

**SPECTATOR BANKS
PEMBREY RACETRACK
CARMARTHENSHIRE**

Waste Recovery Plan

Report Number 1223r1v4d0715

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1 INTRODUCTION

1.1 Background

British Automobile Racing Club (Pembrey) Limited operates the motor racing circuit at Pembrey, Carmarthenshire. The circuit holds various motorsports events throughout the year as well as offering testing and training facilities when events are not being run.

The racing track has been developed on part of a disused airfield close to the village of Pembrey on the Carmarthenshire coast, as shown on Figure 1. Planning permission for the development was granted on 18 March 1993 and development work commenced in April 1993. A copy of consent number DS/13886 is included in Appendix 1 of this Plan.

Pembrey circuit is owned by Carmarthenshire County Council (previously Llanelli Borough Council) and when the development plans were first considered in 1990 it gave landlords' consent for the development subject to a number of terms and conditions. A copy of the landlords consent, with the terms of the agreement, is provided in Appendix 2 of this Plan.

In summary, the development comprised the construction of the racing circuit, including a series of spectator banks and noise bunds which offer good views and also control noise. The local authority was particularly concerned about noise pollution and accordingly specified the required configuration of the banks. Landlords consent also specified the material from which the banks had to be made and required planning consent to be obtained (noting that the landlord is also the planning authority).

Pembrey circuit has been developed and brought into use with the spectator/noise bunds partly completed. Initially, the banks were made to the lower specification: this provides least noise screening and holds fewer spectators. The circuit is now undertaking a phase of work to complete the consented development to its maximum capacity and this requires the existing 3m high bunds to be raised to 4m. The local authority has indicated its desire to see this work undertaken to provide a more effective noise screen, so the scheme will achieve this whilst increasing the capacity to its maximum under the planning consent.

BARC (Pembrey) Limited has found that the development can be completed economically by appointing Gower Plant Limited to carry out the works. Gower Plant proposes to raise the banks using the materials required in the planning consent, but intends to source these materials from inert waste streams. Accordingly, the scheme requires a Standard Rules Permit for the 'Use of Waste in Construction'. Without sourcing the materials from waste streams, the materials would have to be quarried or dug from the ground or would have to comprise high volumes of secondary recovered aggregates.

This Waste Recovery Plan shows that the proposed scheme falls within the definition of waste recovery and provides details of the scheme, including engineering drawings, to demonstrate that the proposal uses the minimum quality of waste to achieve the required profiles. It also considers the controls and management of the activity to ensure that the works comply with the requirements of a Standard Rules Permit.

1.2 Objectives of Waste Recovery Plan

The EA strongly supports genuine waste recovery and encourages recovery of waste rather than its disposal. As part of this process the EA also recognises that it is important to clearly distinguish between recovery and disposal operations to ensure they are properly permitted and subject to the right legal and environmental controls.

EA guidance states:

Waste recovery is about using waste to replace other non-waste materials to achieve a beneficial outcome in an environmentally sound manner. The clearest indicator of waste recovery is when it can be shown that the waste used is a suitable replacement for non-waste materials that would otherwise have to be used to achieve the end benefit. The European court has said that "the essential characteristic of a waste recovery operation is that its principal objective is that the waste serves a useful purpose in replacing other materials which would have had to be used for that purpose, thereby conserving natural resources."

The current EA position is based upon a legal test derived from the Waste Framework Directive and European case law. The EA believes that this test is best carried out by answering a series of questions which are set out in the guidance.

In support of the Permit Application this report is intended to justify that the use of waste in the engineering preparation of the spectator banks is a waste recovery operation. This report, therefore, sets out the responses to the questions set out in the EA guidance. Each question is answered in Section 4 following a review of the proposals in Sections 2 and 3.

