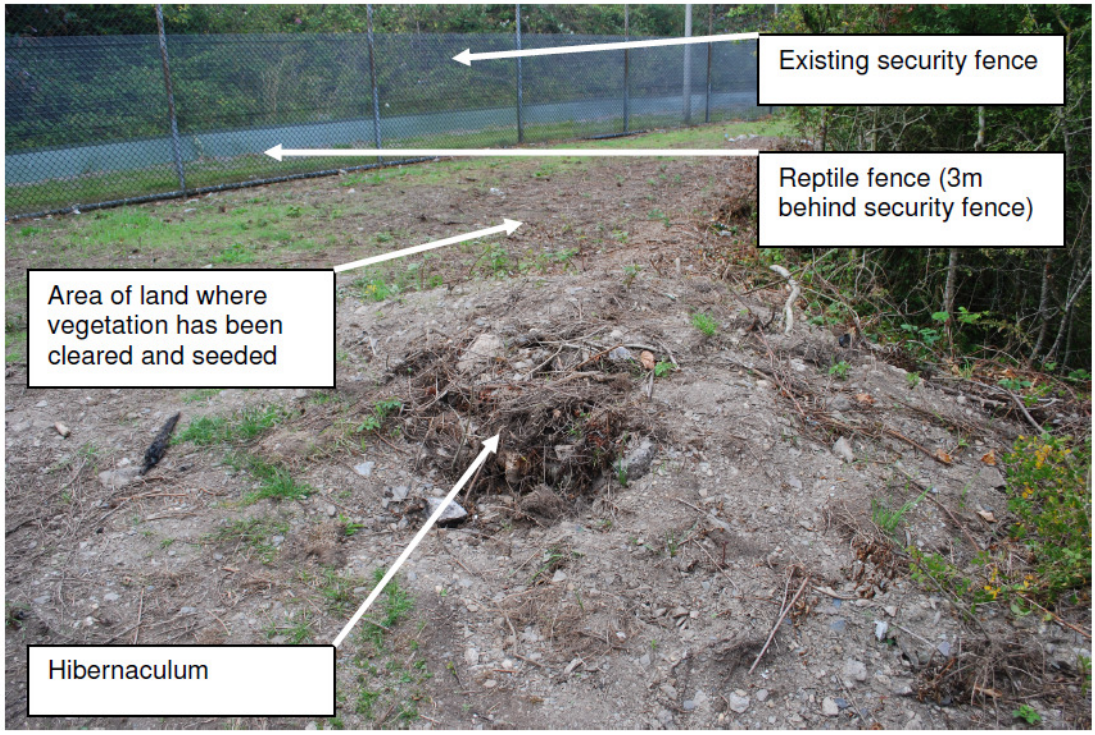
[4] Based on the guidance in the document: Herpetofauna Groups of Britain and Ireland advisory notes for amphibian and reptile groups (ARGs) (1998). *Evaluating local mitigation/translocation programmes: Maintaining best practice and lawful standards*. Halesworth, UK: HGBI, c/o Froglife. Unpublished Report.

within the site of the proposed EfW CHP facility. The height of the reptile fencing is 300mm. The installation of the reptile fence is permitted development[5].

D.4.7 The new grassland habitat is being watered regularly and is growing well. URS Scott Wilson's Ecologists will shortly be commencing the process of translocating the reptiles from the donor site to the receptor site, in accordance with the methods described in Section 7 of the Reptile Survey Report.

[5] Under the General Permitted Development Order, Schedule 2, Part 2 Minor Operations, Class A "The erection, construction, maintenance, improvement or alteration of a gate, fence, wall or other means of enclosure".

Photographs of Reptile Habitat Creation



Trial Piles – Planning Application

D.4.8 A planning application was made by MVV on 11 August 2011 for the installation of three trial piles to provide information to support potential development of land at North Yard, Devonport for future uses. Three rotary bored piles (each surrounded by four supporting reactive piles) will be installed. Temporary portacabins will be installed on site to provide office and welfare facilities.

D.5 Alternatives to the Proposed Development

D.5.1 The Regulation 19 request stated that further information was required *"on the analysis and justification for the choice of site and for the alternative sites grade assessments and for the conclusions put forward on Ernesettle and Coypool and for the justification for this site over others"*

D.5.2 Chapter 5 of the ES, 'Alternatives to the Proposed Development', and ES Appendix 5.1, 'Alternative Sites Appraisal' have been re-written to provide the further information requested. The replacement documents can be found at Appendix D.5.1 and D.5.2 respectively.

D.6 Description of the Proposed Development

D.6.1 In its consultation response, the Environment Agency sought clarification on a number of issues relating to the operation of the proposed EfW CHP facility. Further information in these respects is provided below.

Ash Residues

D.6.2 The Environment Agency sought clarification on whether incinerator bottom ash (IBA) would be classified as hazardous waste like the air pollution control (APC) residues.

D.6.3 IBA is classified as an inert material under Regulation 7(4) of the Landfill (England and Wales) Regulations 2002. The high temperatures used in the EfW CHP process destroy any organic compounds making IBA chemically stable. This means that it does not undergo any significant physical, chemical or biological transformations, does not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm to human health; and its total leachability and pollutant content and the ecotoxicity of its leachate are insignificant and, in particular, do not endanger the quality of any surface water or groundwater.

D.6.4 The Environment Agency sought further details on the volumes of IBA, the recycling options, analysis of IBA and APC residues, details of where it will be stored and information on how and where residues will be disposed.

D.6.5 Details regarding IBA, and metals within the IBA, are provided in ES Chapter 6 paragraphs 6.4.50 to 6.4.57 and are reproduced below for convenience:

> *"The IBA remaining after combustion equates to approximately 24% by weight of the input waste, this equates to approximately 58,800 tpa assuming a total waste throughput of 245,000 tpa.*
>
> *IBA including metals will be discharged from the end of the combustion grate directly into the ash quench bath. From there, the ash will be transferred by means of an ash extraction conveyor (see Plate 6.6 below) into the ash bunker (see Plate 6.7 below) with a storage capacity of eight days (1,540m^3). The bunker will have a sloping floor so that surplus quench water runs back into a collection sump and can be returned to the quench bath from time to time. The ash retains approximately 20% by weight of the water from the quench bath.*
>
> *The bottom ash will be loaded by means of an automatic travelling overhead grab crane into a collection vehicle. If required, the vehicle will be sheeted before leaving the ash loading station.*
>
> *The IBA will be processed at an off site facility situated at Whitecleave Quarry at Buckfastleigh, Devon, owned by Sam Gilpin Demolition Ltd. MVV will submit a planning application in spring 2011* [now submitted] *and intends to construct the plant, which will be operated by Gilpin, to utilise a significant proportion of IBA as a secondary aggregate. The mechanical processing will include screening and removal of ferrous and non-ferrous metals.*

Plate 6.6 Typical IBA being conveyed to the bunker

Plate 6.7 Typical IBA in bunker

At least 95% of the output IBA (target 99%) will be reprocessed as a secondary aggregate with the remainder sent to an appropriately licensed landfill site – possibly at Heathfield or New England Quarry which are both nearby – as inactive waste attracting the inert waste landfill tax. The treated IBA can be used in highway works, pavement concrete, landfill engineering projects, quarry restoration and brownfield remediation projects.

Alternative Locations for IBA Processing

In the event that IBA cannot be taken to Whitecleave Quarry, there are a number of other existing facilities in the UK operated by Ballast Phoenix to which MVV could send the IBA, with planning permission and appropriate permits to operate, including:

- *Beeley Woods, Sheffield, S6 1NH (Sheffield City Council – planning permission reference 08/04136/FUL);*
- *Castle Bromwich, Birmingham, B35 7AG (Birmingham City Council – planning permission reference N/00855/FUL); and*
- *Edmonton, North London, N18 3AG (has planning permission but details unknown).*

MVV will also investigate other sustainable options.

Metals

MVV will recover both ferrous and non-ferrous metals from the IBA. The levels of ferrous and non-ferrous metals remaining in the IBA is a function of the input waste composition which is in turn is largely dependent on the levels of recycling achieved by Waste Collection Authorities and commercial and industrial waste collectors. Metals might typically represent approximately 3.5%, by weight, of the IBA. Gilpin will make arrangements with metal merchants to collect and recycle the ferrous and non-ferrous metals recovered from the IBA thus avoiding landfill and achieving high diversion rates.

D.6.6 Facilities will be provided within the Main Building for the transfer of IBA (and APC residues) to enclosed vehicles for subsequent transport off site meaning that there will be no dust issues.

D.6.7 APC residue will be sampled and analysed in accordance with the ESA Sampling Protocol to confirm if it is hazardous.

Tipping Hall / Waste Bunker

D.6.8 The Environment Agency enquired whether although the tipping hall is controlled under negative pressure, will staff working conditions (sorting through waste to find canisters) result in doors left open instead of rolled shut. The Environment Agency suggested that this could produce a vermin issue (seagulls, flies etc.).

D.6.9 Staff will not sort through waste and doors will not be left open when vehicle access is not required. As detailed in ES Chapter 6 paragraph 6.4.22, *"Waste will be fed from the waste bunker into the furnace using a grab crane…… The crane operator will mix the waste in the bunker to maximise as far as possible the homogeneity of the waste and its calorific value. This mixing will also serve to identify any items that should not have been disposed of at this facility and which under normal circumstances should not be fed into the furnace – for example used butane gas canisters – and will enable them to be removed from the bunker and stored in a skip within the tipping hall for appropriate disposal off site……"*

D.6.10 The Environment Agency enquired whether the waste bunker and tipping hall produce leachate.

D.6.11 Within the Tipping Hall, delivery vehicles would transfer waste directly into the Waste Bunker. A small amount of leachate may be produced in the Waste Bunker but it will be constructed from reinforced concrete rendering it impermeable. Any leachate produced is expected to either evaporate or be reabsorbed into incoming waste; no drainage from the Waste Bunker will be provided.

Liquid Effluent

D.6.12 The Environment Agency sought further information on what happens in the water treatment hall.

D.6.13 Demineralised water is produced from "towns" water in the water treatment hall by means of an ion exchange water treatment plant which removes dissolved mineral salts and other contaminants to provide high purity make-up water for the boiler system. The plant includes hydrochloric acid and sodium hydroxide solution storage facilities for regeneration of the ion exchange units.

D.6.14 The Environment Agency enquired whether the water bath ever gets drained.

D.6.15 The ash quench water bath may occasionally be drained during shutdown for maintenance purposes. This water will either be drained to the process water tank or to foul sewer in accordance with the conditions of the trade effluent discharge consent for the facility.

D.6.16 The Environment Agency suggested that the waste bunker and bailing process will produce leachate / liquid effluent.

D.6.17 As stated above a small amount of leachate may be produced in the waste bunker but it will be constructed from reinforced concrete rendering it impermeable. During baling, waste will be compressed into bales measuring approximately 1.5m^3 to remove air from the waste, wrapped in strong polyethylene film and stored in the bale store until the plant is back in operation. The polyethylene film provides a full seal against the ingress of air and pests, and is highly resistant to cuts and tears. Under ambient conditions the waste in the bale does not biodegrade as the oxygen and moisture conditions are not at the necessary level to allow biodegradation and thus leachate / liquid effluent is not produced. Baling will be carried out within the building and it is not expected that any significant quantity of leachate will be produced during the compression of waste into bales.

D.6.18 In their consultation response, South West Water stated that having considered the details of the water requirements for the process element of the development they required further information on points of connection.

D.6.19 Drawing PA 23 shows the proposed connection locations and paragraph 6.6.10 of ES Chapter 6 provides details of the water requirements stating that *"a water supply is required to provide water for the process requirements, the fire protection systems and for domestic and potable requirements. This will be supplied from the South West Water supply network via a connection to the mains in the Barne Barton area external to the Dockyard. The route of the water supply connection pipeline is 185m. The connecting pipe will be 150mm cast iron."*

D.6.20 The water connection will be provided by Kelda Water under the Aquatrine project arrangement with the MoD and Kelda Water will interface with South West Water regarding the requirements.

A site meeting was held in August with MVV, Kelda Water and Kier Construction to discuss details and discussions are ongoing to reach a solution.

Materials Storage

D.6.21 The Environment Agency and the Public Protection Service of Plymouth City Council sought further information on oil storage.

D.6.22 A low sulphur content light fuel oil will be used to supplement furnace temperatures at times of plant shut down and start up or to maintain WID temperature requirements in abnormal conditions such as low calorific value waste[6]. This auxiliary fuel will be stored in three 50m^3 tanks located in a dedicated compartment within the main building. Light fuel oil was chosen over natural gas because natural gas would have required installation of a new, dedicated supply.

D.6.23 Small quantities of lubricants for maintenance purposes will be stored in a purpose design container unit adjacent to the workshop and stores building.

D.6.24 During construction the positioning of fuel storage tanks and other potentially polluting materials and maintenance / refuelling facilities will be on bunded areas of hard standing with dedicated drainage systems. Stored materials on site will be checked regularly for containment integrity (both primary and secondary), quantity stored and security of storage.

D.6.25 All oil will be stored in accordance with the Control of Pollution (Oil Storage) (England) Regulations 2001. In accordance with these Regulations secondary containment will be provided sufficient to contain either 25% of the total capacity of 110% of the volume of the largest tank whichever is the greatest.

Construction and Demolition

D.6.26 The Environment Agency enquired whether there are there any underground tanks in the area.

D.6.27 There are no underground tanks present.

Documents Required

D.6.28 The Environment Agency requested the following documents: construction method statements, environmental management system, emergency response plan, analysis for excavated material, plan of where piling has taken place.

D.6.29 An outline Construction Environmental Management Plan (CEMP) is provided at Appendix 6.3 of the ES.

D.6.30 Method Statements for the following works have also been developed: Installation of foundations for the Air Cooled Condensers (ES Appendix 6.4), Construction of the new clear span bridge (ES Appendix 6.5) and Construction of the Bull Point access road (ES Appendix 6.6). Further method statements will be prepared at the appropriate point in the construction programme prior to the commencement of the relevant part of the construction works.

D.6.31 Quality and Environmental Management Systems, compliant with ISO 9001 and ISO 14001, will be implemented.

[6] It should be noted that it is highly unlikely that fuel oil will need to be used during operation.

D.6.32 The CEMP will include actions to be taken in the event of an emergency e.g. spill.

D.6.33 No excavation has yet been undertaken and it is intended that all excavated material will be reused on site. However should it be necessary for any excavated soils to be removed from site for disposal to a landfill the material will undergo Waste Acceptance Criteria (WAC) testing in order to correctly classify the material in terms of waste disposal. There are also some existing material stockpiles on site from the previous tenant, which will be re-used to raise levels.

D.6.34 The existing material which is on site following the departure of the previous tenant who undertook recycling of construction and demolition wastes arising in the Dockyard has been examined by a licensed contractor and all asbestos material on site has been identified and removed under controlled conditions to a licensed facility.

D.6.35 Piling will be required over the footprint of the building and air cooled condensers. A plan showing piling sequence is attached at Appendix D.6.1.

Pests / Vermin

D.6.36 In its consultation response, the Public Protection Service of Plymouth City Council stated that the site location and surrounding areas are a natural habitat for pests and vermin, with the railway embankment, woodland, waste ground and water courses. Plymouth City Council's Pest Control Section frequently treats and bait for pests and vermin at residential properties in the vicinity. The Public Protection Service stated that the site clearance, excavation works and construction works will displace pests and vermin the area which will impact on residents surrounding the site. The Public Protection Service stated that the planning application documents make no mention to undertaking a comprehensive site survey for vermin, to include all redundant sewers and drain networks, or comprehensive baiting programme prior to site clearance and construction; an operational plan to deal with the control of pests and vermin will also be required.

D.6.37 There will be very little site clearance required as the site is currently covered by inert construction waste with little vegetation or potential habitat. Apart from the felling of two trees, the adjacent Blackies Wood will not be significantly affected.

D.6.38 There are no existing sewer networks that will be affected by the works. The adjacent watercourse would be the only viable habitat for rats etc and the construction will not affect this. For instance, the bridge construction uses methods that keep all activity away from the water course. There are isolated activities which will affect the creek, e.g. removal of the existing pipe bridge and construction of the surface water outfall and headwall, but these are infrequent, of short duration and restricted to the immediate locality of the construction element.

D.6.39 MVV will undertake a site survey for pests, a pre-baiting programme and a baiting programme in advance of construction. In addition, Kier's Safety, Health and Environment policy requires that the fitting of skirting around the bases of site accommodation huts to prevent rubbish accumulating under raised accommodation units and bait stations are maintained where necessary. In addition Kier's 'Sites in Good Order' good practice guides require the use of covered skips for general waste and housekeeping to be kept to high standards.

D.6.40 During operation, the risk from vermin, insects and pests will be managed and controlled by implementing good operational practice in the following areas:

- Waste will be stored within the fully enclosed waste reception bunker and waste will be tipped within the enclosed waste reception hall;
- Periodic vermin and pest inspections and control will be undertaken;
- Regular cleaning of sensitive areas of the facilities (waste reception and storage areas); and
- Where necessary the use of insecticides and poison to control pests.

D.6.41 MVV will inspect the Facility on a weekly basis for pest infestation. This activity will be carried out by the Tipping Hall Supervisors, who also carry out litter picking on the site. If a problem is detected the source of the problem will be investigated and appropriate action taken by a suitably licensed pest control sub-contractor. This may include:

- Washing down an area or container;
- Application of insecticide;
- Laying of poison bait or traps; and
- Provision of appropriate anti-scavenger devices.

D.6.42 Records will be kept of any actions undertaken and these records will be recorded in the site diaries. MVV's design of the Facility will avoid creating safe refuges suitable for nesting vermin wherever possible.

D.7 Ecology and Nature Conservation

Watercourse Improvements

D.7.1 In its consultation response, the Environment Agency noted that within the Barne Brake Creek there is a culverted unused track (at location SX4482057461) crossing the watercourse, removal of which would provide definite benefits for wildlife movement within the watercourse in addition to allowing inter-tidal Biodiversity Action Plan (BAP) habitat to be recreated. The Environment Agency also suggested that the condition of the watercourse could also be improved by the removal of the many discarded old pipes and other debris; whilst this area is outside of the development boundary it presents an opportunity to provide a positive element to the project as a whole by improving adjacent BAP habitats.

D.7.2 A commitment to improve the condition of the adjacent watercourses through the removal of debris and litter was provided in ES Chapter 7 (paragraph 7.7.4). The clean-up will incorporate the upper reaches of Weston Mill Stream, which is located adjacent Weston Mill Drive, east of Wolseley Road. It is envisaged to appoint an environmental organisation a local community group, plus a local contractor, to undertake the clean-up operation in autumn 2011.

D.7.3 A length of redundant culvert within the creek will be removed as shown overleaf (the upper of the two annotations).

D.7.4 However, the culvert specifically referred to by the Environment Agency cannot at this stage be readily removed (see the lower of the two annotations overleaf). The culvert design is a corrugated metal cylinder approximately 2m in diameter with compacted earth and vegetation above the pipe. The culvert provides informal access across the creek. The western side of the culvert is in MoD ownership and the eastern side is in third party ownership. The removal of the culvert would not only involve habitat removal it would deny access for habitat management and monitoring that will be undertaken as part of the Ecological Management Plan for the site. Also, it would take time to obtain land owner agreement. Therefore MVV will in the medium term investigate, as part of the Section 106 Agreement, the possibility of removing this culvert and possibly replacing it with a wooden footbridge to retain the informal access, since unfortunately it is not possible to commit to achieving this objective in the short term because of the need to obtain agreement from third party land owners.

D.7.5 It is also important to note that the removal of two existing culverts within the site boundary (downstream) and their replacement with a new clear-span bridge will increase the area of inter-tidal habitat.

D.7.6 The Biodiversity Budget at ES Appendix 7.6 shows that there will be a slight improvement to the amount of saltmarsh habitat (which is a National and Local BAP Priority Habitat) due to the replacement of the culverts with a clear span bridge (2,260m^3 existing habitat and 2,300m^3 to be retained). In relation to the tidal watercourses, there will be short term disturbance followed be a long term gain to biodiversity due to waterways being cleared of debris and the culverts being replaced with a clear span bridge (680m^3 existing habitat, 820m^3 retained).

Map Showing Locations of Culverts

Fish Passage

D.7.7 Further information about the potential impacts on fish access through the water courses that run adjacent to the site was requested by the Environment Agency and the Tamar Estuaries Consultative Forum, in particular further information on whether there is to be security fencing (grill) crossing the water course on the Western Mill stream under the proposed open span bridge and whether this presents a barrier to fish migration.

D.7.8 The underside of the existing culvert is secured with 190mm x 180mm gauge steel grill – see the photograph overleaf. This may not be an obstruction to sub-adult and juvenile migratory fish. However, this could be an obstruction to adult grey mullet and Atlantic salmon. The actual structure of the steel grill within the water may deter fish migrating up stream or down stream, the grill causing drag and turbulence within the water column and avoidance by fish.

D.7.9 The Home Office Scientific and Development Branch (HOSDB) has stated that *"any openings should be less than 150 mm wide to completely prevent access"* (to terrorists etc, not fish). Therefore, for overriding reasons of public security, a new grill of 150mm x 150mm gauge will need to be installed. The new grill would comprise a grid or braced bar system with a strong supporting structure. It would be installed beneath the new bridge down to the bed of the creek.

Existing Bridge Culvert with Security Grill and Fencing

D.7.10 It is not considered that the grill would have any detrimental effect on the migration of juvenile or adult European eel (*Anguilla anguilla*) up or downstream of the structure, since the grill aperture size would not be significantly different from that at present. Notice would be given to the Environment Agency prior to construction works in compliance with Part 4, section 12 (2) of the Eel Regulations which came into force on 15 January 2010.

D.7.11 The need to maintain fish passage during construction has been considered. Appendix 6.5 of the ES provides a method statement for the construction of the new bridge, showing that culverts will not be placed temporarily in the water.

D.7.12 A grill of 150 mm x 150 mm gauge will also be installed at the end of the outfall pipe draining surface water into Weston Mill Creek (see Planning Application Drawing PA21 for location).

Otter Passage

D.7.13 In its consultation response the Environment Agency and the Tamar Estuaries Consultative Forum requested that the watercourses be freely accessible for otters and therefore the design of any security fencing should be such that otters can pass. As stated above, for overriding reasons of public security a new grill of 150mm x 150mm gauge will need to be installed beneath the new bridge down to the bed of the creek. The Environment Agency uses the same gauge of grills in its own trash screens at culvert entrances etc and considers these to be sufficient to allow the passage of otters. It would also not be possible to replace some of the grid with vertical bars as these could be prised apart.

Swale

D.7.14 In its consultation response, the Environment Agency considered that there are opportunities to further enhance the biodiversity value of the surface water swale that runs at the back of the site (below Blackies Wood) before entering the wildlife pond. The Environment Agency suggested that there are opportunities to introduce water course features such as side bars and riffles through engineering small meanders and small check weirs, and that there is also the possibility that small off-take ponds could be established.

D.7.15 MVV and its consultants have given the suggestions detailed consideration and discussed them with the Environment Agency on site, taking account of existing ground levels and trees and the practicality of implementing such drainage features. Varying widths and meanders have now been incorporated into the design of the swale and these are shown on the revised Landscape Masterplan (see Appendix B.1.1 to this report). Because of existing ground levels and trees, a small section of this water feature will need to be culverted (as shown on the Landscape Masterplan).

D.7.16 The proposed wildlife pond (see ES Figures 7.1 and 7.2) has been provided to encourage aquatic species to the site. The pond will have gently sloping sides to allow easy access for wildlife and will vary in depth to allow colonisation by a range of flora and fauna; the maximum depth of the pond will be approximately 1m. Stones and boulders will be placed at the southern end of the pond to create microhabitats.

Ecological Management Plan

D.7.17 With regard to the proposed wildlife pond the Ecological Management Plan (ES Appendix 7.7) states that: "*during annual maintenance any fish that may have colonised the pond will be removed immediately to preserve the biodiversity of this habitat*". In its consultation response, the Environment Agency commented that:

- all fish removal requires consent from the Environment Agency;
- any marine fish or eels found should be returned to the estuary;
- trout and stickle-backs should be returned to the nearby stream;
- any other fish would be ornamental species and must taken to ornamental garden ponds and not put into the natural environment.

D.7.18 The necessary consent will be sought, and the actions specified will be undertaken, as required during the implementation of the Ecological Management Plan.

D.7.19 In its consultation response, Natural England stated *inter alia* that *"When considering applications, the council should maximise opportunities in and around developments for building in beneficial feature as part of good design, such as the incorporation of roosting opportunities for bats or the installation of bird nest boxes."*

D.7.20 The inclusion of bat, bird and insect boxes are proposed in section 2.9 of Appendix 7.7, the Ecological Management Plan. Ten bird boxes and ten bat boxes are proposed within planted and woodland areas. A further ten bird boxes, specifically intended for black redstart, are proposed around the workshop in close proximity to the brown roof.

D.7.21 Following the Further Information request, and a meeting with Natural England, the Ecological Management Plan has been updated and is provided at Appendix D.7.1. The Ecological

Management Plan covers years 1 to 5. The management plan is to be seen as a working document, where management prescriptions may be altered in relation to the conservation objectives at the time. For this reason the management plan will be updated and reviewed within each 5 year period so that plans cover each 5 year period, starting from 2012 and covering the 25 year operational life of the development.

