
TECHNICAL NOTE – Supplementary Waste Miles Assessment

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This document has been prepared to supplement the Transport Assessment and is submitted to PCC for their approval.

1. Purpose

The purpose of this Technical Note (TN) is to respond to comments that have been provided by Plymouth City Council (PCC) concerning the Waste Miles Assessment contained within the Transport Assessment (TA) and associated Annexes submitted in support of the proposed Energy from Waste Combined Heat and Power (EfW CHP) facility at North Yard, Devonport.

Following the submission of the TA and associated documentation, PCC has since requested that two parts of the analysis be revisited. In this case, the first concerns trips generated from Plympton and the second concerns the movement of bottom ash and air pollution control residue. Both of these matters are discussed in turn herein.

2. Original Waste Miles Assessment

Annex G of the TA presented a 'Waste Miles' assessment, comparing distances and time travelled for waste related vehicles to access the proposed MVV facility at North Yard, Devonport with three other comparator sites, as identified below:

- Potential facility at New England Quarry
- Potential facility at Ernesettle
- Potential facility at Coypool

The results of the investigations indicated that the proposed MVV facility at Devonport would result in approximately 199 – 219 hours of travelling on a weekly basis, depending upon the Refuse Transfer Station (RTS) location. Only the potential facility at Coypool was predicted to generate fewer waste miles. TABLES 2.1 and 2.2 show the results of the original waste miles assessments.

TABLE 2.1 Two-Way 'Waste Miles' Comparison – as per Transport Assessment (Annex G)

EfW Location	Distance Travelled miles per week	Distance Travelled km per week	Time Travelled hours per week
Devonport	8729	14049	199
New England Quarry	10012	16112	258
Ernesettle	8865	14267	204
Coypool	7713	12413	180

TABLE 2.2 Two-Way 'Waste Miles' Comparison (Revised RTS Assumptions) – as per Transport Assessment (Annex G)

EfW Location	Distance Travelled miles per week	Distance Travelled km per week	Time Travelled hours per week
Devonport	7694	12383	219
New England Quarry	8910	14339	265
Ernesettle	7822	12588	223
Coypool	6686	10761	197

3. Supplementary Assessment – PCC RCV Waste Vehicles from Plympton

PCC has requested that PCC RCV vehicles which finish their rounds in Plympton should be analysed on the basis that they would travel directly to New England Quarry and not be bulked at Chelson Meadow, as previously assumed in the original waste miles analysis and presented within the TA (Annex G).

In order to estimate the number of PCC RCV vehicles that would finish their round in Plympton, data supplied by the SWDWP showing the last street at the end of each round was interrogated. In total, 148 end points for PCC RCV collections in Plymouth were listed per week. Of these, 16 were in Plympton and it has therefore been calculated that 11% (16 / 148) of the weekly PCC RCV trips end in Plympton, and may therefore travel direct to New England Quarry.

The results of this supplementary analysis are presented at **TABLES 3.1** and **3.2**.

TABLE 3.1 Two-Way ‘Waste Miles’ Comparison – Supplementary Assessment (PCC RCV Waste Vehicles from Plympton)

EfW Location	Distance Travelled miles per week	Distance Travelled km per week	Time Travelled hours per week
Devonport	8729	14049	199
New England Quarry	10034	16149	259
Ernesettle	8865	14267	204
Coypool	7713	12413	180

TABLE 3.2 Two-Way ‘Waste Miles’ Comparison – Supplementary Assessment (PCC RCV Waste Vehicles from Plympton - Revised RTS Assumptions)

EfW Location	Distance Travelled miles per week	Distance Travelled km per week	Time Travelled hours per week
Devonport	7694	12383	219
New England Quarry	8932	14375	266
Ernesettle	7822	12588	223
Coypool	6686	10761	197

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.

There are no changes to the analysis for the other sites, as the supplementary assessment only relates to amending the routing of 11% of PCC RCV vehicles to New England Quarry, as requested by PCC, and explained above.

An overall summary of the waste miles assessment and supplementary analysis is presented below at **TABLE 3.3**, based on the information presented above.

TABLE 3.3 Two-Way 'Waste Miles' Comparison – Summary (Time Travelled Hours per Week)

EfW Location	TA	Supplementary	TA (Revised RTS)	Supplementary (Revised RTS)
<i>As Reported at</i>	<i>Table 2.1</i>	<i>Table 3.1</i>	<i>Table 2.2</i>	<i>Table 3.2</i>
Devonport	199	199	219	219
New England Quarry	258	259	265	266
Ernesettle	204	204	223	223
Coypool	180	180	197	197

4. Supplementary Assessment – Bottom Ash and Air Pollution Control Residue Disposal

PCC has also requested that a comparison should be undertaken of the distances and travel time associated with the waste processing outputs of these sites, namely the Incinerator Bottom Ash (IBA) and Air Pollution Control Residue (APCR).

In line with the methodology and information presented in Annex G of the TA, a desk-based study has been undertaken using an internet based route finder. Additionally, a number of assumptions have been made in order to inform the calculations. These assumptions have been agreed with PCC, and are provided below:

- All sites will generate the same level of IBA and APCR related traffic. Based on the information provided in the TA, this will result in 13 IBA related collections per day, and 2 APCR related collections per day, on average. This therefore results in 65 IBA collections and 10 APCR collections, on average, per week.
- IBA material from the Devonport, Ernesettle and Coypool sites will be transported to Whitecleaves Quarry (at Buckfastleigh), where it will be recycled. APCR material from these sites will be transported to Leeds.
- IBA material from the New England Quarry site will not be recycled and will be stored on site at New England Quarry, therefore generating no traffic movements on the external highway network. APCR material will be transported to Gloucester.
- Where possible, route choice has been based on 'A' roads, even if there is a shorter route along unclassified / minor roads.
- Average speed of vehicles on Trunk Roads and Motorways is 50mph. Average speeds of 27mph and 22mph have been used for other 'A' roads and minor roads, respectively.

Based on these assumptions, an assessment has been undertaken of the travel distance and time associated with the transportation of the IBA and APCR to the identified locations. The results of this analysis are presented in **TABLE 4.1**.

TABLE 4.1 IBA and APCR Comparison

EfW location	Two-Way distance travelled (miles per week)	Two-Way distance travelled (km per week)	Two-way time (hours per week)
Devonport	9376	15089	194
New England Quarry	2804	4513	58
Ernesettle	9421	15162	196
Coypool	8701	14003	180

As presented above, 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.