2 SITE SETTING AND SITE DESCRIPTION

2.1 Site Setting

Pembrey racetrack is sited on a disused airfield at Pembrey, Carmarthenshire, at the location indicated on Figure 1. Access to the track is off the A484 Llanelli to Kidwelly road. The racetrack occupies flat, low lying land to the north and east of extensive conifer woodland. Some 1.7km to the north of the track is the estuary of the Gwendraeth Fawr though there are no watercourses at or in proximity to the racetrack. Field drains are shown some 100m to the north of the northern tip of the track.

The closest area with protected status to the site is the Pembrey SSSI which folds around the site to the north, west and south. Available CCW maps of the area show that the SSSI is at its closest point some 1700m from the site.

2.2 Proposed Works

Pembrey racetrack was granted planning consent by Llanelli Borough Council on 18 March 1993 (Decision D513886) for the construction of spectator banks and sound barriers, and a copy of the approval notice with the approved plan is included in Appendix 1. Llanelli Borough Council was at the time also the landlord of the site (now its successor Carmarthenshire County Council) and the developer obtained the landlords consent for the works. Llanelli Borough Council wrote to the developers on 22 May 1990 with the conditions it required to allow the bunds to be constructed. These requirements included a specification that the banks should measure 3m high with an 8m base or 4m high with an 11m base. The consent also specified the materials that the banks could be formed from.

The racetrack currently has a partially constructed spectator bank: in places the bank is too short and in other places it is missing. Recently, noise complaints have been received and the racetrack also needs to complete the works in accordance with the authorised development plans. It is clear that a significant quantity of soil type material will be required for the works and the track owners have approached Gower Plant Ltd to carry out the works using suitable waste materials rather than virgin aggregates or fill materials.

The extents of the spectator/noise bunds are shown on Figure 2, and these can be cross referenced to the approved planning consent plan provided in Appendix 1. In total 2000m length of bund needs to be brought to the approved dimensions of 4m high with an 11m base and it is estimated that this will require 37,000 tonnes of material. Work to provide these bunds has been on-going for several years and recently the import has been the subject of a U1 exemption, though clearly the quantity required exceeds that permitted by the U1. A cross section of the existing bund is provided on Figure 3 along with a section showing the bund raised by 1 metre, from 3m high to 4m high. The base dimensions shown on the section are those required by the planning consent.

2.3 Noise Abatement

Though the track was consented in 1993 following an earlier consent to construct 3 and 4m high spectator/noise abatement banks the track commenced operation with no 4m high banks. In September 2007, following noise complaints from local residents Carmarthenshire County Council carried out a noise monitoring programme in the nearby residential areas. The result of this was that the authority considered that the noise emission constituted a

Statutory Nuisance and served the racetrack with a Notice under Section 80 of the EPA 1990. The Notice did not require specified steps but instead required the circuit to work with the Authority in developing a Best Practical Means noise management plan. BARC, the circuit operators appealed the notice at Ammanford Magistrates on 11 November 2007. The cover letter to the Notice and the court Summons to Carmarthenshire County Council is included in Appendix 3 of this report.

The outcome of the Court proceedings was that a regular liaison meeting between CCC and the circuit owners was set up to examine progress in noise abatement works to which the circuit committed. By way of evidence of this Appendix 3 also includes the minutes of the meeting of 27 March 2012 between CCCs own noise expert and the racetrack manager. Point 3 of the minutes records the discussion about progress of the bund height increases agreed as part of the noise abatement works. The item notes that the track is in the process of gaining consent from the Environment Agency for the import of fill materials for this purpose (this was the U1 exemption).

2.4 Bund Stability

The planning consent issued by Llanelli Borough Council required noise attenuation/spectator bunds around the site. The landlords consent (also Llanelli Borough Council) specified that 3m bunds were to have a base 8m wide and 4m bunds were to have a base 11m wide. The reason that the council gave this condition to consent is stated in their consent letter "to avoid excessive slopes". Unfortunately, the requirement is not wholly unequivocal as it could be interpreted to mean that the bund is 3m high and the distance from the inner slope toe to the outer slope toe is 8m, or alternatively that the slope is 3m high and 8m long. The first interpretation would give a slope gradient of 3 in 4, a slope angle of 37 degrees. Such a slope is unlikely to be self-supporting, would be marginally stable at very best but most likely unstable and would be too steep to walk up thereby making it unsuitable for spectators. For this reason it is thought that the second interpretation is correct, a comfortable stable slope at a gradient of 3 in 8 or 20.5 degrees. It is noted that it is this configuration that has been constructed.