Ecological Mitigation and Enhancement

D.7.22 In its consultation response, Natural England stated that the ecological assessment should provide clear detail on appropriate mitigation, and adequate enhancement measures that deliver net gain for biodiversity. The ecological assessment should provide clear detail relating to area of new/enhanced BAP habitat.

D.7.23 The planning application site comprises not only the site for the EfW CHP facility, which was last used to recycle construction waste, but also Blackies Wood.

D.7.24 Mitigation is detailed in section 7.7 of ES Chapter 7 and includes details of the ecological enhancement measures proposed. Mitigation includes the provision of a brown roof as habitat for black redstarts and the translocation of reptiles to an adjacent receptor site. The existing Blackies Wood habitat will be managed to enhance the wildlife which already exists. Landscape design will incorporate native planted woodland and shrubs that will represent the existing landscape character; the creation of wildlife corridors; the reinstatement of an existing ditch to connect to a newly created freshwater pond; areas of open species-rich neutral grassland; and bird, bat and insect boxes.

D.7.25 The Biodiversity Budget submitted with the planning application (ES Appendix 7.6) relates to biodiversity loss/gain within the site, including the BAP habitat, and there is no need to revise this document per se.

D.7.26 However, as ecological enhancement is limited within the curtilage of the EfW CHP facility site, it is recommended that biodiversity gain is achieved by the provision of off-site enhancements at local sites of wildlife interest in accordance with Plymouth City Council's Core Strategy Policy CS19. The selected sites would be local to the EfW CHP facility site and would complement Plymouth City Council's Green Infrastructure (GI) Delivery Plan. Sites identified could include, but are not limited to, Plymouth Sound and Estuaries Special Area of Conservation (SAC), Kinterbury Creek County Wildlife Site (CWS), Ernesettle Complex CWS and Ham Woods proposed Local Nature Reserve (LNR). Financial contributions could be made by MVV to facilitate improvements and enhancement works to the agreed sites, which could include improved access; habitat maintenance and enhancement works; habitat provision, such as bat, bird and insect boxes; freshwater pond creation and bee banks. Financial contributions may also be used to fund interpretation boards and self guided walk leaflets. Implementation will deliver a positive net gain on biodiversity within the vicinity of the proposed EfW CHP site, which is the overall objective. The exact sites and the improvement and enhancement works to be carried out would be agreed with Plymouth City Council.

D.7.27 MVV could establish a Trust, similar to a Landfill Trust, to act as a mechanism for delivering the community, landscape and biodiversity benefits over the next 25 years. Where necessary, funds will be passed to other organisations in order to action the works agreed. MVV is also considering whether Blackies Wood could, during the lifetime of the project, be designated as a LNR.

D.7.28 As stated in section C.9, new section 106 clauses relating to off-site biodiversity enhancements and the mechanism for delivering community, landscape and biodiversity benefits are proposed.

The Section 106 Agreement Draft Heads of Terms will be the subject of negotiations during September and October between MVV and Plymouth City Council.

D.7.29 In its consultation response, Natural England stated that in addition to current proposals, opportunities might include management of the adjoining creek and control of cotoneaster within Blackies Wood.

D.7.30 Litter will be removed from the adjoining creek. The presence of cotoneaster within Blackies Wood is acknowledged in paragraph 7.4.49 of ES Chapter 7. Paragraph 2.1.8 of Appendix 7.7, the Ecological Management Plan, highlights that the eradication of cotoneaster (as well as other non-native species) will be a priority.

D.7.31 Following a meeting with Natural England they requested clarification over the security of Blackies Wood as a mitigation area and site for new public access and the enhancement of Weston Mill Lake, through an agreement with the MoD. They stated that this would need to be resolved prior to the determination of the application. They also asked for clarification regarding the mechanism for maintaining Blackies Wood.

D.7.32 The site is currently owned freehold by the MoD. Blackies Wood is currently owned by the MoD but outside of the secure area of the Dockyard and informally accessible to the public. MVV will lease the entire site area, including the area covered by Blackies Wood, for a 45 year period (the lease term includes a three year construction period, 40 year operational period and two years for demolition). The MoD has entered into an Agreement for Lease with MVV. The Agreement for Lease also includes an obligation on the MoD to enter into a Licence to Occupy for the construction lay down area on Table Top Mountain. The construction lay down area will be temporarily fenced off during construction and released back to MoD within 6 months of the start of the Service Period Commencement Date.

D.7.33 MVV will be responsible for contracting suitable organisations to maintain the site, including the maintenance of Blackies Wood.

Brown Roof

D.7.34 In its consultation response, Natural England was not convinced that the proposals to address loss of Redstart habitat will be effectively achieved through the provision of a 'brown' roof.

D.7.35 Three black redstarts were recorded foraging during the winter bird survey just outside of the development footprint. Several records exist for black redstart overwintering on the site and they have been recorded foraging on the aggregate spoil heaps on the site. There are no records of black redstart breeding on the site. However, suitable buildings for nesting do occur within the wider dockyard.

D.7.36 A brown roof is proposed to mitigate for the loss of black redstart habitat. Section 2.6 of ES Appendix 7.7, the Ecological Management Plan details the brown roof proposals and is reproduced below:

D.7.37 A brown roof is proposed on the workshop building. This is aimed to provide foraging ground for birds, in particular the black redstart (*Phoenicurus ochruros*). The primary issue is the provision of suitable low nutrient substrate within the proposed development to support a variety and low-density coverage of ruderal plants.

D.7.38 The roofs to be used for mitigation for black redstarts will be based on aggregate mix present on the original site. For example a mixture of crushed brick and concrete graded from 25mm to dust. It will be contoured from heights of at least 5cm to 15cm and allowed to colonise naturally.

D.7.39 The roof substrate will consist of material from the site itself and be allowed to sit on site during construction. This will speed the colonisation process and also assist in the recycling of materials and also reduce costs.

D.7.40 Brown roofs require very little or minimal maintenance once created. Occasional selective 'weeding' by hand pulling of the most dominant competitive grasses and plants may be necessary for the benefit of wildlife. The cut material produced will usually need to be removed from site to prevent an increase nutrient loading. If the cuttings have no use they can be heaped in a hidden corner of the site where in time they will provide a food source for a host of fungi and invertebrate species.

D.7.41 The model which has been selected is cited on the blackrestarts.org.uk website (http://www.blackredstarts.org.uk/pages/greenroof.html). The website states that *"The term BROWNROOF or ECOROOF is often used in conservation circles in London to refer to this particular model as they are mitigation for the loss of brownfield land. This uses a substrate material, laid down on a flat roof and allowed to colonise naturally. The research in Switzerland has demonstrated that such roofing systems can be modified to increase their positive impact on biodiversity, specifically for many of the issues associated with brownfield land. They are a significant benefit for black redstarts."*

D.7.42 An indicative cross section of the proposed brown roof (sourced from the blackredstarts.org.uk website) is shown in Section 8, Figure 8.6 of the Design and Access Statement.

D.7.43 Specific bird boxes are also proposed for use by the Black Redstart. 'Woodcrete' boxes are proposed for installation around the workshop building, in close proximity to the brown roof. Ten boxes are recommended and the design of these boxes should be in accordance with guidance on the Black Redstart website:

> *"Open-fronted nestboxes should be used throughout any development but it is important to locate them appropriately... Holes or access points should allow for small birds to pass through them but prohibit access to larger birds, in particular Feral Pigeons. There should be a selection of access points. A large number of nest boxes should be used to give pairs some selection."*

D.7.44 Suitable habitat for Black Redstart will also be available on the area of the site known as Table Top Mountain. This area will be used to house the construction compound and as a construction laydown area during the construction phase of the development but after the completion of construction will revert to its existing use as an intermittent open storage area used by MoD.

Green Infrastructure

D.7.45 In its consultation response, Natural England stated that it is its understanding that Plymouth City Council have adopted a Green Infrastructure delivery plan. Natural England stated that taking into consideration the inevitable landscape impact associated with the proposals, and as part of a programme of measures to mitigate the impact, it would be keen to see a stronger link with Green Infrastructure.

D.7.46 Blackies Wood is identified as a 'Local Greenscape Area' in Plymouth City Council's Local Development Framework (LDF) Core Strategy (see Appendix D.7.2. The Evidence Base for the LDF details 'Sites Designated for Nature Conservation' and identifies Blackies Wood as a Biodiversity Network Feature (see Appendix D.7.3).

D.7.47 The proposals for Blackies Wood seek to enhance the quality of this Local Greenscape Area and Biodiversity Network Feature for both amenity and biodiversity.

D.7.48 The proposals include controlled public access into Blackies Wood, including the provision of a footpath, viewing platform adjacent to the proposed wildlife pond and interpretation boards and signage.

D.7.49 Ecological improvements to Blackies Wood include: improvement of structural diversity through selective thinning; retention of semi-improved grassland as reptile habitat; provision of hibernaculae for reptiles; provision of bee banks; provision of bird, bat and insect boxes; and provision of a wildlife pond.

D.7.50 Further landscape proposals at the site include native tree and shrub planting, wildflower grassed areas, a roof terrace on the administration area of the main building, and the provision of a Devon hedgebank along the north-eastern boundary next to Savage Road and Poole Park Road. A sports pitch will be provided on the amenity grassland next to Savage Road.

D.7.51 Plymouth City Council's 'Sites Designated for Nature Conservation' shows that the Blackies Wood Biodiversity Network Feature links directly to another Biodiversity Network Feature running along the railway corridor and is also close to other Biodiversity Network Features helping to provide links between sites.

D.7.52 Plymouth's Green Infrastructure Delivery Plan identifies eight site specific projects, one of which is Plymouth Sound and Estuaries European Marine Site which is located approximately 500m to the west of the site.

D.7.53 The proposed removal of litter from Weston Mill Stream and replacement of the two existing culverts over Weston Mill Stream with an open span bridge are considered to provide an improvement to this stream which connects with the Plymouth Sound and Estuaries European Marine Site.

D.7.54 As part of the section 106 Draft Heads of Terms the management of the existing water quality buoy, which monitors water quality just off Weston Mill Lake, will be funded.

Marine Inter-tidal Survey

D.7.55 As stated in ES paragraphs 7.7.17 to 7.7.24, at the request of the Environment Agency a Marine Intertidal Baseline Survey of Weston Mill Lake and tributaries was undertaken during the summer of 2011. A marine phase I intertidal habitat (biotope) survey was undertaken to obtain baseline data on intertidal habitats present within Weston Mill Lake. Weston Mill Lake includes the Creek and Barne Brake tributaries. Phase II marine surveys were also undertaken, which included core samples being taken for intertidal soft sediment macroinvertebrate infauna. Bait traps were deployed to identify errant macroinvertebrate fauna. Netting was also deployed to identify fish species present within the estuary. (Subsequently the marine intertidal area will be monitored for five years.) There was insufficient time after receipt of the EIA Scoping Opinion in July 2010 and the subsequent discussions in the months that followed to do the surveys in 2010. Nevertheless, the purpose of this survey was to establish a baseline against which any possible unpredicted

impacts during the construction phase can be monitored; in particular the demolition of the culverts and construction of the bridge. The survey report can be found at Appendix D.7.4.

D.7.56 A license (application reference number: EE063-S-822) was granted from the Environment Agency to undertake the fish survey. Permission was also granted from Devon Sea Fisheries Committee (now the Devon and Severn Fisheries and Conservation Authority).

D.7.57 Habitats on the site consist of saltmarsh and soft sediment estuary mud. Saltmarsh and mudflats are National Priority Biodiversity Action Plan (BAP) habitats.

D.7.58 The variation in salinity of the interstitial/overlying water was between 1.5% and 3.0% in July and 0.3% and 2.6% in September which is as expected in estuarine water.

D.7.59 There was little variation in species present and species number between the stations except at the Station F and G during the July survey. Both these stations were located either side the water channel south of the access bridge (Appendix 1). Stations F and G incurred large amounts of terrestrial organic matter (leaves and vegetation) within the anoxic layer. This also coincided with the highest number of *Tubifex* sp. associated with reduced conditions, i.e. no oxygen and anaerobic respiration. Alluvial organic material would be retained within the estuary and deposited within the area due to the canalisation of the bridge structure, which would result in organic enrichment of the sediment, low number of species and presence of *Tubifex* sp.

D.7.60 There was little variation in species present and species number between all the stations in September. During the months following the July survey the area experienced several storm events with excessive freshwater input coinciding with equinoxial spring tides. This may have removed a lot of organic material from stations F and G allowing the recolonisation of more errant species such as *H. diversicolor*.

D.7.61 In the vicinity of the sampling stations the general observations were that of a typical healthy estuarine system.

D.7.62 Typically within most estuarine systems they have a low diversity but are high in biomass i.e. low species numbers but abundant. Weston Mill Lake is typical of a variable-reduced/low salinity sheltered site that consists of a substrate of mud to sandy mud with an anoxic layer of sediment below the surface. The diversity indices indicate that the infanual community composition is typical of a mid estuary habitat, in which diversity is low and uneven in species richness, i.e. low diversity with a few individual species dominating the community.

D.7.63 Seine netting, bait traps along with general observations revealed that Weston Mill Lake and tributaries are an important feeding and nursery site for thick-lipped grey mullet (*C. labrosus*). Shoals of various age classes were recorded migrating up into the upper reaches of Weston Mill Lake at high water, via the channel under the bridge, and then returning to the deeper water of the estuary on the ebbing tide. Weston Mill Lake and tributaries are also important nursery areas for Shore crab (*C. maenas*) and flounder (*P. Flesus*), with all age classes being represented.

D.7.64 The European eel (*A. anguilla*) was recorded within Weston Mill Lake and Creek during general visual observations. This species is a BAP Priority Species. The European Eel Regulation (EC) No 1100/2007 have been implemented to conserve European depleted eel stocks. The European Commission has initiated an Eel Recovery Plan to try to return the European eel stock to more sustainable levels of adult abundance and glass eel recruitment. Each Member State is required to establish national Eel Management Plans (EMPs).

D.7.65 In conclusion the demolition and construction of the new bridge will have an impact on the macroinvertebrate infaunal communities within the direct vicinity of the bridge structure. Impacts will be by displacement caused by removal of sediments and bed scour. Resettlement of suspended sediment caused by the demolition and construction process may impact on macroinvertebrate infaunal communities further up and downstream of the bridge structure by causing smothering effects. However, impacts will only be temporary. Once construction of the bridge is complete recolonisation by macroinvertebrate infaunal communities would take between one and two years to reach existing community composition. The demolition and construction of the new bridge is expected to last approximately one and a half years to completion.

D.7.66 There will be no loss of saltmarsh or mudflat habitats as part of the development. In fact, by replacing two culverted bridges with one clear-span bridge there will be an increase in such habitat.

D.7.67 Access to the estuary during bridge demolition and construction will be kept open at all times to facilitate the migration of fish species, such as eel and thick-lipped grey mullet.

D.7.68 The installation of a temporary pollution prevention control/s, such as silt fencing, filter fabrics and/or straw bale barriers, will reduce the probability of sediment pollution resetting further downstream and upstream and potentially smothering the macroinvertebrate infaunal community habitats.

D.7.69 The results of the marine inter-tidal baseline survey do not alter the conclusions of the ecological impact assessment in the ES.

D.7.70 Ongoing monitoring data will be submitted to the Environment Agency and Plymouth City Council.

Chimney Emissions and Impacts on Designated Sites

Modelling and Assessment Methodology – Predicted Environmental Concentrations

D.7.71 In its consultation response, the Environment Agency requested information on the Predicted Environmental Concentration (PEC) to enable a better assessment of impacts.

D.7.72 The Predicted Environmental Concentrations are shown in Tables 5.14 (Total Acid Deposition) and 5.13 (Nutrient Nitrogen) of ES Appendix 13.1.

Modelling and Assessment Methodology – Acid Deposition

D.7.73 In its consultation response, Natural England stated that although South Dartmoor Woods SAC is the only designated site relevant with features sensitive to acid deposition and the site is some distance from the proposed facility, it is unclear the method that has been used to calculate the acid deposition critical loads or process contribution. Natural England are aware of several commonly used methods for screening for likely significant effect when assessing acid deposition but require the method used to be clarified.

D.7.74 In should be noted that the process contributions (PC) in Table 5.14: Dispersion Modelling Results for Sensitive Ecological Receptors – Total Acid Deposition N + S (keq ha^{-1} $year^{-1}$) of ES Appendix 13.1 were incorrectly entered; the correct numbers are listed below. All other columns were entered correctly.

- Ecological Receptor Number E33 – PC = 0.0080

- Ecological Receptor Number E34 - PC = 0.0071
- Ecological Receptor Number E35 - PC = 0.0059
- Ecological Receptor Number E40 - PC = 0.0595
- Ecological Receptor Number E41 - PC = 0.0149

D.7.75 The process contributions (PC) for each of the acidifying gases were calculated at the receptor points located within South Dartmoor Woods using the ADMS dispersion modelling undertaken on the EfW CHP facility (Table D.7.1).

Table D.7.1: Process Contribution for each acidic gas at a point within South Dartmoor Woods

Process Contributions for acidic gases (μgm^{-3})				
NO_X as NO_2	SO_2	NH_3	HCl	HF
0.048	0.012	0.002	0.002	0.0002

D.7.76 The PC values for each acidic gas (NO_X as NO_2, SO_2, NH_3, HF and HCl) were then converted into deposition values using a deposition velocity for woodlands (Table D.7.2).

D.7.77 The deposition values for each acidic gas were then converted firstly into a deposition value of kg ha^{-1} $year^{-1}$ prior to being converted into a molar equivalent value of potential acidity in units of keq ha^{-1} $year^{-1}$ (Table D.7.2 and Table D.7.3). Both these conversion values are dependent on the molecular mass of the acidic species of interest e.g. Nitrogen, Sulphur etc.

Table D.7.2: Conversion Factors – Calculation of Acid Deposition

Pollutant	Deposition Velocity Grasslands ($m\ s^{-1}$)	Deposition Velocity Forests ($m\ s^{-1}$)	Conversion Factor ($\mu g\ m^{-2}\ s^{-1}$ to kg ha^{-1} $year^{-1}$)	Conversion Factor (kg ha^{-1} $year^{-1}$ to keq ha^{-1} $year^{-1}$)
SO_2	0.012	0.024	157.7	0.0625
NO_2	0.0015	0.003	96	0.0714
NH_3	0.02	0.03	259.7	0.0714
HCl	0.025	0.06	306.7	0.0282
HF	0.025	0.06	306.7	0.0282

Table D.7.3: Acid deposition for each acidic gas at a point within South Dartmoor Woods

Acid deposition (keq ha^{-1} $year^{-1}$)					
NO_X as NO_2	SO_2	NH_3	HCl	HF	Total
0.001	0.0029	0.0013	0.0025	0.0002	0.008

D.7.78 The individual acid deposition value for each individual acidic species can then be summed in order to generate a total PC acid deposition value (Table D.7.3). This value was compared to the minimum critical load at the maximum nitrogen value (minCLmaxN) obtained from the APIS website. The background value for acid deposition at the South Dartmoor Woods location was obtained from the APIS website and added to the PC in order to generate the Process

Environmental Contribution (PEC). This PEC value was then compared to the acid deposition critical load value for the site (Table D.7.4).

Table D.7.4: Acid deposition comparison to Critical Load (CL)

Total Acid Deposition (keq ha^{-1} $year^{-1}$)	MinCLmaxN (keq ha^{-1} $year^{-1}$)	PC/CL	Background (keq ha^{-1} $year^{-1}$)	PEC (keq ha^{-1} $year^{-1}$)	PEC/CL
0.008	1.55	0.51 %	1.63	1.638	106%

D.7.79 Specific significance criteria relating to impacts on sensitive designated ecological receptors are set out within the H1 guidance. The impact of chimney emissions can be disregarded as insignificant if:

- The long term critical load or critical level is less than 1%; or if greater than 1% then
- The PEC is less than 70% of the critical load or critical level.

D.7.80 The total acid deposition on the woodland habitat is expected to be 0.51% of the critical load. As this is less than 1% of the critical load the impact of the chimney emissions can be disregarded as insignificant.

Acid Deposition Calculations for Heathland within South Dartmoor Woods

D.7.81 During further discussion with Natural England they also asked that an assessment of the impact of acid deposition on the heathland habitat of South Dartmoor Woods be carried out. This assessment is provided below.

D.7.82 The process contributions (PC) for nitrogen and sulphur acidic species were calculated at the receptor points located within South Dartmoor Woods using the ADMS dispersion modelling undertaken on the EfW facility (Table D.7.5). The PC values for NO_X as NO_2 and SO_2 were then converted into deposition values using a deposition velocity for grasslands (Table D.7.5).

Table D.7.5: Receptor Information and Process Contribution (PC) for sulphur and nitrogen acidic deposition within South Dartmoor Woods

Receptor ID	Pollutant	Location		Process Contribution (μgm^{-3})	Deposition Velocity Grasslands ($m\ s^{-1}$)	Acid Deposition ($\mu g\ m^{-2}\ s^{-1}$)
		X	Y			
E33	NO_X as NO_2	253313	63623	0.048	0.0015	7.27×10^{-05}
	SO_2			0.012	0.012	1.45×10^{-04}
E34	NO_X as NO_2	253809	63882	0.043	0.0015	6.46×10^{-05}
	SO_2			0.011	0.012	1.29×10^{-04}
E35	NO_X as NO_2	254851	64158	0.036	0.0015	5.37×10^{-05}
	SO_2			0.009	0.012	1.07×10^{-04}

D.7.83 The deposition values for each acidic pollutant were then converted firstly into a deposition value of kg ha^{-1} $year^{-1}$ prior to being converted into a molar equivalent value of potential acidity in units of keq ha^{-1} $year^{-1}$ (Table D.7.6). Both these conversion values are dependent on the molecular mass of the acidic species of interest e.g. Nitrogen, Sulphur etc.

D.7.84 The minimum critical load at the maximum nitrogen value (minCLmaxN) and the minimum critical load at the maximum sulphur value (minCLmaxS) were obtained from the APIS website[7] for the European dry heath habitat within South Dartmoor Woods SAC. The total acid deposition value can then be compared to these values of critical loads.

Table D.7.6: Acid deposition comparison to Critical Load (CL) for Upland Heathland within South Dartmoor Woods

Receptor ID	Pollutant	Conversion Factor ($\mu g\ m^{-2}\ s^{-1}$ to kg ha^{-1} $year^{-1}$)	Conversion Factor (kg ha^{-1} $year^{-1}$ to keq ha^{-1} $year^{-1}$)	Total Acid Deposition (keq ha^{-1} $year^{-1}$)	Critical Load (keq ha^{-1} $year^{-1}$)*	PC/CL
E33	NO_X as NO_2	96	0.0714	4.99×10^{-04}	1.202	0.04%
	SO_2	157.7	0.0625	1.43×10^{-03}	0.45	0.32%
E34	NO_X as NO_2	96	0.0714	4.43×10^{-04}	1.202	0.04%
	SO_2	157.7	0.0625	1.27×10^{-03}	0.45	0.28%
E35	NO_X as NO_2	96	0.0714	3.68×10^{-04}	1.202	0.03%
	SO_2	157.7	0.0625	1.06×10^{-03}	0.45	0.24%

* minCLmaxN and minCLmaxS have been used as critical loads for nitrogen and sulphur acid deposition respectively.

[7] Air Pollution Information System (APIS) (2011) Site Relevant Critical Loads for South Dartmoor Woods (accessed on 02/09/2011) http://www.apisdev.ceh.ac.uk/srcl/results?features=H4030%2CH&submit=Next&sitecode=UK0012749&sitetype=SAC

D.7.85 Table D.7.6 shows that at each receptor point within South Dartmoor Woods the total acid deposition for both nitrogen and sulphur species are <1% of the critical load for the heathland habitat type and thus the impact of the chimney emissions on the heathland habitat can be disregarded as insignificant.

Nutrient Nitrogen Impacts on Shore Dock

D.7.86 In its consultation responses, the Environment Agency, Natural England and the Tamar Estuaries Consultative Forum made the point that sites of ecological interest often have a number of different habitats and or species for which they are designated. The consultees stated that it is important that the correct Critical Load / level (CL) is used and this should be the more stringent CL, i.e. the lower limit. The consultees stated that the nutrient nitrogen assessment submitted uses a lower limit of 30 kgN/ha/yr and an upper limit of 40 kgN/ha/yr for all interest features of Plymouth Sound and Estuaries SAC. However, the consultees stated that shore dock is more sensitive at 10-25 kgN/ha/yr and therefore this 10 kgN/ha/yr CL should be used for receptor E14 (Penlee Point to the south west of Plymouth Sound). Although it is understandable that the majority of the Plymouth Sound and Estuaries SAC site should be assessed against the saltmarsh or mudflat CL, as was the case in the assessment submitted, as the shoredock areas are some way off (near Rame Head and Wembury), however the consultees requested that the air quality modelling be re-calculated against the more stringent 10 kgN/ha/yr CL for the areas where shoredock grows.

D.7.87 This has been re-assessed using the correct figure of 10 kgN/ha/yr. The calculated rate of deposition is 0.02 kgN/ha/yr, which remains significantly below 1% of the critical load.

Impacts on Ernesettle Complex County Wildlife Site

D.7.88 In its consultation response, the Environment Agency expressed concern about the potential air quality impact to Ernesettle Complex County Wildlife Site (CWS) considering the background. The assessment submitted with the planning application states that the process contribution to total acid deposition is predicted to be just above 3% of the critical load, with the process contribution to nutrient nitrogen deposition predicted to be 2.5% of the lower bound critical load.

D.7.89 Paragraphs 7.6.39 and 7.6.41 of Chapter 7 of the ES present our conclusions on this matter, and a summary is reproduced here. In terms of both total acid deposition and nutrient nitrogen deposition, baseline deposition rates are already in excess of the critical load without the contribution of the EfW CHP facility (100% for acid deposition and 260% for nutrient nitrogen). The PC for nitrogen deposition is 0.25 kgN/ha/yr; this must be considered within the context of a background deposition rate of 26.2 kgN/ha/yr. As such, the EfW CHP facility will only contribute an additional 0.09% on top of background nitrogen deposition. This is sufficiently small that its impact on the vegetation within the site will be imperceptible. Equally, for acid deposition the PC will be 0.05 keq/ha/yr compared to a background deposition rate of 1.87 keq/ha/yr, meaning that the EfW CHP facility will only contribute an additional 2.5% above background acid deposition. Furthermore, it should be noted that the assessment has been undertaken based on the modelling of emissions at Waste Incineration Directive (WID) limits for the pollutants considered in the prediction of impacts on ecological sites. In reality long term emissions from facilities such as this one are often well below WID limits for many pollutants. For this reason, it is likely that the actual impacts will be even lower than those presented here. As such this is considered to be a Minor adverse impact on a site of Medium (county) value, resulting in an effect that is not significant.

D.7.90 Further discussions with the Environment Agency have confirmed that they do not require any additional assessment.

D.8 Landscape and Visual

D.8.1 The comparatively subjective nature of landscape and visual impact assessment means that the application of the methodologies used to determine the sensitivity of areas of landscape character or viewpoints, the magnitude of impacts and the significance of effects is more open to professional interpretation than other EIA topics.

D.8.2 Following comments received from Plymouth City Council's Urban Planning Co-ordinator, and subsequent discussions, URS Scott Wilson's Chartered Landscape Architect and Landscape and Visual Impact Expert Witness have revised the landscape and visual impact assessment.

D.8.3 The key amendments are as follows:

- The policy section has been updated with a greater emphasis on objectives in the Core Strategy and Plymouth Waste DPD, and criteria within the Sustainable Design SPD.
- Additional photomontages have been produced showing vapour plumes in varying climatic conditions.
- Amendments have been made to the 'sensitivity' and 'magnitude of impact' categorisation of certain Landscape Character Areas (LCAs) and Visual Receptors. The methodology provides guidance in respect of these categorisations, but there is capacity for professional interpretation. Following the discussions noted above, some of the receptor sensitivities and impact magnitudes were amended. These amendments have then been reflected in the overall 'Significance of Effect' in accordance with the methodology.
- The notes within Appendix 8.1, Table C: Visual Receptors, Impacts and Effects have been refined to adhere more closely with the Landscape Institute and Institute of Environmental Management and Assessment (2002) *'Guidelines for landscape impact and visual assessment'* 2nd Edition.

D.8.4 In conclusion, these modifications have resulted in no change to the impacts for the LCAs. There has been some increase in the number of Visual Receptors experiencing significant adverse effects. There are four more temporary significant effects during construction and one more significant effect at Year 1 and two more at Year 15. In the context of the 43 visual receptors identified, this change in the assessment results has not altered the overall conclusion of the landscape and visual impact assessment. It remains the case that the siting, orientation, design and materials have all been developed by the experienced design team to create a landmark and feature building which will complement the surrounding Dockyard and form a positive, impressive feature within the landscape of Plymouth.

D.8.5 The revised landscape and visual impact assessment can be found at Appendix D.8.1. These documents comprise replacements to ES Chapter 8, ES Appendix 8.1 and ES Figures 8.1 to 8.9.43. ES Appendices 8.2 to 8.5 remain unchanged.

D.8.6 In a meeting with Natural England, details of the landscape compensation fund were sought. The draft section 106 Heads of Terms include a clause covering off-site planting as follows:

"In the event that agreement with relevant landowners can be secured, the Developer shall provide funding up to a limit of £XX to be used for appropriate planting of vegetation and trees to be provided on specified sites as agreed between the Developer and the Council to further mitigate and improve the view of the EfW CHP facility from various locations. "

D.8.7 An agreement would be formed between the Developer and landowner regarding maintenance of any planting and trees provided. The financial contribution to be made will be subject to further discussion between MVV and PCC in September/October 2011.

D.9 Cultural Heritage

Photomontage from HMS Drake

D.9.1 In its consultation response, English Heritage identified that the EfW CHP facility has the potential to impact on the setting of the group of listed buildings at HMS Drake and the adjacent parade ground. English Heritage stated that whilst the information presented in ES Chapter 9 suggests that there are already some sizeable structures between HMS Drake and the site of the proposed EfW CHP facility, English Heritage sought confirmation of the precise relationship between the two so that the impact can be fully assessed. English Heritage suggested that this could be in the form of a photomontage showing key views looking towards HMS Drake with the site of the EfW CHP facility behind.

D.9.2 A photomontage has been prepared and can be found at Appendix D.9.1. The image is taken from the northern boundary of HMS Drake, northwest of the Exmouth block, as it was not possible to get a clear view from within the HMS Drake complex. Because of intervening buildings, a clear view of the development site from the parade ground is not possible. Furthermore, the main focus of the parade ground is adjacent to the officers' mess building. Thus the key orientation of the parade ground activities would principally be towards the northeast. Any views to the north, which may potentially include the development, albeit restricted to the chimney and possibly the upper parts of the main building, are, therefore, considered to be secondary to the significance of the setting.

D.9.3 Our Cultural Heritage assessment identified a visual link between the EfW CHP facility and HMS Drake; however, we do not consider the significance of the setting of the listed buildings to be impacted. This is not because of the level of the visibility, but rather the nature of the historic site as an enclosed complex with historic and evidential value as a group. We identified the relationship of the buildings to one another to be of importance, rather than their relationship with elements outside the complex, which has already been eroded by modern development. The photomontage provides an idea of the impact of existing modern development surrounding the site. The proposals will not impact on views of one building to another or the parade ground and therefore on the significance of the historic structures as a group.

Potential Archaeological Impacts from New Cables and Pipelines

D.9.4 In its consultation response, English Heritage stated that new pipe and cable runs would require careful consideration, since if it is proposed that they run below ground there might be impacts on archaeological deposits in the area.

D.9.5 A number of new cable runs and pipelines are proposed as part of the application for the EfW CHP facility. Two existing steam pipes are due to be replaced and a new length of steam pipeline is proposed linking the existing pipelines to the new EfW CHP facility to provide heat to the dockyard. In addition to this, two electricity cables are due to be inserted, as well as a sewage connection and a town water connection. These pipelines and cable routes vary in length and take different routes from the EfW CHP facility. The insertion of these new cable and pipeline routes has the potential to impact upon archaeological deposits. This level of this impact is considered below.

D.9.6 Each of the different routes is shown on Planning Application Drawing PA 23 which was submitted with the planning application.

11kV Cable Route

D.9.7 This cable route runs in a southwest and westerly direction from the EfW CHP facility and runs along the lower levels of the slopes to the south of Furse Park. The location of this proposed route is now the site of a levelled area containing a number of small-scale industrial buildings. The historic Ordnance Survey mapping of the site shows that the area of the cabling was originally the edge of the cliff or slope leading down to the mudflats of Westonmill Lake. The 1972 Ordnance Survey map shows that the edge of the cliff or slope edge had been cut into to create a flat area with the buildings of the naval establishment to the north of this. By the 1982 Ordnance Survey map, another cutting has been made around the buildings of the naval establishment and the area to the south of this within which the proposed cable route will be sited.

D.9.8 It is likely that the proposed route does not run through any areas of archaeological potential. The cliff/slope edge is not an attractive site for archaeological activity and ES Chapter 9: Cultural Heritage and the Cultural Heritage Baseline Assessment underpinning it identified very little archaeological potential, with the area used for agricultural purposes until the post-medieval and early modern period. There is no evidence of military structures in the vicinity of the proposed route and therefore the 11kV cable will have no significant effect.

Town Water Connection

D.9.9 The town water connection runs from the southern portion of the EfW CHP facility site and runs to the southwest towards Talbot Gardens. The majority of this short route runs within the area of reclaimed land which was the former mudflats and inter-tidal area of Westonmill Lake. This area was infilled in the latter half of the 20th century with bricks, rubble and building materials and in the northern part of the site, this layer of made ground is around 4.5m thick. The insertion of the town water connection will not impact below this level and therefore will not impact upon the alluvial deposits beneath. Historic mapping shows the area of the route as a steep slope down towards Barne Quay and the mud flats. By the 1933 Ordnance Survey map, this slope has been cut into to create a small cliff edge and a levelled area to facilitate the construction of a small gauge railway which branched from the Great Western Railway to serve a small, unlabelled building. By the 1990s, this railway had been dismantled.

D.9.10 The proposed town water connection runs through an area which has seen significant truncation and level changes, along with the area of infilled, reclaimed land. Therefore the archaeological potential is negligible and the proposed route will have no significant effect.

Sewage Connection

D.9.11 The sewage connection runs from the southern side of the EfW CHP facility building to the east towards a large building adjacent to the railway line, which is the Devonport Distribution Facility. The historic maps clearly show that this portion of land is entirely reclaimed. By 1972, small structures and allotment gardens were appearing on small spits of reclaimed land but the 1982-85 Ordnance Survey maps show a clear effort to reclaim the area of land known as Westonmill Lake and infill it. The first buildings appeared on the site only recently, within the last ten years.

D.9.12 Previous geotechnical investigations have shown that there is approximately 3.25-4.5m of made ground across the site. Below this is a layer of alluvium; however, the insertion of the sewage connection pipe will not penetrate below the level of the made ground. Therefore there will be no impact on archaeological deposits and therefore there will be no significant effect.

CHP Water (Steam)

D.9.13 This is the steam pipe route which will connect to the existing steam pipes and provide heat to the dockyard. This pipe runs from the northern section of the EfW CHP facility site in a southerly direction to meet with an existing pipe adjacent to the northeastern corner of the manmade inlet. From this point onwards, the existing pipes will be replaced with new pipes following the same alignment. The pipe is shown to run adjacent to an existing road which skirts the edge of an area which has not been reclaimed and remains as mudflats. As mentioned for the sewage connection route, this area was only reclaimed and infilled in the 1980s and therefore has little archaeological potential, with the exception of possible palaeoenvironmental deposits contained within the alluvium.

D.9.14 Parts of the CHP water pipe will be above ground and parts below ground, and for much of the route the works comprise replacement of existing pipes. The majority of the existing and proposed replacement pipes are above ground but some are below ground. For the below-ground sections the proposed CHP water pipe will not be inserted to a depth greater than the made ground and therefore will not impact upon archaeological deposits. There will therefore be no significant effect.

33kV Cable Route

D.9.15 This cable route is the longest of the proposed new routes and leads from the centre of the EfW CHP facility site southeast towards Station Road just to the east of Saltash Road. The first portion of the route runs adjacent to the CHP pipeline which has been discussed above. The final portion of the route beyond Saltash Road runs into an area shown as Keyham Quarry on the historic mapping which will therefore have eradicated any archaeological deposits present. The remainder of the route runs through land which has seen extensive development. The line runs adjacent to the former coastline which was possible extended in the early 20th century to provide an open area of land to the west of the navy barracks of HMS Drake. This area of land saw extensive development in particular during the 1970s with the creation of the dockyard and the proposed location of the cable in the road which runs southwards adjacent to the dockyard will have already experienced disturbance due to the insertion of utilities and services for the dockyard, HMS Drake and other industrial buildings in the area.

D.9.16 The final portion of the route runs in an area of negligible archaeological potential and it is likely that the development along the remainder of the route, in particular that related to the creation and expansion of the dockyards, will have further truncated any archaeological deposits. There will therefore be no significant effect.

Conclusion

D.9.17 The proposed cable and pipeline routes for the EfW CHP facility run along areas of previously disturbed, truncated, levelled or reclaimed land. The only archaeological potential identified in the ES was the possibility of the alluvial layers beneath the made ground in the areas of reclaimed land to contain palaeoenvironmental evidence. None of the proposed cable or pipe routes will be inserted below the depth of the made ground and will therefore have no impact.

D.9.18 Where proposed cable routes run in areas of archaeological potential such as the 33kV route near the listed buildings of HMS Drake, it will be ensured that the insertion of the cable does not damage any of the fabric of the listed structures. There is not likely to be any below-ground impact on this route due to the extensive development which took place in the later 20th century

with the creation and expansion of the dockyard. This is likely to have truncated any archaeological deposits in the area.

D.9.19 As the impacts from the proposed cable and pipeline routes have been judged as having no significant effect, no archaeological work is required.

Potential Damage to Fabric of Historic Buildings

D.9.20 During discussions between English Heritage and URS Scott Wilson concerning the two topics above, English Heritage indicated that it had received some comments from members of the public concerned about potential damage to the fabric of the historic buildings of HMS Drake as a result of emissions from the EfW CHP facility.

D.9.21 The primary reason for the deterioration of limestone is water penetration, therefore any limestone structure will decay over time due to natural weathering. However this is exacerbated by acid rain, of which one of the main pollutants is sulphur dioxide. The sulphur dioxide combines with the calcium carbonate in the stone and creates a layer of gypsum over the surface of the stone. This is a hard layer that traps moisture within the stone which leaves it weakened and more vulnerable to natural weathering.

D.9.22 Sulphur dioxide is present in fuel emissions. Although the percentage of sulphur within fuel has been reduced greatly over the last two decades ship fuel can have up to 5% sulphur in it.

D.9.23 The existing concentration of sulphur dioxide within the ambient air is 7.7 micrograms per cubic metre (which is 7.7 millionths of a gram per cubic metre of air). The predicted contribution as a result of the proposed EfW CHP facility is 0.6 micrograms per cubic metre at the maximum point of impact (the chimney itself). Therefore the contribution at the location of HMS Drake, 700m away from the site, will be considerably less than 0.6 micrograms per cubic metre due to dispersion. Due to the negligible quantity of sulphur dioxide that will be present in the ambient air as a result of the EfW CHP facility the construction of the EfW CHP facility is not expected to pose a risk to the fabric of buildings at HMS Drake.

D.10 Contamination: Land and Water Quality

D.10.1 In its consultation response, the Public Protection Service of Plymouth City Council requested additional monitoring of ground gas levels at the site and interpretation of the results.

D.10.2 Additional monitoring has been undertaken and a supplementary report can be found at Appendix D.10.1. The conclusions are as follows.

D.10.3 The EfW CHP facility is proposed to be located on an area designated as a former landfill, which is associated with infilling and reclamation of a tidal creek and mudflats in the 1980s.

D.10.4 Ground investigation data records that the Made Ground / tipped landfill materials are associated with negligible amounts of putrescible / degradable materials. Hence, there is no evidence of a significant source of potential landfill gas emission from the landfill materials. This is verified by the ground gas data, which indicates negligible emissions such that Characteristic Situation 1 (BS8485:2007) is applicable.

D.10.5 Below the Made Ground / tipped landfill materials, deep Alluvium is present. These soils include traces of organic material but no peat horizons are recorded and it is evident that large volumes of putrescible / degradable materials capable of emitting hazardous landfill type gases are not present.

D.10.6 The ground gas data is compatible with these ground conditions and it has been demonstrated that ground gases are not migrating from the Alluvium and into overlying strata or to shallow depth.

D.10.7 With reference to the foregoing information, it is evident that there is no valid potential source of harmful landfill-type ground gases that may affect the proposed development.

D.10.8 It is, however, noted that the site is within a designated “radon affected area”, such that precautions are recommended to preclude potential radon ingress. Such precautions should comply with the requirements for “basic” precautions, outlined in BRE BR211 (2007). With reference to the current guidance provided in BS8485 (2007), it is evident that ground gas precautions in addition to these are not necessary for the proposed building.

D.10.9 Notwithstanding the above assessment, it is noted that the proposed building will include significant precautions against ground gas entry, provided by a radon gas-resistant membrane, a substantial ground bearing floor slab and additional control systems within the main structure. Specifically the floor slab will comprise a reinforced concrete cast in situ suspended slab with minimal service penetrations and water bars around all slab penetrations and at joints. The membrane will be taped and sealed to reasonable levels of workmanship, in accordance with current good practice, and be validated.

D.10.10 There is no valid mechanism for ground gas emissions to increase. The piling and other construction operations associated with site development should not result in an increase in ground gas emission risks. Hence, it is considered that there will be little benefit in undertaking additional ground gas monitoring.

D.10.11 It is considered that a number of “lines of evidence” support the assessment and recommended construction details such that a “robust” solution is provided in relation to ground gas assessment and adopted details in the proposed development such that the proposed development may be permitted in compliance with guidance published in PPS23 (2004).

D.11 Hydrology, Hydrogeology and Flood Risk

Flood Risk Assessment – Sequential Test

D.11.1 Evidence has been prepared to show that the Planning Policy Statement 25: Development and Flood Risk 'Sequential Test' has been adequately carried out for the proposed EfW CHP facility. The full documentation can be found at Appendix D.11.1 to this Further Information report. Environment Agency Standing Advice on undertaking the Sequential Test has been followed. Based on this, flood risk is only one of a number of topics which have to be considered. The assessment, coupled with the Flood Risk Assessment (FRA) and the alternative sites evaluation in ES Chapter 5, concludes that there are no alternative sites with a lower probability of flooding which would be more appropriate for the EfW CHP Facility. Proposed mitigation to raise the levels along the small section of access road within Flood Zone 2 would ensure the site of the proposed EfW CHP facility would be entirely within Flood Zone 1.

Safe Access During Periods of Extreme Flooding

D.11.2 The FRA demonstrates that safe access may not always be available during periods of extreme flooding due to inundation of part of the Camel's Head junction. The events that would cause flooding to the Camel's Head junction would be the 1 in 1,000 year event or 1 in 100 year event plus climate change. The probability of these events occurring just once during the entire 40 year lifespan of the development is 4%, i.e. 96% unlikely to happen. In addition peak flood depths (0.5m maximum) would only be experienced for a short time (less than 4 hours) over tidal peak, after which the flood waters would recede. The risk is therefore considered to be very low.

D.11.3 Outline Emergency Management Arrangements have been agreed with the MoD to cover a range of events. In the event of extreme flooding at the Camel's Head entrance, exit from the site would be possible through an Emergency Gate close to the workshop building on the West side of the EfW CHP facility site via the new Bull Point Access Road or through an Emergency Gate South East of the new clear span bridge (see Planning Application Drawing PA 17) into the dockyard. Vehicles would be escorted through the dockyard and would leave the dockyard via the Albert or Granby Gates. Appendix D.11.2 shows a plan of these routes and Appendix D.11.3 an e-mail from the MoD indicating their agreement to these arrangements.

D.11.4 It should be noted that it is likely that advance warning of extreme flood events would have been provided by the Environment Agency and, based on these warnings, MVV would notify the relevant people in order to limit the numbers of people and vehicles on site.

D.11.5 Due to the low likelihood and duration of the flooding occurring, and because the alternative access proposed for site egress would not allow incoming vehicles to pass over the weighbridge, it is not proposed to have a contingency plan for incoming waste deliveries and staff ingress. Short term arrangements would be made following advanced flood warnings, potentially involving diversion of waste collection vehicles to a waste transfer station or stations.

Surface Water Drainage

D.11.6 Following consultation responses received from the Environment Agency it has been necessary to revise Planning Application Drawing PA 21 Drainage Layout Plan (now Revision E) in order to include greater detail and clarity of proposed drainage scheme. A new Drawing PA21-1 Drainage Layout Plan – Bull Point Access Road Detail has also been prepared. Drawing PA 19a Site Access Right Turn Option (Revision B) and Drawing PA 19b Site Access Long Section

(Revision A) have also been revised to raise the proposed level of the access road in the vicinity of the railway viaduct so that it falls within Flood Zone 1 but to also show the proposed access road drainage. These can be found in Appendix B.1.1 to this Further Information report.

D.11.7 In its consultation response the Environment Agency suggested the possibility of routing the majority of the surface water from hard standing areas to a ditch on the western boundary of the creek, in order to allow it to form a wetland and discharge to the tidal creek around the northern corner of the site.

D.11.8 This has been reviewed and is not considered to be viable. The area of land to the west of the creek is required as a reptile translocation area (see ES Appendix 7.5 for further details).

D.11.9 However, an alternative solution is proposed which has been agreed with the Environment Agency. The Outline Drainage Strategy provided at Appendix D.11.4 should replace paragraphs 11.7.33 to 11.7.42 of ES Chapter 11 and section 6.3 of the FRA.

D.11.10 The following text should replace paragraph 7.2.5 of the FRA and bullet point 5 under the heading Drainage Strategy of section 8.4 of the FRA:

> *"Surface water drainage from the roofs and walls of the main building and workshop will drain to an infiltration trench/swale which will link to the wildlife pond. An outlet from the pond to the Barne Brake Creek will be provided."*

Monitoring of Hydrological Change

D.11.11 In its consultation response, the Tamar Estuaries Consultative Forum requested details of the monitoring programme proposed to assess hydrological change.

D.11.12 Subject to receipt of planning permission for the EfW CHP facility, short term surveillance monitoring of the adjacent watercourses will be undertaken late in 2011 in advance of construction in order to establish a baseline. Further surveillance monitoring will then be undertaken during construction.

D.11.13 The short term surveillance monitoring will include monitoring of water clarity (turbidity), temperature and salinity and will commence at least one month prior to construction.

D.11.14 During construction, it is proposed that surveillance monitoring and water sampling is undertaken on a weekly basis at specific points; these inspections should include a visual inspection as well as measuring turbidity, temperature, salinity and pH levels. All records of water monitoring inspections will be kept on site throughout the duration of the project and be readily available for inspection. In periods of heavy rainfall or excessive vehicle movements within the vicinity, monitoring should be increased to reduce risks of pollution incidents. Appropriate spill kits/booms will be located nearby to ensure in the unlikely event of any incident, adequate protection is available.

D.12 Traffic and Transport

D.12.1 Consultation responses have been received from Plymouth City Council's Transportation Unit and from the Highways Agency and are dealt with in turn below.

D.12.2 Technical responses are provided as follows:

- Appendix D.12.1: Plymouth City Council Traffic Consultant Audit of Junction Models.
- Appendix D.12.2: Technical Note – Signal Modelling.
- Appendix D.12.3: Technical Note – Percentage Impact.
- Appendix D.12.4: Current PCC Vehicle usage at Camel's Head and Carlton Terrace / Ferndale Road Junctions.
- Appendix D.12.5: Technical Note – Operational Implications on the Highways Agency Network.
- Appendix D.12.6: Technical Note – Accident Record at the Weston Mill Drive/ A38 Junction Complex.
- Appendix D.12.7: Technical Note – Supplementary Waste Miles Assessment.
- Appendix D.12.8: Technical Note – Signal Modelling 2.

Consultation Response from Plymouth City Council's Transportation Unit

Bus Services

D.12.3 Plymouth City Council's Transportation Unit commented that some of the local bus services had changed (service 46/47 has now been withdrawn but new services have been provided such as the hourly service 14, the 36 and the 53) since the Transport Assessment (TA), Appendix 12.1 of the submitted Environmental Statement, was prepared and that Table 4.1 within the TA needed to be reviewed to take account of these changes.

D.12.4 We have reviewed this information and it does not alter the conclusions of the Transport Assessment.

Junction Models and Traffic Growth Forecasts

D.12.5 In its consultation response, Plymouth City Council's Transportation Unit had a number of clarifications/queries regarding the junction cycle times used in the assessment as follows:

1. It was suggested that the junction cycle times referred to in Table 5.2 (Wolseley Road/Weston Mill Drive 2010 observed) of the TA were incorrect. Plymouth City's Council's Transportation Unit stated that at present a cycle time of 100 seconds is in operation at this junction in the am peak (as opposed to 64 seconds mentioned in Table 5.2) and 96 seconds in the pm. Plymouth City's Council's Transportation Unit suggested that the modelling be re-run using these figures in order to establish what the existing base conditions are.
2. It was asked why the am and pm junction cycle times changed from those referred to in Table 5.1 (Wolseley Road/Saltash Road 2010 observed) which represents the current base. It is suggested that the junction is assessed using the existing junction cycle times. It was also noted that they assume that the 'improvement' in the operation of the junction (Tables 7.2 and 7.3) when compared to 2011 baseline (Table 5.5) is due to the changes in the junction cycle times

3. Clarification was sought regarding why the Wolseley Road North Right arm is operating more effectively in the pm 2014 Do Something (Table 7.3) when compared to the 2014 Do Minimum (Table 7.2).
4. It was suggested that incorrect junction cycle times have been used at the Wolseley Road/Weston Mill Drive junction and this should be rectified. Whilst it is accepted that the differences are only slight, they asked for clarification as to why the junction is operating more effectively in the 2014 Do Minimum scenario (Table 7.4) when compared to the 2011 baseline (Table 5.6).
5. For the Weston Mill Drive/Carlton Terrace junction, clarification is sought as to why the Practical Reserve Capacity (PRC) is 94.4% in the 2011 baseline (Table 5.7) but only 92.0% in the 2014 Do Something scenario (Table 7.7). It is noted that the modelling results show that this junction is operating over-capacity in the 2014 Do Something scenario and therefore improvements to this junction will be necessary (either in the form of physical works or a Section 106 Contribution).
6. With regard to Annex E of the TA (Construction Traffic), clarification regarding the cycle times used for the Wolseley Road/Weston Mill Drive 2014 'Do Construction' assessment was sought. It was noted that the PRC values (0.5% in the am and 0.4% in the pm) seem very low. Clarification about cycle times for the 2014 Do Construction assessment was also sought for the Weston Mill Drive/Carlton Terrace junction. It was noted that 120 seconds in the pm seems very high.
7. With regard to the Wolseley Road/Weston Mill Drive baseline clarification was sought as to why the degree of saturation and queue lengths has gone down after applying the traffic growth forecasts. They would have expected these figures to increase with the inclusion of growth on each arm rather than go down.