The existing bund is to be supplemented with additional material to raise its height by 1 metre. In doing so the base of the bund will become wider to achieve slopes of 4 in 11 (which is almost the same as 3 in 8). Such a geometry has been input into the slope stability modelling package Slide6 developed by Rocscience. Slide6 is a limit equilibrium stability modelling package used for the assessment of natural and man-made slopes and embankments. A model of the proposed 4m high embankment has been developed to assess the stability of the proposed bund and the results of the work are included in Appendix 4.

The stability modelling has revealed that even if highly pessimistic strength parameters are used for the imported fill ($c'=1\text{kPa}$ and $\Phi'=25$ degrees) and water pressures are recognised by using an R_u factor of 0.1 the proposed embankment has a Factor of Safety of 1.4 against a recommended requirement (in British Standards and Agency guidance) of 1.3. This being the case, the stability of the proposed works is assured.

3 PROPOSED WASTE TO BE USED IN CONSTRUCTION

The Standard Rules Permit SR2010No7 (and the Environmental Permitting (E&W) Regulations 2010) provides a table indicating the EWC codes of waste that are considered potentially suitable for this purpose. These are tabulated below. The operator will implement a management system to ensure that only wastes with these EWC codes will be accepted onto the site for use in the works. A materials management plan will be produced for each source to demonstrate the source of the waste material.

When using waste in construction it is of great importance that the materials are in a suitable condition to perform their engineering function. Therefore, the wastes to be used for this scheme comprise not any waste listed on the table below but only wastes falling within the table that exhibit the appropriate engineering properties. This is likely to exclude cohesive wastes that are excessively wet and wastes with a composition that precludes adequate compaction and that cannot be handled like normal engineered fill; in short, the wastes have to behave in a comparable way to the non-waste fill materials they replace.

3.1 Permitted Wastes

The following list has been extracted directly from the Permit and lists those wastes that could, subject to their physical properties, be accepted for use.

Table 3-1 Waste to be Accepted

Waste Code	Description
01	WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS
01 04	wastes from physical and chemical processing of non-metalliferous minerals
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	waste sand and clays
02	WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING
02 02	waste from preparation and processing of meat, fish and other foods of animal origin
02 02 02	shellfish shells from which the soft tissue or flesh has been removed only
02 04	wastes from sugar processing
02 04 01	soil from cleaning and washing beet
10	WASTES FROM THERMAL PROCESSES
10 01	wastes from power stations and other combustion plants (except 19)
10 01 01	bottom ash and slag only
10 01 02	pulverised fuel ash only
10 01 05	gypsum (solid) only
10 01 07	gypsum (sludge) only
10 01 15	bottom ash and slag from co-incineration other than those mentioned in 10 01 14 only
10 02	wastes from the iron and steel industry
10 02 01	waste from the processing of slag
10 02 02	unprocessed slag
10 09	wastes from casting of ferrous pieces
10 09 03	furnace slag
10 10	wastes from casting of non-ferrous pieces
10 10 03	furnace slag