D.12.6 With regard to point 1 a response was provided by e-mail on 7 June 2011 and is reproduced in Appendix A within Appendix D.12.2. Subsequently, Plymouth City Council's transport consultant provided a more detailed audit of the junction models on 17 June 2011 (See Appendix D.12.1: Plymouth City Council Traffic Consultant Audit of Junction Models). A detailed technical response has been prepared in relation to this audit, and covers all of the points raised in the audit (see Appendix D.12.2: Technical Note Signal Modelling).

D.12.7 Plymouth City Council's transport consultant reviewed the information provided in Appendix D.12.2 and sought some additional clarifications; a further technical note (see Appendix D.12.8: Technical Note – Signal Modelling 2) has been prepared in response. For clarity, the overall junction results are consistent with the original findings presented within the TA.

Traffic Surveys

D.12.8 In their consultation response, Plymouth City Council's Transportation Unit asked whether the traffic surveys conducted by Scott Wilson recorded the number of existing HGV movements taking place through the junctions that have been modelled. They suggested that this information be provided so that the number of HGV movements associated with the facility can be compared (in respect of numbers and percentages) with the existing number of HGV movements on the local highway network so that the percentage impacts can be ascertained.

D.12.9 This information is presented in Appendix D.12.3: Percentage Impact Technical Note for total vehicle movements as well as for HGV movements in isolation. It should be noted that, whilst the comparison between the 2014 Do Minimum (without development) and 2014 Do Something (with development) scenarios can be made directly, comparisons made between the Do Something case and other scenarios will not show the impact of the development in isolation. Any such analysis will not therefore form a robust basis for the purposes of assessing the impact of the 'with development' situation.

D.12.10 The results of the percentage impact calculations show that for the assessed junctions (Saltash Road, Wolseley Road/A3064, Carlton Terrace, and A38 junctions) the percentage change for all traffic between the Do Minimum (without development) and Do Something (with development) is below or just over 1% at all of the junctions. The largest impact is at the A38 junctions when a 12 hr flow is considered. This impact however is very low at 1.12%.

D.12.11 With regard to the percentage impact of HGVs the largest increase in vehicles is in the PM peak at the Wolseley Road /A3064 junction with a 60.49% increase in HGVs. This increase looks high, however it should be noted that actually represents 16 HGV's, which equates to one HGV every 3 to 4 minutes.

Queue Lengths

D.12.12 In their consultation response, Plymouth City Council Transportation Unit asked for clarification that HGV movements had been converted to Passenger Car Units (PCUs) in respect of queue lengths.

D.12.13 To clarify the conversion factors applied were those set out in standard guidance and are as follows:

- Cars and Light Vehicles (3/4 tyres): PCU Factor = 1.0
- Medium Goods Vehicles (2 axles but > 4 tyres): PCU Factor = 1.5
- Heavy Goods Vehicles (> 2 axles): PCU Factor = 2.3
- Bus: PCU Factor = 2.0

On-site Layout and Vehicle Movements

D.12.14 Plymouth City Council's Transportation Unit commented that reference has been made to the five Tipping Bays within the Tipping Hall providing 300 minutes worth of tipping per hour but that the 'Tracking Within Site Sheet 5 of 7' plan (in Annex B of the TA) shows a number of scenarios where bays would not be accessible if larger HGV's were parked in some of the bays i.e, If bays 1, 3 and 4 are occupied by HGV's, no HGV would be able to reverse into bay 2. They also commented that the maximum turn around times could be assisted if evidence on such could be provided from other EfW plants in the UK.

D.12.15 To clarify, the movement of vehicles within the Tipping Hall is not random. The movement of vehicles in the Tipping Hall will be directed from the Control Room and vehicles will be directed to specific bays depending on vehicle size, discharge arrangements and which bays are available. Traffic lights within the Tipping Hall, controlled from the central control room overlooking the Tipping Hall, will direct all vehicles to the appropriate tipping bay taking into account the actual traffic patterns and vehicle types in the hall at the time.

D.12.16 When the facility is at its busiest time, it will be busy with RCVs, which will be directed to the correct bays. Table 6.2 of the TA shows that it is predicted that approximately 19 Bulkers will deliver to the site over the entire day with a maximum of 3 in an hour.

D.12.17 In its consultation response Plymouth City Council's Transportation Unit commented that although the vehicle turnaround assessment is based upon 17 MSW deliveries being made during the busiest hour (2-3pm, the sensitivity test undertaken indicates that potentially the 'worst case' would be 36 MSW arrivals between 2pm and 3pm. They asked for clarification regarding the potential impacts if this were to occur and how they would be overcome.

D.12.18 To clarify, the worst case scenario assessed is very unlikely ever to occur, as this has been based on a combination of observed, worst case situations. It is anticipated that any waiting vehicles could be held on the access road.

D.12.19 During further discussions with Plymouth City Council's Transportation Unit they asked that the worst case 36 MSW arrivals between 2pm and 3pm be modelled. They also asked how the noise and air quality issues associated with vehicles queued on the access road would be overcome and how many vehicles would be queuing on the access road.

D.12.20 Appendix D.12.8: Technical Note – Signal Modelling 2 considers the 2pm-3pm traffic scenario including the addition of development related traffic. The analysis confirms that in line with the lower background traffic flows between 2pm and 3pm compared to the peak network hours, the three modelled junctions operate more effectively and within the recommended capacity thresholds including the development-related traffic. The 2pm-3pm junction modelling has also been undertaken for the additional scenarios assessed in the Transport Assessment, i.e. the new signalised site access junction, the worst-case EfW CHP facility traffic levels and the effect of other development projects in the vicinity. This analysis has again confirmed that the junctions can cater for the predicted levels of traffic, in all cases.

D.12.21 With regard to the access road, a 3-metre high acoustic barrier, expected to be a close-boarded fence, has already been specified to the HGV route to mitigate noise (see ES Chapter 14, paragraph 14.5.4).

D.12.22 The noise and air quality assessments have considered a maximum number of five vehicles queuing and Plymouth City Council's Public Protection Service has stated that it accepts this.

D.12.23 Further information will be provided within a Method Statement which will be prepared by MVV during the planning determination period. This will be likely to include measures such as 'engines off' if vehicles are queuing on the access road beyond a specified distance.

D.12.24 Plymouth City Council's Transportation Unit asked whether it would be better from an operational viewpoint if the temporary visitor parking bays (5 in total) were provided in advance of the Gatehouse rather than after it.

D.12.25 To clarify, having parking after the gatehouse is a normal situation in many operational waste facilities. Having the visitor parking bays located after the Gatehouse avoids vehicles stopping on the road which would be likely to obstruct waste delivery traffic flow. This arrangement also takes visitor cars off the access road and avoids potential conflict with waste delivery vehicles in the weighbridge area.

D.12.26 Plymouth City Council's Transportation Unit asked for clarification as to whether there would be a requirement for a 16.5m articulated HGV to u-turn on the site access road (utilising the waiting area) as shown on the Tracking Layout Plan Sheet 4 of 7 in Annex B of the TA. They commented that if a vehicle had to undertake such a manoeuvre then it would have to over-run the footway/cycleway.

D.12.27 To clarify there is potential for a 16.5m articulated HGV to u-turn on the site access road although it would be a very infrequent event; this is part of the function of the waiting area. If undertaking this manoeuvre the vehicle would over-run the footway/cycleway but it is expected that drivers would exercise due care.

D.12.28 Plymouth City Council's Transportation Unit stated that it appeared that 16.5m bulkers using bay 5 in the Tipping Hall would straddle across the entry lane into the Tipping Hall as they exit the hall. The asked why, due to the possibility of conflict occurring between vehicles entering and exiting the Tipping Hall, had a dedicated 'in' and 'out' arrangement not been provided.

D.12.29 To clarify, 16.5m bulkers would straddle across the entry lane into the Tipping Hall when exiting the hall, although only marginally. It is expected that drivers will exercise due care and such situations will be part of the induction process required for all drivers using the facility. Even if there was a segregated in-out arrangement, the manoeuvre performed by the outgoing vehicle just prior to exiting would momentarily prohibit incoming vehicle access. A separate in and out at opposite sides of a Tipping Hall represents an "ideal" arrangement but site constraints rarely allow this and a shared in and out is a quite normal arrangement for an EfW facility.

D.12.30 An exit on the western side of the building was considered but discounted due to proximity to housing and to maintain the design philosophy of keeping all major HGV traffic to the eastern "working" side of the site.

D.12.31 Plymouth City Council's Transportation Unit asked whether baling would be taking place in the Tipping Hall and if so how this would impact upon HGV movements in and out of the Tipping Hall and availability of the tipping bays.

D.12.32 To clarify, baling would take place within the Bale Store and thus would not impact on HGV movements in and out of the Tipping Hall.

Loss of Car Parking Spaces

D.12.33 In their consultation response, Plymouth City Council Transportation Unit asked for clarification regarding the number of MoD car parking spaces to be lost as part of the construction of the Bull Point Access Road.

D.12.34 Fifty-five MoD car parking spaces would be lost as a result of the construction of the Bull Point access road. This is in addition to the 151 spaces which would be lost through the construction of the main access road to the facility.

D.12.35 During further discussions with Plymouth City Council's Transportation Unit they asked what impact the loss of car parking spaces would have upon MoD operations within the Dockyard and how they would be mitigated (Travel Plan etc).

D.12.36 The MoD is preparing a Travel Plan, which encourages sustainable transport uses and discourages the use of private cars, and has agreed to the proposed loss of car parking spaces stating that there is alternative parking available on the Naval Base. The proposal to provide a new access road from the Camels Head traffic lights around the North East car park external Naval Base into the EfW CHP facility site was taken by the Naval Base Management Board (NBMB) on 11 Oct 2010 prior to MVV submitting its bid to the SWDWP in November 2010. The proposal highlighted the new access road would remove over 100 car parking spaces. The NBMB accepted there was alternative parking available on the Naval Base and the proposal for a new CHP access road was approved.

Cycle Parking

D.12.37 In its consultation response Plymouth City Council's Transportation Unit commented that cycle parking should be both secure and covered with a preference for it to be located within a secure area of the building itself.

D.12.38 Cycle parking is covered (see drawing PA13) and is secure by the nature of it being within the controlled EfW CHP Facility site.

Construction Workers

D.12.39 With regard to construction traffic detailed in Annex E of the TA, Plymouth City Council's Transportation Unit stated that it has been assumed that 80% of 'other construction workers' would lodge locally which equates to 159 construction staff. They asked how it can be assumed that this percentage of 'other construction workers' will live locally if these are not Kier staff.

D.12.40 The numbers have been assumed based on discussions between MVV and its various contractors and suppliers, taking account of their respective staff locations.

D.12.41 During further discussions with Plymouth City Council's Transportation Unit, they asked how the assumption that 80% of 'other construction workers' could be secured.

D.12.1 The figures for 'other construction workers' includes specialist sub-contractors who will be coming from abroad such as:

- SAR Elektronic GmbH (Electrical power and control and instrumentation systems).
- LAB GmbH (Air pollution control system).
- Imtech GmbH (Water steam system including turbine generator, ACC and water treatment system).
- Baumgarte Boiler Systems GmbH (Grate, furnace/boiler).

D.12.2 It is reasonable to assume that the majority of these subcontractors would lodge in local hotels and guest houses to be close to their workplace and the facilities in Plymouth.

D.12.3 Plymouth City Council's Transportation Unit asked whether the impact of 'other construction workers' accessing the Goschen Yard had been included within the assessment as some construction workers trying to access the Goschen Yard are likely to be driving through the junctions (Saltash Road/Wolseley Road etc). They also commented that the traffic movements associated with the movement of all construction staff will conflict with the am peak hour arrivals at the Dockyard (7am – 7.30am) and asked what assumptions had been made for the distribution of 'other construction staff' movements.

D.12.4 Construction workers passing through would not do so in the peak hour assessment times (8am to 9am and 4pm to 5pm) which were agreed in advance. It was therefore not considered necessary to take account of these movements in the modelling. Since these trips have not been modelled they have not been distributed.

D.12.5 In addition it is considered likely that many of the 'other construction workers' would be based in guest accommodation within the city centre and thus would not pass through the Wolseley Road / Weston Mill Drive junction. Minibuses will be used to pick construction workers up from the city centre (and other relevant locations) and take them direct to the site in order to minimise transport movements. It is anticipated that further information relating to this will be provided as part of the final Construction Management Plan, as a planning condition.

D.12.6 During further discussions with Plymouth City Council's Transportation Unit they stated that Annex E of the TA (Construction Traffic) should make a commitment towards measures that will help reduce the number of trips being made to and from Goschen Yard by construction workers (mini-bus services etc). They stated that a list of such measures should be included within the current document to show that proper consideration has been given to these issues.

D.12.7 They also stated that since the traffic impacts associated with the movement of construction staff will conflict with Dockyard staff movements and these impacts have not been modelled, it is even more crucial to establish a list of measures that will be implemented to reduce the number of single occupancy car trips associated with the construction works. They stated that there could be the potential for construction workers to park in residential streets around the site where there are currently no restrictions in place and asked how this would be controlled.

D.12.8 Measures have already been proposed as part of the preparation of Annex E of the TA. Supplementary measures, as discussed with Plymouth City Council, are proposed as follows:

- Travel Information leaflet for all construction staff.
- Promotion of car sharing.
- Provision of an off site parking facility (at Goschen Yard), which will be served by a free shuttle bus to the site.
- Management of parking on site (which will be subject to access authorisation).
- Permit system (coloured pass or similar) issued to construction staff to identify their travel entitlement (i.e. those that do not live locally will not be expected to be able to walk onto site, thereby discouraging staff to park in local streets and walk from there).
- Provision of a mini-bus service which will shuttle construction staff between hotels / lodges and the site.

D.12.9 Plymouth City Council Transportation Unit asked whether improvements would be required on Saltash Road to facilitate vehicles right turning into and out of the Goschen Yard. During further discussions Plymouth City Council's Transportation Unit they asked whether improvements would be required to the junction which serves Goschen Yard itself (rather than the junction of Saltash Road with Wolseley Road).

D.12.10 The modelling of the Saltash Road/Wolseley Road junction has indicated that the existing junction design will be adequate. Since Goschen Yard has been used for this purpose for other construction projects within the dockyard it has been agreed with Plymouth City Council's Transportation Unit that the retention of the existing access arrangement is appropriate.

D.12.11 Plymouth City Council's Transportation Unit stated that the Construction Workers Travel Plan should still include targets for modal shift and suggested that there are more opportunities than merely suggesting that the document should encourage car sharing and trip optimisation. They suggested that, depending on where construction workers are lodging, consideration could be given to collecting workers from various locations throughout the City with a shuttle bus service rather than encouraging them to drive to Goschen Yard. They also suggested that subsidised travel passes could be considered for those construction staff based within the City as Wolseley Road forms part of the High Quality Public Transport corridor.

D.12.12 Travel plans typically aim to promote sustainable travel habits amongst users/ visitors/ residents of a development over time. It is not considered appropriate therefore to include targets for modal shift as part of the Construction Workers Travel Plan as the associated time period will be too short.

D.12.13 Minibuses will be used to pick construction workers up from the city centre (and other relevant locations) and take them direct to the site in order to minimise transport movements.

D.12.14 During further discussions with Plymouth City Council's Transportation Unit they stated that because the length of the construction programme for the EfW CHP facility is several years, modal shift targets should be included within the Construction Workers Travel Plan (CWTP). They stated that a comprehensive draft version of the CWTP should be provided to demonstrate

how the traffic impacts associated with the construction of the facility will be managed and that points needing to be addressed include: details of mini-bus services; potential park and ride sites; subsidised travel on local bus services; and prohibiting the parking of contractors vehicles on surrounding residential streets.

D.12.15 Discussions with Plymouth City Council's Transportation Unit have confirmed that the focus of Travel Planning measures should not be to change any particular travel habits over time, but to support and promote good travel practices throughout the construction phases of the development, from the outset. The measures identified in paragraph D.12.8 seek to achieve this aim.

D.12.16 Plymouth City Council's Transportation Unit stated that they would arrange for the Framework Staff Travel Plan to be reviewed by the Plymouth City Council Green Travel Officer and respond with her comments in due course.

D.12.17 These comments will be taken into account when received.

Sensitivity Analysis

D.12.18 With regard to Annex G Plymouth City Council's Transportation Unit asked for clarification that the 36 trips mentioned are arrivals only and that the total number of movements would be 72. Similarly they asked for clarification that the figures in Table G.3 for waste movements relate to arrivals only and that the total maximum scenario would be 83 (36 x 2 + 11).

D.12.19 These assumptions are correct.

D.12.20 Plymouth City Council's Transportation Unit recommended that a further model run be undertaken using the figures in Table G1 but assessing the operational peak hour of 2-3pm to ensure that there are no capacity issues during this period.

D.12.21 These calculations have been undertaken and are presented in Appendix D.12.8: Technical Note - Signal Modelling 2. The analysis confirms that in line with the lower background traffic flows between 2pm and 3pm compared to the peak network hours, the three modelled junctions operate more effectively and within the recommended capacity thresholds including the development-related traffic. The 2pm-3pm junction modelling has also been undertaken for the additional scenarios assessed in the Transport Assessment, i.e. the new signalised site access junction, the worst-case EfW CHP facility traffic levels and the effect of other development projects in the vicinity. This analysis has again confirmed that the junctions can cater for the predicted levels of traffic, in all cases.

D.12.22 Plymouth City Council's Transportation Unit asked how the maximum number of 36 trips compares with other similar-sized EfW plants in the UK. They asked if the maximum figure could be quantified in any way and if a comparison with the proposed site at New England Quarry could be made.

D.12.23 The maximum figure has been quantified as it is based upon the observed data. The maximum number of trips for a facility will vary according to the capacity of the facility and also its geographical location. If the facility is located in an urban area there tends to be more direct deliveries to a site where as if a facility is more isolated there tend to be more bulkers delivering to the site.

D.12.24 Plymouth City Council's Transportation Unit stated that the modelling work undertaken identifies the need for improvements to the Weston Mill Drive/Carlton Terrace junction as it is shown to be operating over-capacity in the pm in the 2014 Do Something 'Maximum Scenario'.

D.12.25 The TA shows that the Carlton Terrace junction operates slightly in excess of its recommended capacity threshold in both the 2014 Do Minimum (without development) and 2014 Do Something (with development) scenarios. Whilst it is noted that the junction is predicted to experience capacity issues in the future (2014) irrespective of the proposed development, it is nonetheless acknowledged that the delivery of the proposed development would contribute to a marginal deterioration over and above this level.

Trip Generation Data

D.12.26 Plymouth City Council's Transportation Unit commented that the data supplied by the SWDWP to determine the trip generation indicates that the EfW facility could be expected 'as a worst case' to receive the maximum number of movements as outlined by the Sensitivity Test. They suggested that the figures arising from the undertaking of the Sensitivity Test are 'real world' and that the results should not be dismissed in any way or considered as being unrealistic.

D.12.27 To clarify, the purpose of the TA is to assess the 'typical' situation. A sensitivity test of the 'worst case' scenario (which has been calculated using a combination of observed, worst case situations and has therefore never actually been observed to occur) has been tested based upon the agreed methodology.

Waste Miles Assessment

D.12.28 Annex G of the TA includes a waste miles assessment which compares the distances (and time) travelled by waste related vehicles associated with the EfW CHP facility at Devonport, with those of similar proposals at comparator sites. The other sites which were identified are:

- Potential facility at New England Quarry;
- Potential facility at Ernesettle; and
- Potential facility at Coypool.

D.12.29 With regard to the waste miles assessment, Plymouth City Council's Transportation Unit asked why the assumption has been made that all Plymouth RCV's would have their waste bulked-up at Chelson Meadow rather than deliver to New England Quarry direct. They asked whether these vehicles would not go there direct in the same way that several South Hams vehicles collecting in the Ivybridge area would go direct to the North Yard site.

D.12.30 Plymouth City Council's Transportation Unit also noted that some revised assumptions regarding the locations of the Refuse Transfer Stations (RTS's) has been included in Table G.18 due to RCV's travelling back on themselves and adding unnecessary mileage. They stated that this would also be the case if all Plymouth vehicles went to Chelson Meadow first as RCV's collecting in areas to the east of the City (Elburton, Plymstock, Plympton etc) would end up doubling the waste miles travelled when it would be quicker to go direct to New England Quarry. The consequence of this is additional mileage being added to the New England Quarry site option.

D.12.31 There are numerous ways in which the waste miles travelled analysis might have been calculated and there are many other factors to be considered in assessing the merits of alternative sites, as explored in depth in ES Chapter 5.

D.12.32 We used a method for the Waste Miles Assessment that we believe is appropriate for the purposes of the exercise. Nevertheless a Technical Note has been prepared to consider the fact that RCVs collecting in Plympton might go straight to New England Quarry (see Appendix D.12.7: Technical Note Supplementary Waste Miles Assessment). The supplementary analysis has confirmed that there is a very minor difference in the results when compared with the analysis originally presented in the TA (Annex G). In the case of the supplementary analysis, it is indicated that there would be an increase of 1 hour travelled per week, associated with the New England Quarry site.

D.12.33 Plymouth City Council's Transportation Unit commented that the waste miles assessment states that weighbridge data from Chelson Meadow identified that the average payload of Plymouth RCV's is 7.3 tonnes and that of out-going bulked HGV's is 19.3 tonnes. They asked why in paragraph 6.3.12 of the TA an average payload figure of 22.5 tonnes has been proposed for the bulked up HGV's delivering C&I waste to North Yard and asked if this would make a significant difference to the number of C&I waste movements.

D.12.34 The figure of 22.5 tonnes was based on data obtained by MVV from a C&I waste operator. Plymouth City Council's Transportation Unit has now confirmed that they accept the payload of C&I bulkers would be 22.5 tonnes and RCV's would be 8 tonnes.

D.12.35 Plymouth City Council's Transportation Unit stated that the mileage associated with the movement of incinerator bottom ash and air pollution control residues should be included in the Waste Miles Assessment.

D.12.36 Appendix D.12.7: Supplementary Waste Miles Assessment has considered the waste miles associated with the transport of these residues based on known commitments from the Devonport and New England Quarry sites and assumptions for the Ernesettle and Coypool sites.

D.12.37 The results of the analysis indicate that the proposed MVV development at Devonport would result in approximately 9376 IBA / APCR miles (194 hours) per week, on average. It should be noted that although the New England Quarry site would result in less IBA / APCR mileage per week, it is unclear whether the IBA would be used as a secondary aggregate or used as a restoration material. Although the location of the IBA processing site for the proposed MVV EfW CHP facility is some distance from the development site and therefore involves more 'waste miles travelled', there is a firm commitment to use this material as a secondary aggregate. This is not clear with the New England proposal.

D.12.38 Plymouth City Council's Transportation Unit asked why in view of the fact that RCV's collecting municipal waste in Plymouth often have to utilise narrow rear service lanes through busy residential areas, why the assessment has been undertaken on RCV's using classified 'A' roads rather than using the shortest and most direct route. They suggest that restricting vehicles to classified roads would add considerable additional mileage and provide an unrealistic set of results.

D.12.39 The beginning of the trip is assumed to come from classified roads as this is most likely when the trip to the facility begins. As a comparative assessment the methodology is consistent for each site and journey.

D.12.40 Plymouth City Council's Transportation Unit noted that Annexes G1 and G2 were not included within the TA and needed to be submitted.

D.12.41 The complete Annexes G1 and G2 were accidentally omitted but were provided prior to the application being advertised.

D.12.42 Section D of Annex G considers the incremental operational implications of two potential (but not committed) developments located in the vicinity of the EfW CHP facility presenting the estimated traffic generation associated with each of the potential developments, in relation to the proposed EfW CHP facility.

D.12.43 Plymouth City Council's Transportation Unit commented that on the basis of the results presented for the operation of the junction of Weston Mill Drive with Carlton Terrace (Annex G Table G.27), the development will be expected to contribute towards improvements that help mitigate the impact of the development-generated traffic passing through this junction as it is shown to be operating over-capacity in the pm peak. The level of contribution should be greater than the 4.8% figure suggested as the peak hour that has been modelled to determine the impact of the development upon the operation of the local highway network (4pm - 5pm) differs from the maximum delivery profile for the EfW CHP facility (that being 2pm - 3pm). If the scenario mentioned in Table G.30 were to be re-run for the period of 2pm -3pm, the number of trips generated by both the Devonport Landing Craft Co-location Project and Supermarket would be less but the number of EfW CHP trips would be greater and consequently there would be a higher percentage impact than 4.8%. Furthermore the majority of trips generated by the EfW CHP facility will be HGV's including 16.5m articulated vehicles. Therefore in terms of road space, the impact of the EfW CHP traffic will be much greater than that associated with either the Devonport Landing Craft Co-location Project or Supermarket.

D.12.44 Section 106 contributions will be the subject of further discussions with Plymouth City Council. It is not considered appropriate or reasonable to compare the greatest level of impact of the EfW CHP Facility to another developments level of traffic at a different time. Our assessment has been undertaken based on the agreed methodology, using standard industry practices for network peak times. The signal modelling has been undertaken using PCUs (standard practice) which takes into account all vehicle types.

Existing RCV Movements

D.12.45 Further correspondence from Plymouth City Council's Transportation Unit asked for clarification regarding the current distribution of Plymouth RCV's on the network, in particular the number of RCV's that currently travel through the junctions of Carlton Terrace/Weston Mill Drive and Weston Mill Drive/Wolseley Road. They acknowledged that this would assist in highlighting that not all of the movements associated with the EfW plant are new to the network in this location.

D.12.46 SWDWP has provided information in this regard which is included in Appendix D.12.4: Current PCC Vehicle usage at Camel's Head and Carlton Terrace/Ferndale Road Junctions.

Deliveries of Fuel Oil

D.12.47 During a subsequent meeting with Plymouth City Council's Transportation Unit, a clarification was raised to question whether deliveries of fuel oil had been taken account of in the TA.

D.12.48 The typical annual usage of fuel oil is around 365,000 litres based on operating experience and a reasonable estimation of the number of start ups. Fuel oil will be stored on site in three 50m^3 (50,000 litre) tanks.

D.12.49 Based on the expected annual usage of oil, and the 36,000 litre capacity of a standard tanker used for delivery, this would equate to 10 deliveries per year during normal operation.

D.12.50 During commissioning the three tanks will need to be filled which will equate to 4 deliveries. Start ups will be carried out during the commissioning process and the tanks will need to be re-filled prior to operation commencing. It is expected that 2 deliveries would be required for this purpose. Thus in the last 3 – 4 months of commissioning approximately 6 deliveries of fuel oil would be required. After this 10 deliveries per year would be expected as described above.

D.12.51 This will not have an impact on the calculations carried out and modelled in the TA.

Commercial and Industrial Waste

D.12.52 Plymouth City Council's Transportation Unit asked for clarification in respect of the assumption made by MVV of the amount of Commercial and Industrial (C&I) waste arriving by 8 tonne Refuse Collection Vehicles (RCV's) and 22.5 tonne bulkers. Plymouth City Council's Transportation Unit stated that the assumption needs to be supported by the submission of evidence from other Energy from Waste plants as an increase in the amount of waste arriving by RCV's (over and above the suggested figure of 60%) would result in an increase in HGV movements.

D.12.53 Due to the highly competitive and commercial nature of the C&I waste collection market, it has not been possible to obtain such evidence. MVV therefore used its professional experience and spoke to contacts in the industry to gauge a reasonable assumption for the purposes of the TA. The sensitivity analysis already undertaken and presented in the TA allows for variances.

D.12.54 MVV is meeting with potential Commercial and Industrial waste contractors, who might utilise the EfW CHP facility once operational, in October 2011. Information to date has confirmed that the assumptions made in the TA are correct, but further information will be made available to Plymouth City Council as it becomes available.

D.12.55 In response to TA paragraphs 6.3.14 and 6.3.15 which are reproduced below, Plymouth City Council's Transportation Unit asked for clarification as to why an inverse profile of the observed municipal solid waste (MSW) deliveries had been applied to the C&I movements in order to assess the worst case. They suggested that the worse case would be to assume that the C&I waste arrivals would occur at the same time as the MSW arrivals and that they assumed this would be the case. They also suggested that a flat profile of C&I waste movements (suggested to be approximately 4 per hour throughout the day) would be unlikely and that movements would be more 'peaky' like the MSW movements.

> *"In order to inform the trip generation and traffic modelling calculations and to consider a worst case scenario, a profile of arrivals and departures for C&I waste traffic has been calculated by applying the inverse profile of the observed municipal waste deliveries."*
>
> *"This is to say that when there are less municipal waste deliveries, there will be a corresponding increase in the number of C&I waste deliveries. Additionally, it has been assumed that no C&I waste traffic will be accepted into the site either before 8am, or after 6pm. In reality, it may also be the case that no C&I deliveries will be made during the peak ours, and it is understood that MVV intend to have a variable pricing mechanism for C&I waste to discourage peak time deliveries. This assumption has not been included within this analysis, to ensure a robust assessment is undertaken."*

D.12.56 To clarify, the delivery timings of C&I waste can be controlled, hence the application of the inverse profile and the profile looks flat due to rounding. Conversations with others in the industry

has confirmed that C&I operators often ring ahead to check when peak traffic might occur so as to avoid those times.

D.12.57 During further discussions with Plymouth City Council's Transportation Unit, they indicated that they required further details of how C&I waste arrivals would be controlled to demonstrate how these movements would not conflict with MSW arrivals.

D.12.58 MVV will in due course, in consultation with C&I waste operators, prepare a Method Statement during which will set out management measures that would be put in place on site. Such measures could comprise:

- Hours when the plant will be open for delivery will be strictly enforced and encouragement will be given to waste operators to deliver waste to the plant in bulk vehicles rather than lower payload refuse collection vehicles. If necessary this preference could be backed up by a differential pricing mechanism related to the payload of vehicles delivering to the site.
- MVV could establish with the companies the times at which deliveries of municipal waste are anticipated and explain that priority will be given to the receipt of municipal waste and the quick turn round of these vehicles. C&I waste could therefore be delivered at times which do not conflict with the obligation to give priority to municipal waste. If it proves necessary in order to avoid vehicles being held in queues on the approach to the site MVV could consider a differential charging system in order to incentivise companies not to deliver C&I waste at times when the site was giving priority to municipal waste and to penalise deliveries of C&I waste at those peak hours.
- In respect of odour management MVV will require all vehicles delivering waste to be either enclosed or sheeted to prevent spillage. Those vehicles which will deliver waste which might be considered malodourous will be required to be enclosed. If particular delivery vehicles or delivery contractors are found to be responsible for causing complaints about offensive odours those responsible could be either required to take effective action in respect of the offending vehicles or if this is not effective it could be deemed to be a breach of contract and they could be prevented from delivering to the site.
- MVV could also require vehicles to be maintained to a high standard and not to cause nuisance as a result of noise or emissions from vehicles. One purpose of MVV having a meeting with potential C&I contractors at least three years in advance of the plant receiving C&I waste is to set out the strict terms and conditions that might be applied to the receipt of waste at the site and to give contractors the opportunity to ensure that their vehicle fleet will meet the strict requirements that will be imposed when they come to deliver to the site.
- If queuing of vehicles at the weighbridge does cause problems then MVV will look into the practicality of requiring delivery drivers to switch off their engines if they are queuing beyond a defined point and could erect signs instructing drivers to comply with that instruction.

D.12.59 Plymouth City Council's Transportation Unit asked for clarification as to why a 51 week working year was referred to in paragraph 6.3.27 yet in Table 6.5 a 49 week operational year was mentioned.

D.12.60 To clarify, paragraph 6.3.27 relates to rejected waste whereas Table 6.5 relates to C&I waste. It is expected that MSW will be delivered to the facility 51 weeks of the year. It is expected that C&I waste will only be delivered over a 49 week period, to allow for the Christmas period.

D.12.61 Transporting the same amount of waste over a shorter period will present a worst case scenario in transport terms so if C&I waste is delivered over a 51 week period the situation will actually be better than reported in the TA.

Consultation Responses from the Highways Agency

D.12.62 In their consultation response the Highways Agency sought an assessment of the performance of the Weston Mill junction off the A38 to ensure that road safety would not be compromised and that sufficient capacity exists. They noted that the Weston Mill junction includes a number of elements which could be affected by increases in traffic including the give way at the end of the Westbound offslip, the junction of the eastbound off and on slips and the merge arrangements for traffic joining the A38(T) eastbound.

D.12.63 The TA gave consideration to the operation of the above locations, in terms of the percentage impact that the development related traffic may have. In order to provide a comprehensive response to the Highway Agency, further analysis has been undertaken concerning the operation of the constituents of the junction complex (see Appendix D.12.5: Operational Implications on the Highways Agency Network). The analysis includes the 'Do Something' scenarios presented within the TA, and the sensitivity analysis (Do Something Maximum scenario) presented at Annex G of the TA.

D.12.64 The results of the analysis suggest that the junction complex has the capacity to cater for the additional traffic associated with the proposed development in both the AM and PM peak hours of these scenarios. It should also be noted that both this document and the TA assume that all development related vehicle movements will be new to the network, whereas in reality, a number of these movements will already be taking place. In light of the above, it is not considered that the proposed development would have a detrimental impact on the operation of the Strategic Road Network.

D.12.65 Further to the Highways Agency consultation response, comments were received from Plymouth City Council's Transportation Unit concerning the road safety record of the A38 Weston Mill junction and providing a study carried out by EnterpriseMouchel in 2010 entitled 'A38 Weston Mill Junction Safety Study'.

D.12.66 In response to this comment a Technical Report has been produced – Appendix D.12.6: Technical Note – Accident Record at the Weston Mill Drive/A38 Junction Complex and is summarised below.

D.12.67 A review of the road safety study undertaken by EnterpriseMouchel has been conducted, and has identified existing safety concerns at the junction complex. This is also supported by the analysis presented within the TA.

D.12.68 The road safety study proposes a number of improvements to the junction complex. A proportional junction impact analysis has therefore been undertaken to determine the anticipated level of development traffic passing through the junction.

D.12.69 Based on the calculations presented within Appendix D.12.6, it is anticipated that the development traffic will have an impact of approximately 1.07% at the A38 Weston Mill junction complex, in the AM peak hour of the 2014 Do Something scenario. Whilst this indicates that the development may lead to an increase in traffic passing through the junction, it is anticipated that this will not have a significant effect on the overall safety of the junction, particularly when

considering the proposed road safety improvements identified in the March 2010 EnterpriseMouchel road safety report.

D.12.70 The analysis presented above has also considered the 2014 Do Something 'Maximum' scenario, which was included as a supplementary assessment provided at Annex G of the TA. It should be noted that the TA considers that this scenario is unlikely to occur; however the calculations presented above indicate that the development may have a maximum impact of approximately 3.14% at the junction complex. Again, it is not anticipated that this will have a significant effect on road safety at this location, given the proposed improvements indicated in the March 2010 Enterprise Mouchel report.

D.12.71 Discussions with the Highways Agency regarding developer contributions to mitigation at this junction are on-going.

D.13 Air Quality

Additional Monitoring Data

D.13.1 In order to supplement existing sources of background air quality data in the vicinity of the application site, a project specific air quality monitoring survey has been undertaken, which has consisted of the following monitoring:

- a diffusion tube survey for nitrogen dioxide (NO_2) and sulphur dioxide (SO_2) in the vicinity of the application site and the wider area; and
- operation of a continuous monitoring station within Devonport, a short distance to the west of the application site boundary.

D.13.2 The project specific monitoring survey was still ongoing at the time that the air quality assessment work was undertaken. At the time that the ES was compiled, the results of eight months of NO_2 and SO_2 diffusion tube monitoring and six months operation of the continuous monitoring station were reported. This was considered sufficient data for the conduct of the air quality assessment and the submission of the data with the planning application, and this approach was discussed and agreed in advance with officers of Plymouth City Council's Public Protection Service.

D.13.3 The monitoring programme continued beyond the date of the submission of the planning application and has now been completed. The results of this monitoring can be found in the Project-Specific Air Quality Monitoring Survey – Update Report (July 2011) which is located at Appendix D.13.1 to this Further Information report. The document provides a summary of the total of ten months of diffusion tube monitoring and ten months operation of the continuous monitoring station.

D.13.4 The additional two months of diffusion tube data for NO_2 and SO_2 has not resulted in any changes to the significance of the results obtained from the monitoring at any of the sampling locations.

D.13.5 Monitoring of oxides of nitrogen and SO_2 at the continuous monitoring station show that the ten month period mean is slightly lower than the six month mean values reported in the ES. This is likely to be due to the reduced influence of winter months in the ten month dataset, when higher NOx and SO_2 concentrations are generally reported.

D.13.6 The PM_{10} period mean has remained well below the annual mean Environmental Assessment Level (EAL) over the ten month period. During the spring of 2011, periods of elevated particulate matter concentrations were widely reported across the UK, and the peaks recorded at the continuous monitoring station during this time were also experienced at the Plymouth Urban Centre monitoring site. This is likely to be due to the adverse meteorological conditions experienced across the whole of the UK during the spring of 2011.

D.13.7 Mean concentrations of PAH, PCBs, Dioxins, Furans and Heavy Metals remain generally low, and well within the respective long term EAL values set for these pollutants. An observed increase in metal concentrations could be influenced by the adverse meteorological conditions experienced across the whole of the UK during the spring of 2011.

D.13.8 The results do not change the conclusions of the air quality assessment presented in the ES.

Diffusion Tube Monitoring

D.13.9 In its consultation response, the Public Protection Service of Plymouth City Council stated that the diffusion tube results monitoring carried out by the applicants is presented as a period mean and annualised averages which have not been bias adjusted. When the final results are presented, the Public Protection Service would like to see the results presented as raw (unadjusted data) and bias adjusted with the 2010 locally derived bias adjustment factor of 1.09. The Public Protection Service would also like to see the results presented with the individual month averages.

D.13.10 The diffusion tube survey included a co-location study with two NO_2 tubes adjacent to the continuous monitor on the Devonport site. As described within paragraph 4.5.9 of Appendix 13.1 of the ES, the 6-month period mean of the diffusion tubes and the reference method were compared:

> *"The mean results obtained from the co-location study are slightly higher than that at the continuous monitoring station at Devonport, but can be considered to be comparable with the results generated using the reference method. No adjustment of the diffusion tube results for survey bias is therefore considered necessary".*

D.13.11 In subsequent correspondence, the Public Protection Service stated that with regards to bias adjusting the results Local Air Quality Management Technical Guidance makes it clear that diffusion tubes have the potential to over or under read by 30% and so raw results should be adjusted for bias. However, the latest bias adjustment factors issued by DEFRA which show an adjustment factor for GRADKO 20 % TEA in water diffusion tubes as 0.92, and the local bias adjustment factor for the monitoring period in the area calculated by the Public Protection Service is 1, so for the purpose of this study and reporting for this application the raw data presented are acceptable.

D.13.12 In subsequent correspondence, the Public Protection Service stated that it would be useful if the data from its own diffusion tube located at 3 Weston Mill Drive were presented with URS Scott Wilson's data and a discussion provided as to why there were elevated levels of NO_2 in this area for all three tubes, i.e. exceedences of the national air quality objective during certain periods of the monitoring coinciding with elevated levels nationally.

D.13.13 Plymouth City Council's data for 3 Weston Mill Drive are presented in the table overleaf.

Table D.13.1: Plymouth City Council Diffusion Tube Data for 3 Weston Mill Drive

Date	Measured NO_2 µg/m^3	National Air Quality Objective Value NO_2 µg/m^3
09.02.10	35.8	40.0
09.03.10	40.69	40.0
06.04.10	35.17	40.0
01.06.10	27.85	40.0
29.06.10	30.87	40.0
27.07.10	16.42	40.0
24.08.10	32.13	40.0
21.09.10	35.19	40.0
19.10.10	35.88	40.0
16.11.10	40.93	40.0
11.01.11	36.55	40.0
09.02.11	38.78	40.0
08.03.11	47.36	40.0
05.04.11	29.6	40.0
03.05.11	33.55	40.0
31.05.11	31.98	40.0
28.06.11	29.28	40.0
26.07.11	27.85	40.0

D.13.14 A consideration of baseline concentrations of NO_2 was made in Section 13.3 of ES Chapter 13 and in greater detail within Section 4 of ES Appendix 13.1. The annual mean concentration reported by Plymouth City Council for the tube at 3 Weston Mill Road is reported in paragraph 4.3.4 of ES Appendix 13.1 as an annual mean concentration value of 33.9 µg/m^3 in 2010. The raw measurement of annual mean concentration, of 31.1 µg/m^3 was adjusted for laboratory error using a factor for the calendar year 2010 published for the National Diffusion Tube Bias Adjustment Factor Spreadsheet, to give the annual mean value of 33.9 µg/m^3 quoted. Both of these values are well below the annual mean air quality objective value for NO2 of 40 µg/m^3.

D.13.15 In setting the annual mean concentration of NO_2 at a level that protects human health the World Health Organisation and the UK Government's Expert Panel on Air Quality Standards were both mindful of the fact that an annual mean value represents an average level of exposure over a whole year and that at some time during this period short term measurements will be higher than the annual mean value. The 1 hour objective value of 200 µg/m^3 was set to protect human health from short term periods of raised NO_2 concentrations.

D.13.16 Only measured or modelled annual mean concentrations can be meaningfully compared against an annual mean air quality standard. Where data exists for shorter periods, such as a monthly mean value, there are methods published by Defra in the Local Air Quality Management Technical Guidance (LAQM TG09) to convert monthly or period mean data to annual mean values for a specific calendar year. While there are monthly mean concentrations of NO_2 reported by Plymouth City Council of more than 40 µg/m^3, neither the annual mean objective nor the 1 hour mean objective values for NO_2 were at risk of being exceeding at the 3 Weston Mill Drive diffusion tube site in 2010.

D.13.17 In subsequent correspondence, the Public Protection Service stated that I would also like to see the results presented with the predicted annual mean change of 1.3 µg/m^3 added for the results of the tubes in the Camels Head Junction area as discussed in section 13.6.15 of ES Chapter 13. Based on the additional diffusion tube data for 3 Weston Mill Drive provided by PCC, a full 12 month dataset for 3 Weston Mill Drive (measurements between 12/1/10 and 11/1/11 gives an unadjusted annual mean concentration of 33.4 µg/m^3. If a change of +1.3 µg/m^3 in the annual mean concentration was to occur in the vicinity of this location, this would remain a small change according to the assessment criteria set out in the ES, giving an effect of negligible significance.

Industrial Sources / Cumulative Effects

D.13.18 Paragraph 13.8.5 of ES Chapter 13 should be replaced with the following text:

> *"Existing industrial facilities in the area have been accounted for as part of the "baseline" in the adoption of site-specific background pollutant concentrations from archive sources and a programme of project-specific baseline air quality monitoring in close proximity to the facility site. This includes but is not limited to the contribution of emissions from:*
>
> - *Langage natural gas fired power station, a major source of combustion emissions located 12 km to the east;*
> - *Weston Mill Crematorium, a potential source of combustion pollutants, mercury compounds and dioxins / furans, 1 km to the east;*
> - *Efford crematorium, a potential source of combustion pollutants, mercury compounds and dioxins / furans, 5.5 km to the east; and*

- *Clinical waste incinerator at Derriford, operated by Viridor, 5.5 km to the north east."*

D.13.19 We have located the planning application documents for the proposed timber resources centre at Belliver Industrial Estate and note that an air quality assessment was not included in those documents. Instead, emissions to air from this facility will be covered by its Environmental Permit. At the time of writing an application for an Environmental Permit has not been made for the timber resources centre. There is therefore no information in the public domain concerning the potential air quality impacts of the timber resources centre.

D.13.20 The emissions sources listed are, or in the case of the timber resources centre will be, well regulated installations with tightly controlled emissions limits set to avoid significant impacts on air quality. They are all located at considerable distances (> 5 km) from the application site. The high level of dilution that emissions would experience over a distance of 5 km (see predicted impacts of emissions from proposed EfW CHP facility reported in Appendix 13.1 of the ES) ensures that individual impacts will be extremely small at receptors located more than 1 km from the respective point of emission. In addition, there are very limited number of hours per year when emissions from these sources would be blown towards the receptors most affected by emissions from the application site. We therefore consider the scope of the cumulative effects assessment – which was agreed during the EIA Scoping and pre-application consultations – to be appropriate as reported.

D.13.21 It has also been necessary to consider potential cumulative air quality effects with Viridor's proposed Resource Recovery Centre at New England Quarry, 15km to the east of the North Yard site, currently the subject of a planning application to Devon County Council. Paragraph 13.8.8 of ES Chapter 13 concludes: *"The distance between the Resource Recovery Centre and EfW CHP facility sites is such that the maximum ground level impacts of the two plants would not co-incide. The risk of cumulative effects is therefore not significant."*

Emissions During Commissioning and Start-up

D.13.22 In its consultation response, the Public Protection Service of Plymouth City Council stated that the air quality Chapter of the ES does not discuss emissions to air (odorous and pollutant) that will be associated with:

- The commissioning of the plant.
- The restarting of the plant after periods of shut down for maintenance and/or breakdown.

D.13.23 The Public Protection Service stated that since the EfW CHP facility will be shut down for maintenance and repair at least twice a year not including unforeseen breakdowns, further information is required on the impacts, in terms of air quality, under these circumstances.

D.13.24 The air quality impact of emissions during start up and / or commissioning will not be significantly different to those during normal operation. Any increase in emissions resulting from commissioning activities which are likely to occur during optimisation of the process and systems or during start up following outages will be of short duration and will not be of such a magnitude as to cause any significant environmental effect.

D.13.25 The facility will use low sulphur light oil for start up. Auxiliary burners are fitted in the furnace and these are used to bring the system up to the required temperature before waste is fed onto the grate. The start up process during both commissioning and normal operation is carefully

controlled to raise the temperature in the furnace and boiler gradually to avoid adverse thermal impact on the system.

D.13.26 The fuel oil used has a maximum sulphur content of 0.2% by weight. This is similar to the normal sulphur content of municipal solid waste (MSW) but during the start up significantly less oil is burned compared to waste during normal operation.

D.13.27 Cold start up will typically use around 25,000 litres (approximately 21 tonnes of fuel oil) over a 10 or 12 hour period compared to the normal incineration capacity of around 31 tonnes of waste per hour, and given that the flue gas cleaning system is designed to handle the maximum pollutant concentrations during waste incineration and the quantity of sulphur that will be treated during oil firing will be less than 10% of the quantity during normal operation the gas cleaning system can easily cope with the much lower concentrations produced during oil firing. The content of all other pollutants normally treated by the air pollution control system are much lower in fuel oil than in normal MSW.

D.13.28 Therefore taking the above into account, as the ES air quality assessment is based on the assumption that the facility is operating continuously for 8760 hours per year without any interruption at the maximum permissible WID emission limits, it can be considered to represent a worse case scenario which takes account of commissioning and start ups.

D.13.29 During commissioning and during normal operation there will be both cold and warm start ups.

D.13.30 A cold start up happens when the plant is either started up for the first time during commissioning or re-started following a shutdown of sufficiently long duration to allow the boiler to cool to ambient temperature (typically more than 24 hours). Cold start up will occur in commissioning when activities such as cleaning of steam pipework (steam blowing) and certain tests and inspections are carried out. In normal operation a cold start up will take place following the periodic annual shutdowns or for example when some unplanned maintenance event has necessitated intervention in the “hot” parts of the process equipment.

D.13.31 Warm start up takes place when the plant has only had to be stopped (incineration of waste suspended) for a few hours. This will happen during commissioning when systems are being adjusted for optimum performance and certain tests are being made. In normal operation warm start up will occur when for example an unplanned maintenance event occurs which can be rectified in a short time and does not require intervention in the “hot“ parts of the process equipment.

D.13.32 A typical cold start up takes 10 to 12 hours and a warm start up less than half of that time. During commissioning a number of additional cold and warm start ups over and above those required for the optimisation, adjustment and testing of the facility will be carried out as part of the essential training of the operations staff. MVV anticipate approximately five or six cold start ups and a similar number of warm start ups would be required during the hot commissioning and testing phase, which lasts four to five months.

D.13.33 The commissioning of the facility commences with cold commissioning during which systems and equipment are checked for correct function without the application of any heat to the furnace. Consequently during this period there will be no odorous or pollutant emissions to air.

D.13.34 Following satisfactory cold commissioning the hot commissioning phase commences. In this phase the oil fired auxiliary burners are used initially to bring into operation and test all relevant systems under simulated operational conditions. As previously mentioned the auxiliary burners

use low sulphur light oil and are also of low NOx design; as there is no bypass to the flue gas cleaning system, this system will also be on line and functioning at all times that the burners are in operation during hot commissioning.

D.13.35 Following satisfactory commissioning with oil, waste will be introduced to the furnace and the hot commissioning and testing phase will be completed.

D.13.36 It should be noted that during both hot commissioning and normal start up following outages, no waste is introduced until the furnace, boiler and flue gas cleaning systems are at working temperature and there is no bypass to the filter system. In addition when the facility is shut down the auxiliary burners are used to maintain the operating temperature whilst any waste is on the grate, and the flue gas cleaning system remains in operation. Therefore during hot commissioning, start up and shutdown whenever waste is being incinerated the emissions are being treated by the flue gas cleaning system.

D.13.37 During the initial phase of hot commissioning the boiler and ductwork and other parts of the system which operate at elevated temperatures will be brought up to temperature. Some of these surfaces may have been coated with preservative treatments and consequently there may be some related “hot metal“ or similar odours, however these would perceptible for only a comparatively short period of time.

D.13.38 MVV will liaise closely with local residents and relevant authorities to inform them initially of the progress and various stages of commissioning and subsequently of outages and start ups during the operational phase.

Fuel Oil

D.13.39 In its consultation response, the Public Protection Service of Plymouth City Council stated that the it would appear that the combustion chamber / boiler unit would be provided with oil burners for the purposes of igniting the waste at the start up of the facility following shut down periods, and to act as standby burners which automatically cut in, in the event of the combustion temperature in the combustion chamber/boiler unit falling below 850˚C. The Public Protection Service requested details of the type of fuel oil that will be used on site and quantities.