10 12	waste from manufacture of ceramic goods, bricks, tiles and construction products
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)
10 13	wastes from manufacture of cement, lime and plaster and articles and products made from them
10 13 14	waste concrete and concrete sludge
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)
17 01	concrete, bricks, tiles and ceramics
17 01 01	concrete
17 01 02	bricks
17 01 03	tiles and ceramics
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 03	bituminous mixtures, coal tar and tarred products
17 03 02	road base and road planings only other than those containing coal tar
17 05	soil (including excavated soil from contaminated sites) stones and dredging spoil
17 05 04	soil and stones including chalk other than those mentioned 17 05 03
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 05 08	track ballast, soil and stones other than those mentioned in 17 05 07
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF SITE WASTE WATER TREATMENT PLANTS AND PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION/INDUSTRIAL WASTE
19 08	wastes from waste water treatment plants not otherwise specified
19 08 02	washed sewage grit (waste from desanding) only
19 08 99	stone filter media (if cleaned to remove sewage contamination) only
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 05	glass
19 12 09	minerals (for example sand, stones)
19 12 12	soil substitutes other than that containing dangerous substances only
19 12 12	treated bottom ash including IBA and slag other than that containing dangerous substances only
19 13	wastes from soil and groundwater remediation
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED
20 02	garden and park wastes (including cemetery waste)
20 02 02	soil and stones

Wastes having any of the following characteristics shall not be accepted:

- **Consisting solely or mainly of dusts, powders or loose fibres**
- **Hazardous wastes**
- **Wastes in liquid form**

Whilst this is the list of acceptable wastes from the Standard Rules Permit in practice the wastes that will be used at this site are limited to those meeting the requirements of the landlords consent. Of the wastes listed above those meeting the landlords requirements are:

01 04 08
01 04 09
10 12 08
17 01 01*
17 01 02*
17 01 03*
17 01 07*
17 05 04*
17 05 06
17 05 08
19 08 99
19 12 09
19 13 02
20 02 02*

3.2 Invasive Plant Material Exclusion

Invasive plant species will be excluded from the site by source selection. BARC proposes to use a single contractor to carry out these works and the contractor will therefore be responsible for inspecting the source site to determine whether there is a risk of invasive plant species. Material from sites contaminated with invasive plants will be excluded and the responsibility for this will rest with the contractor. The bunds need to be made from material free of plant matter so the exclusion of plants and rhizome is important for the successful outcome of the construction.

3.3 In-Situ Density of Imported Fill after Compaction

A density of 1.8Mg/m³ has been selected to represent the average bulk density of imported soil/hardcore type material after compaction. Such materials with a high degree of compaction in a wet state can achieve bulk in-situ placed densities of up to 2.0Mg/m³. The Handbook of Geotechnical Investigation and Design Tables: Second Edition, Section 12.20: Field Characteristics of Materials Used in Earthworks indicated that geological materials upon re-compaction can achieve a range of dry densities, from 1.47 to 2.15 Mg/m³. This will equate to somewhat greater placed bulk densities. The presence of lower density particles such as aerated concrete blocks or even dense concrete blocks will reduce placed density. A value of 1.8Mg/m³ has been selected as a reasonable mid-range conversion factor. Available agency guidance on weight to volume conversion is of little use as it considers the state of materials in delivery waggons rather than when placed and compacted.

3.4 Engineering Properties of the Waste

The engineering of soil type materials and their use in construction projects in the UK is the subject of the Manual of Contract Documents for Highways Works, Specification, Schedule 600. This document provides a means to classify soil type materials for use in fills and provides a regime for their placement and compaction. It provides general conditions on the proportions of contraries (foreign matter) and covers within its scope both non-waste and recovered materials.

The wastes arriving at site will be visually inspected to firstly ensure that they meet the description of the waste as provided on the transfer note and that the EWC code is a permitted waste type. This should be straightforward as the site will not be available to carriers other than Gower Plant. After compliance inspection the material will be examined upon unloading to confirm its characteristics and to ensure it is suitable for use in the works. Materials with unsuitable characteristics will be removed from the site. Wastes containing contraries that are identifiable will be picked to ensure that the proportion of contraries is as low as possible. Loads with contraries exceeding the threshold will be turned away from the site or reloaded for removal.

The strict inspection regime will allow confidence that the materials used are fit for engineering purpose and will provide comparable performance to the non-waste materials they replace. The exclusion of materials softened by water will ensure that the materials have sufficient shear strength to be incorporated into the works.