D.13.40 It was noted by the Public Protection Service that Sita’s site at St Dennis in Cornwall can use up to 300,000 litres per annum and it is required to report on its consumption annually. The Public Protection Service enquired whether this been taken into account with modelling.

D.13.41 Paragraph 6.4.6 of the ES, reproduced below, provides details of the type of fuel oil to be used and a projection of annual consumption based on MVV’s experience with other facilities in Germany:

> *"A low sulphur content light fuel oil will be used to supplement furnace temperatures at times of plant shut down and start up or to maintain WID temperature requirements in abnormal conditions such as low CV waste. MVV’s operating experience in Germany is that in a typical operating year use of fuel oil represents less than the 1% of the total thermal input to the process. Auxiliary fuel is not required under normal operating conditions. This auxiliary fuel will be stored in three 50m^3 tanks."*

D.13.42 A low sulphur content light fuel oil will be used to supplement furnace temperatures at times of plant shut down and start up or to maintain WID temperature requirements in abnormal

conditions such as low CV waste[8]. This auxiliary fuel will be stored in three 50m^3 tanks located in a dedicated compartment within the main building (eastern side of boiler house) in accordance with the Control of Pollution (Oil Storage) (England) Regulations 2001.

D.13.43 Further detail regarding the use of back up fuel is given within the Environmental Permit Application to the Environment Agency and has been reproduced at Appendix D.13.2.

D.13.44 The air quality assessment considers a facility running continuously at WID emission limits. As the emission limits set by WID apply at all times during operation whether the auxiliary burners are working or not and these limits are the basis for the air quality assessment, the use of the burners has been taken into account in the modelling.

D.13.45 The fuel oil that will be used is low sulphur light fuel oil with a sulphur content of maximum 0.02% by weight. The anticipated typical annual usage of fuel oil is 365,000 litres.

D.13.46 Based on the expected annual usage of oil, and the 36,000 litre capacity of a standard tanker used for delivery, this would equate to 10 deliveries per year during normal operation.

D.13.47 During commissioning MVV will have to fill the tanks, which will require 4 loads, and during commissioning MVV will have a number of start ups which will consume oil so will need to top up the tanks, approximately another 2 loads, so they are full again at start of operation. So there will be a peak of approximately 6 deliveries in the last 3 or 4 months of commissioning before getting into the normal operating pattern. As stated in section D12 this will not have an impact on the calculations carried out and modelled in the TA.

$PM_{2.5}$

D.13.48 In its consultation response, the Public Protection Service of Plymouth City Council stated that WID requires the operator and the Environment Agency to monitor PM_{10} on a continuous basis but not $PM_{2.5}$. Section 13.5 of ES Chapter 13 discusses the control measures to be put in place to control and monitor emissions to air from the incineration process. However, it refers to particulate matter in a general way. Clarification is needed for the Public Protection Service if the mitigation measures and controls will capture $PM_{2.5}$ as well as PM_{10}.

D.13.49 The bag filter system is designed to capture $PM_{2.5}$ as well as PM_{10}. The Environmental Permit for the facility would require continuous monitoring and reporting of "Particulate Matter". This is the total particulate emission and would include both PM_{10} and $PM_{2.5}$ fractions. As stated within paragraph 3.3.11 of Appendix 13.1 to the ES, the assessment has considered emissions of $PM_{2.5}$:

> *"For the purposes of the assessment of emission of particulate matter (as PM_{10}) and fine particulate matter ($PM_{2.5}$), the total particulate emissions have been assumed to be present in both the PM_{10} and $PM_{2.5}$ size fractions. This approach will result in the over-estimation of impacts on local PM_{10} and $PM_{2.5}$ concentrations."*

Odour During Construction

D.13.50 In its consultation response, the Public Protection Service of Plymouth City Council stated that odorous emissions during the construction phase have not been discussed. The Public Protection Service stated that the site, when excavated, will likely give rise to short term odorous emissions which will impact on surrounding residents. The Public Protection Service stated that

[8] It should be noted that it is highly unlikely that fuel oil will need to be used during operation.

this could possibly be dealt with a planning condition requesting an odour management plan for the construction phase to be submitted and approved prior to commencement of works.

D.13.51 Odours are in theory possible during excavation due to decomposing organic material and hydrogen sulphide (which can give a rotten egg smell). It should be noted that no hydrogen sulphide was detected in the previous or latest gas monitoring tests and therefore the risk of odour is considered negligible. The main excavations will not be penetrating the alluvium deposits however the piling will produce arisings from this strata.

D.13.52 Odour management during construction will be covered in the Construction Environmental Management Plan.

Odour and Emissions from Waste Delivery Vehicles

D.13.53 In its consultation response, the Public Protection Service of Plymouth City Council stated that the ES does not provide information about the impact of odour from vehicles containing waste arriving and leaving the facility, particularly noting that vehicles will be passing residential and school properties close to the roadside. The Public Protection Service notes that by their nature, vehicles containing waste do generate some odour when passing and the properties mentioned will have a number of trucks passing close to their properties for a considerable part of the day. The Public Protection Service also stated that it requires information regarding the impact of odour whilst vehicles queue to access the weighbridge.

D.13.54 Waste deliveries to the facility will be in several vehicle types: refuse collection vehicles (RCVs) delivering directly from collection rounds; bulk hauler vehicles delivering from waste transfer stations; and hookloader / rollonoff vehicles delivering from Household Waste Recycling Centres (HWRCs) or Civic Amenity Sites.

D.13.55 Each partner council in the SWDWP has reviewed their current and future delivery vehicle arrangements and have considered the associated potential odour and emission issues. Statements from Devon County Council, Torbay Council and Plymouth City Council are appended at Appendix D.13.3 and are summarised in the sections below.

D.13.56 With regard to vehicles delivering C&I waste, MVV is in the process of arranging a meeting in mid September with Commercial and Industrial waste contractors in the Plymouth; South West Devon and East Cornwall areas to inform them of the progress towards developing the proposed Energy from Waste Combined Heat and Power plant in North Yard.

D.13.57 The Agenda for the meeting will include an update on the plans for the facility; the time when the plant is expected to be available to receive waste; and the opportunities for them to deliver waste to the plant. With contractors who have expressed an interest in delivering waste to the plant, the meeting will explore the type of vehicles they currently use; what their plans are to replace and improve their fleet; and the type of vehicles in which they would propose to deliver residual waste to the plant.

Odour

D.13.58 The odour commonly associated with waste is primarily produced by the decomposition of easily putrescible substances such as food waste and to a lesser extent garden waste. However such decomposition does take a period of time and odour impacts can be greatly reduced by enclosing or containing the waste such as in bags and/or enclosed vehicles.

Residual Municipal Waste

D.13.59 Although each council has different collection arrangements, all partner councils separately collect garden waste for composting and Torbay and Devon also collect food waste for separate treatment This ensures that the vast majority of putrescible waste is not collected as part of the residual waste and hence will not be transported to the EfW CHP facility which will help minimise any odour potential. Whilst Plymouth does allow food waste within its residual waste collections, it ensures that it collects such waste weekly so as to minimise the potential for odour generation.

D.13.60 Furthermore residents and business are encouraged to present residual waste for collection in refuse sacks or bags even if they have wheeled bins. These sacks and bags prevent odours and litter escaping whilst the waste is transferred from the collection point to the body of the collection vehicle. It is this containment which acts as a barrier for any an odours which may be present.

D.13.61 All councils and contractors involved in waste haulage whether by RCV or bulk hauler undertake regular cleaning of the vehicles to prevent waste remaining attached to the vehicle or machinery. This is in line with best practice and it helps to maintain the reliable operation of the vehicles as well as controlling odours. In Plymouth's case the vehicles are emptied and washed at the end of their shift using the vehicle wash at Prince Rock and in Torbay the drivers have a stringent regime of cleaning and disinfecting the trailers used for waste carrying. When Devon County Council negotiate their new transport contract to haul waste to the EfW CHP facility in the future, the required cleaning standards and controls will be carefully specified and evaluated in recognition of the increased risk of nuisance in more urban environments.

D.13.62 Consideration has been given to the possibility of sprays to reduce odour. No examples of other UK authorities using sprays for RCVs collecting household waste have been found, although there is evidence that this technique has been used in other countries. The primary use of sprays in the UK is confined to sites such as landfill sites which are open to the elements. (Odour will be avoided at the EfW CHP facility through the negative pressure design, as described in the ES.) It is considered that there would be Health & Safety issues for operatives if spray systems were to be utilised on RCV vehicles as a chemical is mixed with the water to either eliminate any smells or disguise them with a pleasant odour. The combination of the atomised water and chemical can irritate the breathing passage and lungs of operatives working directly behind such sprays and hence such usage would need to be very carefully assessed against any resultant benefit. At present there are no plans to incorporate such sprays on partnership waste transport vehicles.

Household Waste Recycling Centre Residues

D.13.63 There is very little potential for odour issues from residual waste transferred from HWRCs. HWRCs are provided for the use of residents for the deposit of material that cannot be collected in the normal residual waste kerbside collections and are now predominately a recycling operation with the vast majority of waste handled on the sites reused, recycled or composted. The remainder of the waste is largely dry with a very low level of putrescibility. A Plymouth composition analysis of HWRC waste indicated that only 3% of the waste delivered to the HWRC was biodegradable and likely to cause odours.

D.13.64 Residual waste from the recycling centres therefore has a very low potential for generating odour and a review of complaint records indicate that partner Councils have received no public complaints relating to odour issues. HWRC waste is transferred as soon as containers and skips are full and are regularly cleaned. Whilst in transit, containers and skips are either covered with a tarpaulin type sheet or net to ensure no of the waste escapes during transit. Empty skips are

returned to the recycling centres after emptying where members of the public fill them once again.

D.13.65 Based on past experience, the magnitude of odour emitted from waste delivery vehicles accessing and leaving the site would be small and at the closest sensitive receptors to the site entrance this would not be perceptible. It is not considered that there would be any potential for people to be aware of odour emitted from waste delivery vehicles at properties beyond the roadside.

D.13.66 Under the terms of its Environmental Permit, MVV will be required to maintain and implement an Odour Management Plan. As well as managing odour from the facility itself this Odour Management Plan covers vehicles within the site. Procedures will be put in place and remedial action will be taken if necessary. Initially, any complaints received at the site will be taken by the Weighbridge Operator who will record the relevant details (i.e. name, address, contact number and details of complaint) and will notify the Operations Engineer. The Operations Engineer will be responsible for ensuring the complaint is investigated, for ensuring the appropriate corrective action is implemented and for providing feedback to the complainant.

C&I Waste

D.13.67 In respect of odour management MVV will require all vehicles delivering waste to be either enclosed or sheeted to prevent spillage. Those vehicles which will deliver waste which might be considered malodorous will be required to be enclosed. In the event that vehicles are queuing for significant lengths of time in a single location (e.g. prior to the weighbridge) and this causes a nuisance MVV will look into the possibility of installing sprays on the fencing to disguise the odour. If particular deliver vehicles or delivery contractors are found to be responsible for causing complaints about offensive odours those responsible will be either required to take effective action in respect of the offending vehicles or if this is not effective it will be deemed to be a breach of contract and they will not be allowed to deliver to the site.

D.13.68 A new facility to process biodegradable waste has opened in Langage and it could be expected that a significant amount of the putrescible commercial and industrial waste arising in the Plymouth and surrounding area would be taken to this facility which is designed to manage this type of waste more effectively and which would commercially price itself to attract this waste. Moist putrescible waste does not have a high calorific value and MVV would not be seeking to specifically attract this type of waste.

Emissions from Vehicles

D.13.69 In its consultation response, Plymouth City Council's Transportation Unit asked whether the likelihood of a number of HGVs 'parked' on the access road had been included within the air quality assessment.

D.13.70 The air quality assessment has assessed HGVs queuing to get into the weighbridge, rather than parked on the road.

D.13.71 Further information regarding the vehicle emission standards of the waste delivery vehicles is provided below.

D.13.72 The vast majority of waste transport vehicles (RCVs, hookloaders and bulk haulers) operated by or serving each partner Council incorporate engines which currently meet the latest Euro 5 low emission standards introduced in late 2008.

D.13.73 Given that current vehicle fleets are of varying ages, each council has stated that its future vehicle replacement or transport procurement programmes intend to further improve emission levels by either procuring the next generation of improved Euro 6 engines (when available) and/or by giving a high tender evaluation weighting to such environmental factors in any procurement of transport services. It is almost certain therefore that very early in the operational life of the EfW CHP facility, all vehicles delivering municipal waste to the facility will at least meet the current Euro 5 low emission standards and will in time be further improved to meet the even higher Euro 6 vehicle emission standards.

D.13.74 Partner councils and their haulage contractor are or have already invested in specific driver training to improve fuel consumption and in turn reduce emissions from vehicles. Plymouth City Council is using in-cab technology to help optimise collections, reduce fuel consumption and consequently emissions. All Torbay Council drivers are trained in 'smart driving' to ensure that the vehicles are operated within acceptable tolerances for fuel efficiency and effective and efficient driving skills.

C&I Waste

D.13.75 MVV will require vehicles delivering C&I waste to be maintained to a high standard and not to cause nuisance of disturbance as a result of emissions from vehicles. One purpose of having a meeting 3 years in advance of the plant receiving C&I waste is to set out the strict terms and conditions that will be applied to the receipt of waste at the site and to give contractors the opportunity to ensure that their vehicle fleet will meet the strict requirements that will be imposed when they deliver to the site.

D.13.76 If queuing of vehicles at the weighbridge does cause problems then MVV will look into the practicality of requiring delivery drivers to switch off their engines if they are queuing beyond a defined point (e.g. the railway viaduct) and will erect signs instructing drivers to comply with that instruction.

Construction Dust

D.13.77 In its consultation response, the Public Protection Service of Plymouth City Council stated that paragraph 13.9.1 in ES Chapter 13 concludes that short term impacts will be found from dust emissions during construction within 100 metres. The Public Protection Service stated that this has not been discussed in terms of nuisance, and although has been declared as not being a health impact, could cause a nuisance problem. Further clarification needs to be made for the Public Protection Service.

D.13.78 Paragraph 13.9.1 of the ES states:

> *"During the construction phase, residential properties within 100 m of the main construction area may experience an occasional increase in local soiling rates during times when activities are carried out in extremely dry and windy weather. Any such impacts would be restricted to short-term episodes affecting a small number of properties at any one time, and would be of minor significance. These impacts are most likely to take the form of increased soiling of property surfaces and are not normally associated with a general risk to health".*

D.13.79 We note that paragraph 13.9.1 does not conclude that short term impacts will occur, instead it identifies the potential for them to occur.

D.13.80 The assessment does consider the effect of airborne dust generated by the proposed works on rates of soiling and discusses this with respect to the potential for the increased rate of soiling being perceived by property owners and the likelihood of residents being intolerant of the perceived impact. The term 'nuisance' has not been used in the assessment, but the wider issue of the potential for adverse effects on amenity have been considered within the assessment (see ES paragraph 13.6.2 onwards).

D.13.81 Proposed dust mitigation measures are detailed within Table 13.5 of ES Chapter 13 and in Appendix 6.3 (Outline Construction Environmental Management Plan) and have been reproduced below:

Risk	Mitigation
Construction Traffic	• All construction traffic will follow specifically designated routes • Speed limits will be put into place on site for all vehicular movements • All vehicles carrying loose material will be covered • Wheel wash facility to be used for vehicles leaving site
Highways	• Where appropriate, use of road sweepers will be incorporated to ensure highways remain clear of dust and mud • Road edges and pathways will be swept by hand and damped down as necessary
Stockpiles	• To be sealed or sprayed with chemical bonding agents as required • Location of stockpiles away from any sensitive receptors • To be seeded to allow the growth of grass if stockpiled for long periods of time
Dust Suppression	• Mobile bowsers to be deployed on site at regular intervals; activity to be increased during significantly dry and windy periods • Where necessary, use of hoardings to be considered to ensure reduction in dust migration • Deliveries of significantly dusty materials to be sprayed to reduce dust potential • All cutting and grinding operations to conducted in ways to reduce risk of dust migration (wet cutting techniques etc)
Monitoring	• Ongoing monitoring to be undertaken by site personnel on regular basis, both on and off site to ensure no migration of dust • Regular liaison with EHO and Client to be undertaken • Regular reviews of mitigation methodology to be undertaken by Environmental Manager and Project Manager

D.13.82 It is also important to note that materials arising from ground works will almost entirely be re-used within the site, reducing the amount of off site vehicle movements.

Wind Roses

D.13.83 For clarification, the wind roses shown in Figure 3.1 within ES Appendix 13.1 show the direction from which the wind is blowing, not the direction to which the wind is blowing.

Air Quality Management Areas

D.13.84 For clarification, the Exeter Street Benzene Air Quality Management Area (AQMA) referred to in ES Chapter 13 and ES Appendix 13.1 has now been revoked by Plymouth City Council.

Chimney Emissions and Impacts on Designated Sites

D.13.85 Further information in this respect is included in paragraphs D.7.71 to D.7.90 above under the heading Ecology and Nature Conservation.

D.14 Noise and Vibration

Construction Noise

D.14.1 In its consultation response, the Public Protection Service of Plymouth City Council commented in respect of paragraphs 14.6.11 and 18.6.6 of the ES that further information is required on construction noise impacts and mitigation concerning nearby residential properties, particularly on Talbot Gardens.

D.14.2 A detailed response to this request can be found at Appendix D.14.1. In summary, predicted worst-case unmitigated levels during the construction of the workshop illustrate that the acceptable level is likely to be exceeded by up to 5 dB at the closest location to the works (25-36 Talbot Gardens, or location 'C1' in this assessment). This is during the installation of the steelwork and external cladding, an effect of medium/high significance. However, the main works associated with the construction of the workshop will be completed within a two month period from 12th February 2013 to 12th April 2013. Hence, these noise impacts will be temporary and short-term. During earthworks the acceptable criterion is exceeded by 3 dB and 2 dB during the laying of foundations, an effect of medium significance. During all other construction activities at location C1, and during all activities at all other receptors, predicted noise levels result in no significant effects. The construction hours will be strictly controlled in accordance with the policy of the Plymouth City Council Public Protection Service.

D.14.3 During the construction of the main buildings and ACC, unmitigated noise levels are predicted to result in no significant effects at all but one receptor location. An effect of low significance is predicted at 1-12 Talbot Gardens (location 'C2') during construction period 1 and negligible during periods 5 and 6. Exceedance of the acceptable criterion can be expected at this location due to the close proximity of this receptor to the construction site.

D.14.4 With mitigation employed in the form of mobile noise barriers around the piling rigs, which MVV commits to and which the contractor Kier confirms is practical, noise levels at location C2 are predicted meet the acceptable criterion, with no significant effects.

D.14.5 Due to the topography of the area, the installation of permanent noise barriers is unlikely to provide adequate attenuation of noise.

D.14.6 It must be noted that the predicted levels are worst-case predictions and noise levels will be lower for the majority of the time. Where noise levels are high, these will only occur for short periods of time.

Plant Commissioning and Start-up

D.14.7 In its consultation response, the Public Protection Service of Plymouth City Council requested further information on noise during plant commissioning and start-up.

Commissioning

D.14.8 It is first important to state that MVV is very experienced in commissioning EfW facilities. As an example, the attached series of graphs (Appendix D.14.2) illustrate actual steam data from the commissioning of one of MVV's facilities. Although the data are in German, the pertinent translations to English have been marked by hand by one of MVV's engineers. Also attached in

Appendix D.14.2 is information from MVV on the estimated waste loads to be used during commissioning of the EfW CHP Facility at North Yard.

D.14.9 Extraordinary events during commissioning are as follows:

Safety Valve Testing

D.14.10 A full steam release is required via the safety valve silencer on the boiler house roof. Advance warning would be provided to local residents, businesses, the Naval Base, dockyard and local authority. The procedure would last for two to three minutes during the daytime. For this short period there will be significant noise emission when the safety valve is tested with maximum steam load. As the silencer of the safety valve is designed for the maximum load of steam, the noise levels at the nearest receptors can be limited to approximately 57 dB(A) (comparison: normal speech at 1m distance = 60 dB(A)).

Blowing-Out (Cleaning) of Steam Pipes Prior to First Use of Turbine

D.14.11 Blowing-out will be required intermittently for approximately once or twice per day for three to five days, each occasion lasting approximately 10 to 30 minutes and occurring during the daytime. Advance warning would be provided to local residents, businesses, the Naval Base, dockyard and local authority.

D.14.12 MVV intends to keep the blowing-out to a minimum by specifying pipe cleanliness. Therefore MVV has specified to its suppliers that the boiler steam pipes have to be chemically cleaned.

D.14.13 The amount of steam released is significantly less than the maximum steam load. Since the silencer is designed for the maximum steam load, the noise emissions can be reduced to approximately 55 dB(A) at the nearest receptor.

D.14.14 In general the start-ups during the commissioning phase will follow the same principles as for normal start-ups during the service period, as described further below. Around five or six cold start-ups and a similar number of warm start-ups would be required during the hot commissioning and early testing phases, which last four to five months.

Start-up After Normal Shut-down

D.14.15 The facility will use low sulphur light oil (diesel oil) for start up, there is no gas used on site. Auxiliary burners are fitted in the furnace, which are used to bring the system up to the required temperature before waste is fed onto the grate. There can be both cold and warm start ups.

D.14.16 The cold start up process is carefully controlled to raise the temperature in the furnace and boiler gradually to avoid adverse thermal impact on the system. The start up takes 10 to 12 hours from cold and during this time small quantities only (up to 10% of maximum steam output) of steam will be vented from the boiler house roof vent over a period of around 4 hours during the start up process.

D.14.17 As the vent silencer is designed for 110% maximum load there will be no abnormal noise emissions.

D.14.18 Warm start ups take place when only a short interruption to operation as occurred and the boiler has not had to cool completely to ambient temperature. The start up procedure is generally the same but the process takes approximately half of the time for a cold start up.

Periodic Testing

D.14.19 Safety valve testing is required annually for a very short time, approximately 1 minute with full steam release. Again, advance notice will be given.

Exhaust Vents

D.14.20 In its consultation response, the Public Protection Service of Plymouth City Council requested further information on noise from the exhaust vents on the roof of the boiler house, which would be employed during periods of plant shutdown both with and without baling operations in progress.

D.14.21 The noise model for baling operations was revised to include the exhaust vent. Sound power level data for the vent outlet were provided by MVV. Resultant noise levels to all receptors were calculated for daytime and night-time. Within Appendix D.14.3, the results for daytime operation are provided in Table D.14.18 and the results for night-time are provided in Table D.14.19. A 5 dB(A) penalty has been included to derive the Rating Level for both daytime and night-time. Inspection of the results in Table D.14.18 shows that the calculated daytime Rating Levels are all below the target noise level of 5 dB(A) above minimum background noise level. Inspection of the results in Table D.14.19 shows that the calculated night-time Rating Levels are all at or below the target noise level of 5 dB(A) above minimum background noise level.

D.14.22 MVV will not always be baling when the facility is shutdown, this is only necessary when shutdowns exceed approximately ten days. Additional calculations have therefore been performed to provide resultant noise levels to surrounding sensitive receptors during plant shutdown when baling operations were not being carried out. The operations in the tipping hall when baling operations are not taking place would result in reduced noise levels inside the waste bunker and the bale store (equivalent to the noise levels prevailing during normal operation). All other internal and external noise sources employed in the calculations for plant shutdown with baling operations would remain the same. The results can be found in Appendix D.14.4. The results for the night-time period are shown in Tables D.14.20 and D.14.21. Table D.14.20 shows the calculated noise levels when baling operations are in progress. Table D.14.21 shows the calculated noise levels without baling operations. There is negligible difference in the calculated noise levels, with a 1 dB(A) decrease at a couple of receptors. Night-time noise levels are dominated by the roof top exhaust vent. The results for the daytime period are shown in Tables D.14.22 and D.14.23. Table D.14.22 shows the calculated noise levels when baling operations are in progress. Table D.14.23 shows the calculated noise levels without baling operations. There is no difference in the calculated noise levels. Daytime noise levels are dominated by HGV traffic on site, the roof top exhaust vent and contributions from other sources at some receptor locations.

D.14.23 There will be no baling operations during normal operation of the plant.

Third Octave Band Data

D.14.24 In its consultation response, the Public Protection Service of Plymouth City Council requested further information on third octave sound power levels or sound pressure levels in order for it to consider the application of a 5 dB(A) penalty.

D.14.25 MVV have approached suppliers for all relevant items of plant to source third octave sound power level or sound pressure level data. Not all suppliers were able to provide this level of detail for the noise emissions of their plant.

D.14.26 Typical third octave band data for an air-cooled condenser (ACC) fan and two recooler fans (delta and star connected motors) are provided in the three documents comprising Appendix D.14.5. Inspection of the third octave band sound power levels shows that there is no third octave band for which the adjacent band levels are 5 dB or more below the level in the band. This would indicate that there is no tonal component (as discussed in BS 7445-2).

D.14.27 In assessing the noise impact of the plant (in terms of overall noise levels and in terms of the characteristics of the noise), it is the resultant noise levels at the receptors which are important. The resultant noise level at any receptor is a combination of contributions from numerous sources on site. A particular noise source, which has a potentially tonal characteristic in its third octave band sound power spectrum, need not necessarily result in a similar tonal characteristic at a receptor due to contributions in adjacent third octave bands from other sources.

D.14.28 The operational noise model, the results of which are reported in the ES, employs octave band source data. The calculation methodology is that provided in ISO9613-2, which is based on octave band data. The results from the model are in the form of overall A-Weighted noise levels, and octave band noise levels, at all receptors.

Octave Band Levels at Receptors

D.14.29 In its consultation response, the Public Protection Service of Plymouth City Council requested further information on octave band levels at various receptors, such as a noise contour map broken down by octave bands.

D.14.30 This is provided in tabular form, which it has been agreed is acceptable. The calculated octave band noise levels at all receptors for the daytime and night-time periods, resulting from the operation of the EfW CHP facility, are provided in Appendix D.14.6 in Tables D.14.24, D.14.25 and D.14.26. The receptor locations are those employed in the ES and are shown in ES Figure 4.1. The operational noise model employs octave band source data.

The EfW CHP Facility will be One of the Quietest Such Facilities in the UK

D.14.31 In its consultation response, the Public Protection Service of Plymouth City Council questioned the assertion at ES paragraph 14.5.3 that *"The chosen plant items and plant layout have been chosen to result in one of the quietest facilities of its type in the UK."*

D.14.32 In the design of the plant, a prime consideration has been the selection of low noise plant items to minimise, as far as is practicable, the noise emissions from the facility.

D.14.33 Additionally, significant attenuation has been designed into the plant, including:

- High performance ventilation openings to buildings.
- High performance wall and roof cladding to buildings.
- High performance exhaust fan silencer and acoustic enclosure.
- Very low noise ACC fans.

D.14.34 However, the statement that the plant will be one of the quietest in the UK cannot be proved conclusively, so the statement at ES paragraph 14.5.3 is withdrawn.

Elevation Drawings for all Proposed Buildings, Showing Locations and Sizes of all Ventilation Louvers

D.14.35 Following a discussion between URS Scott Wilson's noise consultant and officers of the Public Protection Service at Plymouth City Council, further information was requested in this respect.

D.14.36 Elevation sketches showing locations and sizes of louvers are provided in Appendix D.14.7. Louvre acoustic specifications are provided in Appendix 14.4 of the ES.

Information on Use of All Openings to Proposed Buildings, to Ensure the Noise Model has Accurately Represented the Operational Situation

D.14.37 Following a discussion between URS Scott Wilson's noise consultant and officers of the Public Protection Service at Plymouth City Council, further information was requested in this respect.

D.14.38 Roller shutter doors to a number of facades of the EfW CHP facility have been included within the operational noise model. Applicable sound reduction data for these doors has been employed.

D.14.39 The doors to the tipping hall have been assumed to be fully open during the daytime (when HGVs will be accessing the hall), and closed during the night-time. This is a worst-case scenario as in practice the doors will be closed when not in use. All other doors have been assumed to be closed during both day and night.

D.14.40 There may be times when personnel access doors are used by employees to enter or leave parts of the plant. However:

- Noise levels to receptors are dominated by external noise sources (ACC, stack, exhaust steam pipe), not breakout noise from the buildings.
- These doors will be open for just a few seconds and the contribution to the overall average noise levels will be negligible.

D.14.41 It is concluded that the results from the operational noise model, with the assumed door conditions, are an accurate representation of the operational situation.

Assessment of Noise Levels to Residential Properties South of the HGV Route into the Site

D.14.42 Following a discussion between URS Scott Wilson's noise consultant and officers of the Public Protection Service at Plymouth City Council, further information was requested in this respect.

D.14.43 The calculation area was extended to include receptors to the south and south-east of the EfW CHP facility. The results can be found in Appendix D.14.8. Figure 6.1 shows this area with receptors R24 to R32 indicated. Daytime and night-time noise levels to these receptors were calculated for EfW operation. The results are provided in Table D.14.27 for daytime and Table D.14.28 for night-time.

D.14.44 There are no measurements of background noise levels at R25 to R32. In Tables D.14.27 and D.14.28, the minimum daytime and night-time background noise level at these receptors have been put equal to those at R23. These levels are likely to be lower than the actual background noise levels at these receptors, since R25 to R32 are located along Wolseley Road. Hence, this

assessment is very much a worst-case. Short term measurements were carried out at R24, Wombwell Crescent.

D.14.45 For daytime, the calculated rating levels are all below the minimum background noise levels. For night-time, the calculated rating levels (assuming no + 5 dB(A) correction is required) are all well below the minimum background noise levels. With the + 5 dB(A) correction, the calculated rating levels are at or below the minimum background noise levels. It is concluded that operation of the EfW CHP facility should result in a negligible noise impact to these receptors.

Noise from Queuing Traffic

D.14.46 In its consultation response, both the Public Protection Service of Plymouth City Council and the Plymouth City Council Transportation Unit requested further information on noise from queuing traffic on the site access road.

D.14.47 The operational noise model was revised to include HGVs queuing on the access road into the site. In the same was as the results of the operational noise model without queuing (as reported in the ES), a worst-case hour was considered assuming 23 HGV in and 23 HGV out. In addition to the 23 HGV in and 23 HGV out over the course of a one-hour period, the model included 5 HGVs queuing for 30 minutes in that hour with their engines running. Figure 2.1 in Appendix D.14.9 shows the proposed site layout with the 5 HGVs indicated as point sources on the access road.

D.14.48 The results are shown in Tables D.14.29 and D.14.30 of Appendix D.14.9. Table D.14.29 shows the results for the original scenario, with no HGVs queuing on the access road. These results are those reported in the ES. Table D.14.30 shows the results for 5 HGVs queuing for 30 minutes in the 1 hour period. The effects on noise levels to surrounding receptors is that there are two receptors where the predicted rating level is just greater than 5 dB(A) above minimum background level (highlighted in yellow). At all but three of the receptors the increases in noise levels due to queuing are less than 1 dB(A). At R13 the increase is 1.0 dB(A), at R18 the increase is 1.4 dB(A) and at R19 the increase is 1.9 dB(A). This scenario is considered to be very much a worst case. During normal daytime operation it is unlikely that noise levels to any receptor will be greater than 5 dB(A) above minimum background level.

Road Traffic Noise Monitoring and Assessment

D.14.49 In its consultation response, the Public Protection Service of Plymouth City Council stated that the section of Weston Mill Drive (St Budeaux Bypass) between Wolseley Road and Carlton Terrace has been identified by Defra through their Noise Action Planning process as exhibiting excessive road traffic noise levels and as such will be the main focus of these comments. A number of requests for additional information were made in this respect.

D.14.50 A detailed response can be found in Appendix D.14.10. URS Scott Wilson on behalf of MVV undertook baseline noise monitoring in July 2011 in order to establish a baseline against which traffic noise predictions could be made. There are negligible increases in road traffic noise levels to residential receptors along Weston Mill Drive and Wolseley Road (the increases will be imperceptible to residents) resulting from both construction and operation of the EfW CHP facility. It is concluded that noise mitigation is not required to reduce the impacts of the EfW CHP facility traffic.

D.14.51 This does not negate the fact that noise levels to properties along these road links are currently high, as identified in the Defra noise mapping.

D.14.52 Clause 14 of the draft Section 106 Heads of Terms submitted with the planning application states that MVV will:

> *"…make a contribution to road safety and road noise reduction schemes within 0.5 km of the site provided that the contribution does not exceed £50,000 and that the schemes are carried out within 5 years of the commencement of the permitted development."*

D.14.53 It may be that MVV can make a contribution to reduce noise levels to these properties. The provision of noise barriers to properties on Weston Mill Drive, between Wolseley Road and Carlton Terrace, may be possible, but the landscape and visual aspects will need to be considered. The provision of noise barriers to properties on Wolseley Road is likely to be impracticable on this established road, with properties close to the road.

D.14.54 Improved glazing to properties, or provision of door insulation or new doors, would provide reductions in internal noise levels. However, the noise impacts to properties on Weston Mill Drive and Wolseley Road are dominated by existing traffic conditions, not the proposed EfW traffic. A decision would have to be made as to which properties would be treated (ref. Clause 14 above) under MVV's commitment.

D.15 Construction Waste

D.15.1 No Further Information is submitted in relation to ES Chapter 15: Construction Waste.

D.16 Daylight, Sunlight and Overshadowing

D.16.1 No Further Information is submitted in relation to ES Chapter 16: Daylight, Sunlight and Overshadowing.

D.17 Socio-economics

D.17.1 Paragraph 2.1.20 of the EEEBS submitted with the planning application stated that according to the Index of Multiple Deprivation 2007 (IMD 2007), Plymouth is the 76th (out of 354) most deprived borough in England. The IMD 2010 have now been published. Plymouth is now ranked 72 out of 326 local authority areas. The 2010 rank is similar to the 2007 rank.

D.18 Health and Wellbeing

Noise Monitoring / Positive Impacts on Well-being

D.18.1 In its consultation response, the Public Protection Service of Plymouth City Council commented in respect of paragraph 18.5.12 of ES Chapter 18, specifically seeking an understanding of the frequency of noise measurements proposed.

D.18.2 Neither MVV nor URS Scott Wilson have considered in any detail a protocol for this noise monitoring. The intention when writing the statement at paragraph 18.5.12 was to establish the principle of noise monitoring. It is our intention that the noise monitoring locations and monitoring protocol would be agreed with the relevant bodies prior to commissioning of the plant.

D.18.3 In terms of mitigation, it is the process of promoting control, inclusion and participation of members of the local communities in the operation of the facility – in this case through dialogue – that seeks to have a positive impact on wellbeing (also referred to in ES paragraphs 18.6.10 and 18.9.5), not the noise monitoring *per se*.

Construction Noise

D.18.4 In its consultation response, the Public Protection Service of Plymouth City Council commented in respect of paragraph 18.6.6 of ES Chapter 18 that further information is required on construction noise impacts and mitigation concerning nearby residential properties, particularly on Talbot Gardens.

D.18.5 Further information is provided in Section D.14 above on noise and vibration and for brevity is not reproduced here.

Mitigation During Construction

D.18.6 In its consultation response, the Public Protection Service of Plymouth City Council commented in respect of paragraph 18.6.10 of ES Chapter 18, which discusses the positive effect on the social determinants of well being throughout the construction phase. The Public Protection Service consultation response sought clarification on the nature of the positive effect, in particular for residents of Talbot Gardens.

D.18.7 Paragraph 18.6.10 initially makes reference to the mitigation measures included in the assessments for noise, air quality and transport. It then goes on to refer to mitigation identified in ES Chapter 18. It is the mitigation that promotes control, inclusion and participation of members of the local communities in the operation of the facility, which seek to promote a positive effect on the social determinants of well-being.

Operational Noise

D.18.8 In its consultation response, the Public Protection Service of Plymouth City Council noted that the noise chapter was amended prior to being submitted and that the health chapter had not been updated accordingly. Paragraphs 18.6.26-33 of ES Chapter 18 should therefore be replaced with the text in paragraphs D.18.9 – D.18.14 below.

D.18.9 The detailed computer model for the operation of the plant has been employed to calculate daytime and night-time resultant noise levels at the surrounding residential receptors. The

significance of the calculated noise levels has been assessed by comparison with the existing minimum background noise levels (for day and night periods).

D.18.10 For comparison with the existing background noise levels, the predicted daytime noise levels from the plant have been adjusted for the character of the noise (in particular, the irregular changes in noise level due to HGV movements) by the addition of 5 dB(A) to derive a Rating Level at all receptors. This Rating Level has been compared to the existing minimum daytime background noise level. At all receptors, the Rating Level was at, or below, the target noise levels, which were set at 5 dB(A) above minimum background level.

D.18.11 During the night-time period there will not be any HGV movements on site. Additionally, noise from the operation of the plant itself will be steady and broadband in nature. Consequently, no adjustment has been made to the predicted night-time noise levels and the Rating Level is equal to the predicted noise level at all receptors. At all receptors, the Rating Level was at, or below, the target noise levels, which were set at 5 dB(A) above minimum background level.

D.18.12 The World Health Organisation (WHO) Guidelines for Community Noise (1999) suggest that few people are seriously annoyed by external noise levels over the daytime and evening of 55 dB $L_{Aeq,16h}$ or less, and that few people are moderately annoyed by external noise levels of 50 dB $L_{Aeq,16h}$ or less. The prevailing ambient noise levels at surrounding residential properties are in the range 48 to 55 dB $L_{Aeq,16h}$. The predicted additional noise from the EfW CHP facility will increase these noise levels by less than 1 dB(A) and on this basis the operation of the facility is not predicted to result in a significant increase in the level of annoyance experienced by residents.

D.18.13 The WHO Night Noise Guidelines for Europe (WHO 2009) suggest self reported sleep disturbance at external noise levels as low as 42 dB $L_{Aeq,8h}$ (assuming a partially open window). The prevailing ambient noise levels at surrounding residential properties are in the range 41 to 45 dB $L_{Aeq,8h}$. The predicted additional noise from the EfW CHP facility will increase these noise levels by 0 to 2 dB(A) depending on receptor location. Predicted resultant noise levels to all surrounding residential properties will still be less than or equal to 45 dB $L_{Aeq,8h}$ and the operation of the facility is not predicted to result in a significant increase in the level of sleep disturbance experienced by residents.

D.18.14 Overall the predicted impacts of the operation of the proposed facility, including associated additional vehicle movements, on the noise climate of the affected communities is not predicted to result in a significant change in annoyance or sleep disturbance. This in turn represents no effective change to baseline health or well being as a direct result of impacts to the baseline noise climate.

D.18.15 In its consultation response, the Public Protection Service of Plymouth City Council requested clarification on the meaning of the phrase "absolute noise level" in paragraph 18.6.32.

D.18.16 In this context, the term "absolute noise level" refers to the noise level with the plant in operation.

Plymouth NHS Trust

D.18.17 A consultation response has been received from the Public Health Development Unit of the Plymouth NHS Trust dated 16 June 2011. Responses to the points made can be found in turn below.

D.18.18 In its consultation response, the NHS expressed concern that the prospective health and wellbeing impacts of the proposed facility were not adequately considered in the health and wellbeing appendix.

D.18.19 In preparing a response MVV have assumed the NHS has reviewed all relevant sections concerning health and wellbeing, namely:

- Chapter 17 of the ES, Socio-economics.
- Chapter 18 of the ES, Health and Well-being.
- Appendix 18.1: Assessment of Health Effects from Exposure to Particulate Matter, Nitrogen Dioxide and Sulphur Dioxide.
- Appendix 18.2: Health Effects arising from Emissions of Metals and Organic Substances.
- Appendix 5 to the Planning Application Supporting Statement: Health and Well-being report.

Context

D.18.20 In its consultation response, the NHS expressed concern it was possible for the reader to lose sight of the context of the proposal within the volume of submitted documentation. The NHS stated the proposal was a very large installation with the main building being nearly the height of the Plymouth Civic Centre. The chimney was cited as being 110m high and the plant being in 24 hour operation for at least 25 years.

D.18.21 The size of the building is dictated by the requirements to dispose of waste in accordance with the Waste Incineration Directive. It requires the gases to be retained in the combustion chamber for a minimum of 2 seconds at >850^{o} C. For the avoidance of confusion the building at its highest point is up to 45m high but with many lower level structures. Air quality considerations also determine the height of the chimney which will be 95m high above ground level and as the ground level is 9m AOD, the stack will be 104m AOD. For a more suitable size comparison, the height of the existing Frigate Refit Complex, also within the dockyard to the south, is 46.6m.

D.18.22 In its consultation response, the NHS expressed concern that the development is proposed adjacent to densely populated areas of western Plymouth. They stated this part of the city includes some of the poorest and most disadvantaged neighbourhoods in England (Devonport and Morice Town neighbourhoods in particular – see the *IMD 2010 – Plymouth Briefing*). They stated these neighbourhoods along with Barne Barton, North Prospect, Ham, Ernesettle and others present significant health inequalities, and this disparity has been clearly recognised (by major Local Strategic Partnership documents and local authority strategies for example) as a key concern for Plymouth (see *The Plymouth Report)*.

D.18.23 Through ES Chapter 17: Socio-economics, MVV fully acknowledges the existing socio-economic conditions in Barne Barton, Devonport and Plymouth as a whole including in particular the levels of deprivation in Barne Barton. The site was chosen for its close proximity to the Naval Base so that sustainable energy can be provided to that facility in CHP mode. The social conditions in the surrounding area were not criteria in site selection. ES Chapter 17 concludes that there are a number of socio-economic benefits associated with the proposed development, including employment benefits. In order to support employment and educational opportunities within affected neighbourhoods MVV will interview all local candidates who apply for these positions and meet the job criteria.

D.18.24 In its consultation response, the NHS stated the area has particular and unusual existing health risks. They cited the existing storage and usage of some radioactive materials at the dockyard, active plans to actually dismantle nuclear submarines and store radioactive waste at the docks with the attendant health risks. They cited existing problems of odour pollution in the area.

D.18.25 MVV acknowledges the existing odour issues as being of concern. However, with the proposed technology MVV asserts this plant will not generate odour that will make existing problems worse. In no way is the proposed development associated with radioactive materials. Devonport is a candidate site for nuclear submarine dismantling but no decisions have yet been taken by the MoD pending its public consultation programme and strategic environmental assessment.

General Air Pollution

D.18.26 In its consultation response, the NHS was unsure whether the application considers the potential air pollution caused by extra lorry journeys and other traffic generated by the development. They understood there would be at least 100 extra lorry movements per day. They cited the Council's Local Transport Plan 3 as acknowledging existing air quality problems nearby, in particular at Stoke Village.

D.18.27 The health and wellbeing assessment in the ES Chapter 18 (paragraph 18.4.7) draws on a quantitative assessment of the impact of vehicle emissions from the additional road traffic (both light and heavy duty) associated with the development which is set out in ES Chapter 13 and Appendix 13.1 (specifically Tables 5.2 and 5.3 of Appendix 13.1). The overall conclusion of the air quality assessment is that local air quality will not be significantly affected by the construction or operation of the proposed EfW CHP facility and that national air quality standards set for the protection of human health would be met at all relevant receptors in the communities most affected by the additional emissions.

D.18.28 In its consultation response, the NHS stated they were familiar with the position of the Health Protection Agency (HPA) and other official agencies that the actual incineration emissions are a minimal risk compared to other determinants of ill-health. However they remained concerned about the cumulative risks.

D.18.29 We note the reference to the position of the HPA with regards to the minimal risks to health from incinerator emissions. The Health Protection Agency is a statutory consultee on the Environmental Permit application and will be making its views known to the Environment Agency who will determine the application which has been lodged with them. The issue of cumulative risks are dealt with under 'Cumulative health risks' below.

Smell / Odour Pollution

D.18.30 In its consultation response, the NHS asked for a guarantee that the development would not add to existing local problems of bad odours. The bad smell problem arising from the presence of the Camels Head sewage works was cited as being a well known local problem, sometimes called the 'Keyham pong' in the local press.

D.18.31 A quantitative assessment of the effect of odorous emissions associated with the proposed EfW CHP facility has been undertaken using the methods outlined in Section 3.4 of Appendix 13.1 within the ES. The ES reported that with incorporated abatement, any odours generated would be unlikely to be detected (see paragraph 5.4.30 of Appendix 13.1).

D.18.32 In its consultation response, the NHS cited a lingering bad smell around the home and local park as the cause of negative health effects such as stress, a disincentive to take exercise and so on. A recorded problem of air pollution from unpleasant odours was stated as remaining despite some improvements to the sewage works. A senior Health Protection Consultant was cited as saying a sewage works would not be build amidst large residential areas under contemporary planning policy.

D.18.33 Adequate control of odour emissions would be one of the requirements of any Environmental Permit for the installation. The proposed EfW CHP facility includes a number of features designed to contain odour within the building envelope including negative pressurisation of the building during normal operation and a separate and independent shutdown exhaust system during shutdown when the plant is not burning waste. MVV's experience of its own and other plants in Germany and the UK is that odour from EfW facilities is not a cause of concern.

Noise and Vibration

D.18.34 In its consultation response, the NHS requested a clear non-technical explanation of the likely noise and vibration impacts of both the plant and the traffic.

D.18.35 A non-technical summary is provided in Appendix D.18.1.

Severance

D.18.36 In its consultation response, the NHS stated that national (e.g. the Department for Transport) and local policy-makers accept that high levels of traffic in residential areas can have negative health effects because of severance, i.e. that high traffic levels discourage people from walking, cycling, crossing road, visiting neighbours, using facilities. The NHS stated that the perception of risk can be an additional problem. These were stated as having recognised negative health effects which limit people's ability to be active, to use services and to develop social capital and relationships. The NHS were concerned that existing high traffic levels along several roads near residential areas in Western Plymouth already present a severance issue, and that the proposed development would increase this problem.

D.18.37 Concerns regarding traffic are acknowledged and are considered adequately dealt with in the ES. A qualitative assessment of severance was included in Chapter 12 of the ES: Traffic and Transport, which concluded that *"the change in severance experienced by the public and residents of the local area will be minimal, for both pedestrians and drivers, as no changes to the external highway network are required to deliver the EfW CHP."* Through a comprehensive quantitative assessment development-related traffic has been shown to be of the order of 1% on all external links to the site access. The main access to the site from the A38 only passes directly adjacent to the residential development alongside the Camels Head to Carlton Terrace section of Weston Mill Drive. The Camel's Head junction into the dockyard itself will undergo modification as part of the proposals (see Planning Application Drawing PA 19A). The proposals include the provision of footways and breaks in guardrails to allow pedestrians to cross this junction, which they presently cannot do, thereby improving the existing situation. As part of the Section 106 Draft Heads of Terms, items 14 and 16 relate to road safety/access as follows:

- 14) To make a contribution to road safety and road noise reduction schemes within 0.5km on the site provided that the contribution does not exceed £[50,000] and that the schemes are carried out within 5 years of the commencement of the permitted development.

- 16) To pay for reasonable modifications including dropped kerbs and disabled crossing to the Wolseley Road / Camel's Head Gate junction to improve pedestrian access and enable employees to walk to work up to a limit of £[xx].

Loss of Amenity

D.18.38 In its consultation response, the NHS stated that MVV acknowledged the proposal as having 'the potential to impact on the social determinants of wellbeing'.

D.18.39 The NHS stipulated this must include consideration of how the development might impact upon the determinants of mental health such as 'enhancing control' (belief in own capabilities, independence etc) and 'increasing resilience' (emotional wellbeing, healthy lifestyle etc), as cited in the *Mental Wellbeing Checklist* published by the National Mental Health Development Unit.

D.18.40 The NHS expressed concern that the development could potentially have a negative impact upon the emotional and mental health of local people. They outlined the existing conditions for local people, being that they are relatively economically disadvantaged and relatively physically isolated from the city centre and many services (especially Barne Barton). The area was stated as having an acknowledged lack of services and a previous history of being an area where people – often with recognised health and social problems - were 'dumped' in poor quality social housing. Housing quality was stated as now improving along with some facilities.

D.18.41 The NHS expressed concern that residents could now anticipate the 2.5 year construction of a large industrial plant, which would then proceed to burn, non-stop, the sub-region's rubbish for at least a quarter of a century.

D.18.42 The guidance provided by the National Mental Health Development Unit (NMHDU) has been used within ES Chapter 18 to consider how the development might impact upon the social determinants of well-being (see paragraph 18.4.6 of ES Chapter 18). The assessment considers whether the proposed development and incorporated mitigation would have a positive or negative effect on core protective factors for mental well-being. These factors (identified by the NMHDU) are:

- enhancing control;
- increasing resilience and community assets;
- facilitating participation; and
- promoting inclusion.

D.18.43 In its consultation response, the NHS quoted a local resident as saying: *"Of course they're building it here! Everyone thinks we're just rubbish down here anyway".* The NHS stated this phrase encapsulated the worry that the development threatens to contribute to perpetuating health inequalities, and stated that feeling reasonably contented about where one lives is an important contributor to emotional wellbeing.

D.18.44 The potential for individuals' fears and worries about perceived health impacts to adversely affect well-being is identified within the assessment and mitigation measures have been incorporated within the design of the proposal that seeks to minimise the potential for such impacts on the health and well-being of the local population (Section 18.5 of ES Chapter 18). The following measures will be adopted to promote control, inclusion and participation of members of the local communities in the operation of the facility:

- Inclusion of a visitor centre;
- The Incinerator Liaison Committee;
- Air pollution measurement for the facility will be reported on a publicly accessible website on a weekly basis to enable comparison of actual emissions against permitted limits; and
- Regular noise measurement data will be reported on a publicly accessible website to enable comparison of actual emissions against permitted limits.

D.18.45 In its consultation response, the NHS expressed concern that there will be negative impacts upon populations already prone to poor mental health. They were also concerned there would not even be the health benefit of significant job creation arising from the development.

D.18.46 Section 3 of the Energy, Economy, Employment and Education Benefits Statement (Appendix 4 of the Planning Application Supporting Statement) provides details of the job creation associated with the facility. This includes not just the 33 jobs directly on the site but also additional jobs created as a result of sub-contractor activity and the plant's construction.

D.18.47 The NHS cited *The Plymouth Report (p21)* as containing the latest statement of the city's health priorities. For reasons it previously stated, the NHS feared the development may hinder progress around (for example) the stated priorities of tackling health inequality and improving mental health promotion.