3.5 Chemical Properties of the Waste

The list of waste that is potentially acceptable for use in construction includes a number of wastes that could be non-hazardous rather than inert. Inert wastes are defined as those that do not have the capacity to generate a polluting leachate and therefore use of such wastes represents no risk to the environment. Accordingly, the use of wastes that meet the definition of inert may be used at the site without further consideration. Inert wastes are listed in the WRAP protocol as being:

European Waste Catalogue Code	Description	Restrictions
10 11 03	Waste glass based fibrous materials	Only without organic binders
15 01 07	Glass packaging	Selected construction and demolition waste acceptable only with low content of other types of materials (like metals, plastics, organics, wood, rubber etc). The origin of the waste must be known
17 01 01	Concrete including solid dewatered concrete process waste	
17 01 02	Bricks	
17 01 03	Tiles and ceramics	
17 01 07	Mixtures of concrete, bricks, tiles and ceramics	
17 02 02	Glass	Excluding topsoil, peat; excluding soil and stones from contaminated sites
17 05 04 17 05 08	Soils and stones including gravel, crushed rock, sand, clay, road base and planings, and track ballast	
19 12 05	Glass	
20 01 02	Glass	Separately collected glass only
20 02 02	Soils and stones restricted to parks waste	Only from garden and parks waste; excluding topsoil, peat

The following definition of inert is taken from the Landfill (England and Wales) Regulations 2002 and is included for clarity.

Waste is inert if:

- (a) it does not undergo any significant physical, chemical or biological transformations;
- (b) it 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

-
- (c) 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.

Wastes meeting these descriptions may be used at the site without testing as they meet the classification of inert. Those wastes that appear on the list of suitable wastes in the Standard Rules Permit but do not appear on the list of defined inert wastes may also be used, but in this case the chemistry of the material must be known so that it can be determined whether the waste represents a risk to the environment. Fortunately, the site lies in an area well away from watercourses and due to the coastal location groundwater quality is not expected to be good. Accordingly, it is likely that the site could accommodate non-inert listed wastes without risk to the environment, but this would have to be evaluated on a case by case basis. For the purposes of this application it can be assumed that the wastes will generally be inert. In the event that other wastes are proposed then the chemistry of the waste will be established, a specific risk assessment will be developed and this will be communicated to EAW for approval prior to commencement.

3.6 Waste Testing

Certain of the listed wastes considered to be acceptable for use at the site are defined as inert by Section 2.1.1. of the Council Decision and do not require testing unless they are suspected to be contaminated. Section 3.1.3 of the EA guidance "Environmental Permitting Regulations: Inert Waste Guidance Standards and Measures for the Deposit of Inert Waste on Land" reveals that this requirement applies to waste for recovery as well as waste for disposal. Therefore, for those wastes identified above with an asterisk testing will only be undertaken if there is a suspicion of contamination.

The remaining waste types are not listed as inert and may therefore be inert or non-hazardous (hazardous wastes are excluded from consideration at this site). In order to determine the capacity of the wastes to pollute the suite of tests recommended in Appendix 2 of the EPR document will be used:

Table A

Cadmium (total) Cd
Chromium (total) Cr
Copper (total) Cu
Lead (total) Pb
Nickel (total) Ni
Zinc (total) Zn
Arsenic (total) As
Mercury (total) Hg
Chloride Cl
Cyanide (total) CN
Phenol (Monohydric) Ph
Sulphate SO₄
Toluene Extractable Matter TEM
Dissolved Organic Carbon DOC

Table B

Total petroleum hydrocarbons TPH
Polycyclic aromatic hydrocarbons PAH

Table C

Benzene, toluene, Ethylbenzene,
and Xylenes
BTEX

A single stage WAC test at Liquid/solid ratio of 10:1 will also be undertaken.

Where testing is required, each source will be spot sampled at a frequency of one sample per 250m³. Where a source comprises less than 250m³ a minimum of one sample per source should be taken. If the environmental management system identifies that a site is unlikely to be contaminated e.g. a greenfield site, this sampling frequency would be reduced to one spot sample per 1000 m³, with the decision documented in the management system and supported by risk assessment where necessary.