D.18.48 ES Chapter 18 specifically considers the impact of the proposal in the context of the health priorities stated within The Plymouth Report (see paragraph 18.6.39) and does not identify any significant potential for the development to hinder progress around the stated priorities.

Cumulative Health Risks

D.18.49 In its consultation response, the NHS stated a risk assessment is required to consider the cumulative health risks arsing from this proposal (referring MVV to DCLG guidance for Strategic Environmental Assessment etc).

D.18.50 The NHS cited existing concerns about air quality in parts of western Plymouth. (There are also current calls by some air quality specialists for the UK government to generally apply higher standards regarding air quality, arguing that the UK commonly does not achieve recommended European Union air quality standards in urban areas.)

D.18.51 The NHS acknowledged 'deprivation' as being a key factor in influencing health outcomes in many parts of western Plymouth, but stated the fact remains that the very young and old and those with particular health conditions (eg asthma) remain at particular risk from poor air quality. The unusual existing health risks in the area (storage and usage of some radioactive materials at the dockyard; plus active current plans to actually dismantle nuclear submarines and store further waste in the dockyards) were cited.

D.18.52 Concern was therefore expressed by the NHS that in public health terms we have the scenario of a range of increasing health risks (however minor or remote each individual risk may seem) to a local population already vulnerable to health inequalities.

D.18.53 The ES (see paragraph 18.3.5) contains a detailed discussion of local air quality within and surrounding the application site. We note that areas at risk of exceeding national air quality objectives, set for the protection of human health, are limited to within a few tens of metres of specific road junctions. These are at Mutley Plain and Exeter Street, both within central

Plymouth. Air quality in western Plymouth is currently of a very good standard based on the results of the air quality monitoring undertaken by URS Scott Wilson and by Plymouth City Council.

D.18.54 In no way is the proposed development associated with radioactive materials. Devonport is a candidate site for nuclear submarine dismantling but no decisions have yet been taken by the MoD pending its public consultation programme and strategic environmental assessment.

D.18.55 The risks of cumulative impacts on air quality, the noise climate and road traffic flows have been reported in the ES and this information has formed the evidence base used in the assessment of health and well-being effects.

Extreme Weather Events and Climate Change

D.18.56 In its consultation response, the NHS noted the development is proposed for a coastal location. They cited accumulating evidence that extreme weather events (e.g. flooding, storms, tidal surges) are increasingly common as climatic changes gather speed. They stated existing forecasts of sea level rises in Plymouth (e.g. the current Flood Strategy) may well be out of date as scientific predictions change to reflect the continued increase in global warming. The NHS stated they would therefore like to see a review of the latest data regarding the safety of the site in the light of extreme weather and climactic changes affecting the proposed plant.

D.18.57 The Flood Risk Assessment (FRA) (ES Appendix 11.1), prepared in consultation with the Environment Agency and submitted with the planning application, considers the risk of flooding both to and from the development. Hydraulic modelling was carried out as part of the FRA and the assessment includes the consideration of climate change. The methodology was agreed with the Environment Agency. The results are summarised in section 4.7 of the FRA and are outlined below.

D.18.58 The proposed EfW CHP facility is located on land outside of the fluvial and tidal extents for Flood Zone 3, Flood Zone 2 and Flood Zone 3 including climate change. Therefore the built development area of the site should be considered as Flood Zone 1, i.e. the zone with the lowest risk of flooding.

D.18.59 The proposed access road, accounting for the proposed localised raised levels, is located outside the fluvial extent for the Flood Zone 3, Flood Zone 2 and Flood Zone 3 including climate change and therefore any proposed level changes to the access route would not diminish the fluvial floodplain. This access route is also located outside of the tidal Flood Zone 3 extent.

D.18.60 Where considering the tidal extents for Flood Zone 2 and Flood Zone 3 including climate change scenarios parts of the on site access road in the vicinity of the Weston Mill Viaduct experience flooding with depths less than 0.3 m and 0.5 m respectively. It is proposed to raise the level of the access road to a minimum of 4.49mAOD to ensure that there is no flood hazard along the on site access road at this location.

D.18.61 Where considering site access and egress beyond the site boundary, dry safe access and egress is achievable via Wolseley Road to the north-west during all tidal scenarios considered and the present day fluvial Flood Zone 3 scenario. With the exception of a period less than 4 hours over the modelled flood peak (where the flood hazard is 'danger for most') dry safe access and egress is also achievable along this route during the fluvial Flood Zone 2 and fluvial Flood Zone 3 including climate change scenarios.

D.18.62 Modelled floodwaters coming out of bank upstream of the Wolseley Road Culvert during the fluvial Flood Zone 3 and the tidal Flood Zone 3 including climate change scenarios are contained within the subway void and therefore no floodwaters would flow down Weston Mill Drive. It is important to note that such modelled flows are predicted with or without the EfW CHP facility.

D.18.63 Modelled flooding is observed during the Flood Zone 2 and Flood Zone 3 including climate change scenarios along Weston Mill Drive, the more likely access route for delivery of waste generated outside the City. Flood depths associated with these scenarios are predominantly less than 0.3 m, however flood depths of 0.5 m are predicted for limited periods of time either with or without the EfW CHP facility. The associated flood hazard is 'danger for some' and 'danger for most'. It should be noted that these peak flood depths and associated hazards would only be experienced for a short duration (less than 4 hours) over the tidal peak, after which flood waters would recede.

D.18.64 Outline Emergency Management Arrangements have been agreed with the MoD to cover a range of events. In the event of extreme flooding at the Camel's Head entrance into the dockyard, exit from the site would be possible through an Emergency Gate close to the workshop building on the West side of the EfW site via the new Bull Point Access Road (see Planning Application Drawing PA 20B) or through an Emergency Gate South East of the new clear span bridge (see Planning Application Drawing PA 22) into the dockyard. Vehicles would be escorted through the dockyard and would leave the dockyard via the Albert or Granby Gates.

Mitigation Measures and Draft Head of Terms (Section 106)

D.18.65 In its consultation response the NHS expressed concern that the mitigation measures stated in the draft Head of Terms do not have the 'potential to improve the overall health and wellbeing of the population'. They would like to see improved benefits for the community infrastructure of western Plymouth and Barne Barton in particular.

D.18.66 In its consultation response, the NHS view was that it seems only reasonable for residents of Barne Barton to benefit from reduced price 'heating… supply' and electricity produced by the EfW plant. Some households in the neighbourhood were stated as being at clear risk from fuel poverty due to their reduced household income and rising energy costs etc. The NHS requested an explicit commitment to this. The possibility of the subjection of the heating supply to a feasibility study was acknowledged and the NHS expressed hope that the electricity supply at reduced cost could be confirmed.

D.18.67 A feasibility study has been prepared and submitted in this report (Appendix C.5.3) and discussions have taken place with the social landlords in the area and other parties involved in the CESP initiative. The scope of the study has been discussed with Plymouth City Council. The heads of terms of the proposed Section 106 agreement will be adapted following negotiation with PCC taking the above into account with MVV being prepared to commit to specific capital sums for investment in such schemes agreed to be the most appropriate.

D.18.68 In its consultation response, the NHS feared the proposed local employment scheme may not yield many apprenticeships due to the market conditions prevailing upon construction processes and costs and the small labour force required to operate the plant. They expressed the need for the 106 agreement to give clearer figures regarding the expected benefits for local unemployed people.

D.18.69 As noted above, section 3 of the Energy, Economy, Employment and Education Benefits Statement (Appendix 4 of the Planning Application Supporting Statement) provides details of the job creation associated with the facility.

D.18.70 In its consultation response, the NHS requested more details of the annual apprenticeships scheme and some guarantee that it will favour residents from the affected neighbourhoods.

D.18.71 MVV will use its existing rolling two year apprenticeship scheme to train potential employees for the roles of Operations Engineer and Mechanical Engineer. In the first instance this will create 2 apprenticeships. This apprenticeship scheme will then be kept under review by MVV to see if it can be repeated.

D.18.72 The apprentices will undergo a comprehensive training programme which will cover both practical and theoretical knowledge. The post holders will initially be trained at MVV's EfW facility in Mannheim with the additional possibility of internships at MVV's other facilities, such as MVV's EfW plant in Leuna. They will also undergo training in power plant management at the Kraftwerkerschule Essen (Essen Power Plant College) before being assigned to the EfW facility in Plymouth. In addition, the basics of commercial activity will be taught commensurate with the requirements of these engineering roles. Following this, they will then be deployed as operations, planning and maintenance engineers, on smaller projects.

D.18.73 To facilitate these apprenticeships MVV has already instigated and attended a number of meetings with Plymouth City College and Plymouth University to determine how it can best link these apprenticeship opportunities into their existing programmes.

D.18.74 Job advertisements for these apprenticeships will be placed with the local JobCentre Plus as well as all the organisations listed, to ensure that local residents are aware of, and can apply for these posts. In order to support employment and educational opportunities within affected neighbourhoods MVV will interview all local candidates who apply for these positions and meet the job criteria. However, MVV cannot guarantee that the apprenticeships will be filled by residents from affected neighbourhoods, as this would be discriminatory.

D.18.75 In addition to the 2 apprenticeships to be created directly with MVV, the company will offer a sponsorship fund of £15,000 p.a. to support up to 5 local apprenticeships under the draft S.106 agreement. It is MVV's intention that this fund should be used to support small local businesses, such as those described above who supply services for the project, to enable them to take on apprentices.

D.18.76 MVV have also discussed the issue of apprenticeships with our civil engineering contractor, Kier, who are currently implementing a bespoke apprenticeship initiative as part of their Corporate Social Responsibility programme. This initiative targets the creation of specific numbers of apprenticeships in proportion to the economic value of a build. In the case of this project this would equate to the creation of 3 apprenticeships. These apprenticeships will be advertised via the national apprenticeship website, but with a local commitment.

D.18.77 One of MVV's key objectives in its engagement with local bodies is to let local people know what basic levels of knowledge and skills are required to enable them to access, not only the apprenticeships, but other specific roles required for the project. To this end, MVV are working with the University and City College to determine how the company can best support these, and other, local organisations in delivering the skills and knowledge required.

D.18.78 In its consultation response, the NHS considered the anticipated financial profitability of the development for MVV over a 25 year period. They therefore favoured a larger Community Fund which is under independent control and not subject to the same restrictions as the Landfill Tax Credit scheme, which has had many critics and has often had limited benefit for local communities.

D.18.79 They stated the proposed Community Fund should be subject to democratic management through local Councillors and other democratically selected representatives.

D.18.80 When deciding on the community fund, MVV took into consideration the scale of the project and sought to align the community fund to this. MVV believes that the figure of £52,000 p.a. (£1,000 per week), coupled with the other community benefits proposed, represents a significant contribution to the local community commensurate with the scale of the project. By agreement with PCC the Community Fund will be administered by an independent body taking advice from the Incinerator Liaison Committee.

D.18.81 In its consultation response, the NHS stated the proposed Community Liaison manager should have a positive neighbourhood management brief in order to try and improve community life in Barne Barton etc and their role should be managed by the local authority or a similar arrangement

D.18.82 It has always been MVV's intention that the role of Community Liaison Manager, whilst focussing on the waste awareness agenda, should be flexible to include wider engagement with local communities and other relevant stakeholders. A job description for the role is attached for information (Appendix C.5.8).

D.18.83 In its consultation response, the NHS did not regard the planned Visitor centre as a community benefit for western Plymouth. For example, there are plenty of local venues for community meetings in more convenient locations. Similarly the green space improvements adjacent to the plant and the proposed road infrastructure improvements. The NHS could not predict the usual green space health benefits arising from green space adjacent to the development. The NHS did not envisage either of these proposals as fulfilling the community infrastructure benefits required by the legislation.

D.18.84 MVV acknowledges that there are already two good quality community centres in Barne Barton (Tamar View) and St Budeaux. Notwithstanding this fact, MVV is offering the use of its Visitor centre for community use and anticipates that the main users would come from the Weston Mill and North Prospect areas. Further detail about the Community Area can be found above in Section C.5. Items 10, 11, 12, 14 and 16 of the draft s106 Heads of Terms (Appendix 8 of the Planning Application Supporting Statement) are relevant with regard to green space improvements and road infrastructure improvements.

D.18.85 In its consultation response, the NHS proposed that MVV undertake to help sustain a taxi-bus service of similar for Barne Barton residents, to help overcome the isolation of the neighbourhood, isolation which will most likely be compounded by the construction and operation of this plant.

D.18.86 This issue will be discussed with PCC as part of the negotiations on the Section 106 Agreement. It should be noted that, there is already a taxi bus service in the area which is supported by Plymouth City Council.[9]

D.18.87 In its consultation response, the NHS suggested that the developers work with the local authority and the different groups within the local community to ascertain the best methods for delivering community benefit within a flexible interpretation of the 'CIL Regulations'.

D.18.88 MVV is already working with the local authority and local people, as described in the Statement of Community Involvement submitted with the planning application (Appendix 2 to the Planning Application Supporting Statement). MVV has openly sought specific proposals from the local community on other appropriate benefits it may offer, and continues to do so. An Incinerator Liaison Committee has been set up and has begun meeting. A draft S106 Heads of Terms were submitted as part of the panning application (Appendix 8 to the Planning Application Supporting Statement).

[9] See http://www.plymouth.gov.uk/homepage/transportandstreets/publictransport/buses/taxibus.htm (17.08.2011)

D.19 Inter-relationships and Cumulative Effects

D.19.1 No Further Information is submitted in relation to ES Chapter 19: Inter-relationships and Cumulative Effects.

D.20 Summary

D.20.1 No Further Information is submitted in relation to ES Chapter 20: Summary, but a Non-Technical Summary of all of the Environmental Statement Further Information presented above is provided overleaf.

D.21 Non-Technical Summary

Land Use: the Site and Surrounding Area

D.21.1 No further information was required by Plymouth City Council in its Regulation 19 request nor is it required in order for the planning application to be determined, but for reasons of completeness information is submitted concerning reptile habitat creation and translocation.

D.21.2 A planning application was made by MVV on 11 August 2011 for the installation of three trial piles to provide information to support potential development of land at North Yard, Devonport.

Alternatives to the Proposed Development

D.21.3 Following the Regulation 19 request for further information, Chapter 5 of the ES, 'Alternatives to the Proposed Development', has been re-written and has been provided as an appendix.

Description of the Proposed Development

D.21.4 The Environment Agency requested additional information regarding ash residues, the tipping hall / waste bunker, liquid effluent, materials storage, and construction method statements. Further information has been provided in these respects.

D.21.5 The Public Protection Service of Plymouth City Council stated that the planning application documents make no mention to undertaking a comprehensive site survey for vermin, to include all redundant sewers and drain networks, or comprehensive baiting programme prior to site clearance and construction; an operational plan to deal with the control of pests and vermin will also be required. MVV is prepared to undertake a site survey for pests, a pre-baiting programme and a baiting programme in advance of construction. A number of good operational practices have been identified to manage and control the risk from vermin, insects and pests during operation. MVV will inspect the facility on a weekly basis for pest infestation and, where a problem arises, appropriate action will be taken by a suitably licensed pest control sub-contractor.

Ecology and Nature Conservation

D.21.6 A new security grill of 150mm x 150mm gauge will be installed under the proposed open span bridge crossing Weston Mill stream. It is not considered that the grill would have any detrimental effect on the migration of juvenile or adult European eel up or downstream of the structure. The Environment Agency considers this gauge of grill to be sufficient to allow the passage of otters.

D.21.7 MVV and its consultants have considered the Environment Agency's suggestions regarding further biodiversity enhancement of the surface water swale that runs at the back of the site. Some of the suggestions have been incorporated into the design but some are not viable.

D.21.8 The Ecological Management Plan has been updated and is provided as an appendix.

D.21.9 Ecological mitigation and enhancement measures proposed in the ES are summarised. It is recommended that biodiversity gain is achieved by the provision of off-site enhancements at a local site or sites of wildlife interest in accordance with Plymouth City Council's Core Strategy Policy CS19.

D.21.10 A marine estuary survey has been undertaken and the results provided. The results do not alter the conclusions of the ES.

D.21.11 Clarifications and further information have been provided concerning emissions from the chimney and their effects on ecological receptors.

Landscape and Visual

D.21.12 Following comments received from Plymouth City Council's Urban Planning Co-ordinator, and subsequent discussions, URS Scott Wilson's Chartered Landscape Architect and Landscape and Visual Impact Expert Witness have revised the landscape and visual impact assessment.

D.21.13 The key amendments are as follows:

- The policy section has been updated with a greater emphasis on objectives in the Core Strategy and Plymouth Waste DPD, and criteria within the Sustainable Design SPD.
- Additional photomontages have been produced showing vapour plumes in varying climatic conditions.
- Amendments have been made to the 'sensitivity' and 'magnitude of impact' categorisation of certain Landscape Character Areas (LCAs) and Visual Receptors. These amendments have then been reflected in the overall 'Significance of Effect'.
- The notes within Appendix 8.1, Table C: Visual Receptors, Impacts and Effects have been refined to adhere more closely with the Landscape Institute and Institute of Environmental Management and Assessment (2002) 'Guidelines for landscape impact and visual assessment' 2nd Edition.

D.21.14 In conclusion, these modifications have resulted in no change to the impacts for the LCAs. There has been some increase in the number of Visual Receptors experiencing significant adverse effects. However, this has not altered the overall conclusion of the landscape and visual impact assessment. It remains the case that the siting, orientation, design and materials have all been developed by the experienced design team to create a landmark and feature building which will complement the surrounding Dockyard and form a positive, impressive feature within the landscape of Plymouth.

Cultural Heritage

D.21.15 A photomontage has been prepared to show the relationship between the proposed development and the group of listed buildings at HMS Drake. The Cultural Heritage assessment identified a visual link between the EfW CHP facility and HMS Drake; however, the significance of the setting of the listed buildings will not be impacted. This is not because of the level of the visibility, but rather the nature of the historic site as an enclosed complex with historic and evidential value as a group. It is the relationship of the buildings to one another that is of importance, rather than their relationship with elements outside the complex, which has already been eroded by modern development. The photomontage provides an idea of the impact of existing modern development surrounding the site. The proposals will not impact on views of one building to another or the parade ground and therefore on the significance of the historic structures as a group.

D.21.16 The proposed cable and pipeline routes for the EfW CHP facility run along areas of previously disturbed, truncated, levelled or reclaimed land. The only archaeological potential identified in

the ES was the possibility of the alluvial layers beneath the made ground in the areas of reclaimed land to contain palaeoenvironmental evidence. None of the proposed cable or pipe routes will be inserted below the depth of the made ground and will therefore have no impact. Where proposed cable routes run in areas of archaeological potential such as the 33kV route near the listed buildings of HMS Drake, it will be ensured that the insertion of the cable does not damage any of the fabric of the listed structures. There is not likely to be any below-ground impact on this route due to the extensive development which took place in the later 20th century with the creation and expansion of the dockyard. This is likely to have truncated any archaeological deposits in the area.

D.21.17 Due to the negligible quantity of sulphur dioxide that will be present in the ambient air as a result of the EfW CHP facility the construction of the EfW CHP facility is not expected to pose a risk to the fabric of buildings at HMS Drake.

Contamination: Land and Water Quality

D.21.18 Additional monitoring of ground gas levels at the site has been undertaken and a supplementary report has been appended. The report found that there is no valid potential source of harmful landfill-type ground gases that may affect the proposed development. Ground gas precautions in addition to the "basic" precautions outlined in BRE BR211 (2007) are not necessary for the proposed building. As there is no valid mechanism for ground gas emissions to increase it is considered that there will be little benefit in undertaking additional ground gas monitoring. It is considered that the proposed development is in compliance with guidance published in PPS23 (2004).

Hydrology, Hydrogeology and Flood Risk

D.21.19 Evidence has been prepared to show that the Planning Policy Statement 25: Development and Flood Risk 'Sequential Test' has been adequately carried out for the proposed EfW CHP facility. The assessment, coupled with the Flood Risk Assessment (FRA) and the alternative sites evaluation in ES Chapter 5, concludes that there are no alternative sites with a lower probability of flooding which would be appropriate for the EfW CHP Facility.

D.21.20 Amendments to the surface water drainage strategy have been made and further information provided.

D.21.21 Details have been provided as to the monitoring programme proposed to access hydrological change.

Traffic and Transport

D.21.22 A number of clarifications / queries posed by Plymouth City Council's Transportation Unit regarding junction models and traffic growth forecasts have been addressed.

D.21.23 Further information on the numbers of HGV movements has been provided. The results of the percentage impact calculations show that for the assessed junctions (Saltash Road, Wolseley Road/A3064, Carlton Terrace, and A38 junctions) the percentage change for all traffic between the without-development and with-development scenarios is below or just over 1% at all of the junctions. The largest impact is at the A38 junctions when a 12 hour flow is considered. This impact however is very low at 1.12%. With regard to the percentage impact of HGVs the largest increase in vehicles is in the afternoon peak at the Wolseley Road / A3064 junction with a

60.49% increase in HGVs. This increase looks high, however it should be noted that actually represents 16 HGVs, which equates to one HGV every 3 to 4 minutes.

D.21.24 A number of clarifications have been made regarding on-site layout and vehicle movements.

D.21.25 Clarifications sought regarding loss of car parking spaces, cycle parking and construction workers have been addressed.

D.21.26 Trip generation data has been clarified.

D.21.27 The Waste Miles Assessment methodology has been amended.

D.21.28 Queries regarding the assumed amount and delivery timings of Commercial and Industrial waste arriving have been addressed. Clarification as to the working / operational year has been provided.

D.21.29 Further analysis has been undertaken concerning the operation of the constituents of the Weston Mill junction complex. It is not considered that the proposed development would have a detrimental impact on the operation of the Highways Agency's Strategic Road Network.

D.21.30 A Technical Report has been produced concerning the road safety record of the A38 Weston Mill junction. The report indicates that the development may lead to an increase in traffic passing through the junction, however this will not have a significant effect on the overall safety of the junction.

Air Quality

D.21.31 The results of the complete air quality monitoring survey, providing a summary of the total of ten months of diffusion tube monitoring and ten months operation of the continuous monitoring station, have been provided. The results do not change the conclusions of the air quality assessment presented in the ES.

D.21.32 A clarification has been made in respect of other existing and proposed industrial emission sources in the area.

D.21.33 Further information has been provided regarding emissions to air (odorous and pollutant) that will be associated with the commissioning of the plant and the restarting of the plant after periods of shut down for maintenance and/or breakdown. Cold and warm start ups have been covered.

D.21.34 Further information has been provided regarding fuel oil content and usage.

D.21.35 The ES is clarified as having considered emissions of $PM_{2.5}$.

D.21.36 While odours are in theory possible during excavation due to decomposing organic material and hydrogen sulphide, the risk of odorous emissions during the construction phase is considered negligible.

D.21.37 Each partner council in the SWDWP has reviewed their current and future delivery vehicle arrangements and have considered the associated potential odour and emission issues. Further information is provided in this respect. Under the terms of its Environmental Permit, MVV will be required to maintain and implement an Odour Management Plan.

D.21.38 Further information regarding the vehicle emission standards of the waste delivery vehicles has been provided.

D.21.39 The potential for construction dusts to have adverse effects on amenity has been clarified and appropriate references to the ES made.

D.21.40 For clarification, the wind roses shown in Figure 3.1 within ES Appendix 13.1 show the direction from which the wind is blowing, not the direction to which the wind is blowing.

Noise and Vibration

D.21.41 Further information regarding the impact of construction noise and mitigation concerning nearby residential properties has been provided.

D.21.42 Further information has been submitted regarding noise during plant commissioning and start-up, noise from exhaust vents on the roof of the boiler house, and third octave sound power levels.

D.21.43 Significant noise attenuation features have been designed into the plant, including:

- High performance ventilation openings to buildings.
- High performance wall and roof cladding to buildings.
- High performance exhaust fan silencer and acoustic enclosure.
- Very low noise air cooled condenser (ACC) fans.

D.21.44 However, the statement that the plant will be one of the quietest in the UK cannot be proved conclusively, so the statement at ES paragraph 14.5.3 is withdrawn.

D.21.45 The operational noise model was revised to include HGVs queuing on the access road into the site. During normal daytime operation it is unlikely that noise levels to any receptor will be greater than 5 decibels above the background level.

D.21.46 Additional noise monitoring was undertaken in July 2011 along Weston Mill Drive. The noise impacts to properties on Weston Mill Drive and Wolseley Road are dominated by existing traffic conditions, not the proposed EfW CHP facility traffic.

Socio-economics

D.21.47 According to the Index of Multiple Deprivation 2007 (IMD 2007), Plymouth is the 76th (out of 354) most deprived borough in England. The IMD 2010 have now been published. Plymouth is now ranked 72 out of 326 local authority areas. The 2010 rank is similar to the 2007 rank.

Health and Wellbeing

D.21.48 Further information has been submitted and referrals made to appropriate sections of the planning application documents to address the Public Protection Service of Plymouth City Council's comments regarding noise and well-being.

D.21.49 Further information has been submitted and referrals made to appropriate sections of the planning application documents to address the Public Health Development Unit of the Plymouth NHS Trust's concerns.

D.21.50 A section of the 'Health and Well-being' paper is clarified as meaning it is the process of promoting control, inclusion and participation of members of the local communities in the operation of the facility – in this case through dialogue – that seeks to have a positive impact on wellbeing.

E.1 Response to Letters of Representation

E.1.1 A number of letters of representation have been received in relation to the planning application. MVV has analysed these and provides it's responses in Appendix E.1.1.