The contaminant concentrations to be used as part of the soil acceptability screening are summarised in Tables 3-2 and 3-3.

Table 3-2 Screening Criteria for Bulk Properties and Metals

Parameter	Initial Screening Threshold	Unit
pH	5.5 – 8.5	
Asbestos	<0.001	%
Arsenic	40	mg/kg
Beryllium	1.7	mg/kg
Boron Water Soluble	290	mg/kg
Cadmium	10	mg/kg
Cr III	910	mg/kg
Cr VI	6	mg/kg
Copper	2400	mg/kg
Lead	100	mg/kg
Mercury (Inorganic)	10	mg/kg
Nickel	180	mg/kg
Selenium	430	mg/kg
Vanadium	1200	mg/kg
Zinc	1000	mg/kg
Sulphate	400	g/l

Table 3-3 Screening Criteria for Selected Organics

Parameter	Initial Screening Threshold	Unit
Benzene	0.38	mg/kg
Toluene	860	mg/kg
Ethylbenzene	83	mg/kg
o-xylene	88	mg/kg
m-xylene	82	mg/kg
p-xylene	79	mg/kg
Acenaphthene	50	mg/kg
Acenaphthylene	50	mg/kg
Anthracene	1	mg/kg
Benz(a)anthracene	11	mg/kg
Benzo(a)pyrene	3.2	mg/kg
Benzo(b)fluoranthene	3.9	mg/kg
Benzo(ghi)perylene	360	mg/kg
Benzo(k)fluoranthene	110	mg/kg
Chrysene	30	mg/kg
Dibenzo(ah)anthracene	0.31	mg/kg
Fluoranthene	1500	mg/kg
Fluorene	30	mg/kg
Indeno(123cd)pyrene	45	mg/kg
Naphthalene	2.3	mg/kg
Phenanthrene	36	mg/kg
Pyrene	3700	mg/kg
Total Petroleum Hydrocarbons (C6 - C40)	1000	mg/kg
Polychlorinated Biphenyls (PCBs)	1	mg/kg

Exceedance of the specification may be acceptable following a review by the Project Manager and consultation with the client and NRW. Such decisions would be documented in the management system and supported by risk assessment. Material may also be rejected if it meets the Specification if there are unsatisfactory visual or olfactory observations. Other parameters may need to be tested depending upon the source of the material.

4 DEMONSTRATION OF RECOVERY

Regulatory Guidance Note 13 sets out a five part test to be used when considering whether an activity is recovery or disposal. In order for the use to be shown to be recovery each part of the test has to be passed and the whole body of evidence has to be examined collectively. Each of the five parts of the test is considered below, along with the planning considerations.

4.1 Planning Permission

The proposed works have the benefit of planning permission, which is a requirement of the local authorities consent for the use of the site as a racetrack. Planning consent does not in itself demonstrate recovery but does demonstrate the need for the development. The planning consent does not require waste to be used and in fact the local authority has laid strict conditions on the composition of the bunds, prohibiting timber, asbestos, refuse and other deleterious materials and restricting the bunds to soil, stone and hardcore. This clause envisages that non-waste materials will be used and it is the substitution of these for waste materials that is the subject of this recovery plan.

4.2 Is there a clear benefit from the activity?

The benefit of the use of this material is that the racetrack is provided with spectator banks and noise bunds at the locations where they are required. Noise complaints from the nearby village of Pembrey have been made and the track management are feeling pressurised into completing the works which have been only partly constructed. Spectator safety requires that the banks are completed to their design at the locations shown on the plans. Currently the existing banks are in use but are inadequate during certain race meetings and are not completely effective in reducing noise at the nearby village. As part of meeting noise abatement requirements the track has agreed with the local authority to increase bund heights to the 4m allowed in the planning consent.

It is concluded that there is a clear benefit from the activity.

4.3 Is the recovered waste material suitable for its intended use?

Section 3.2 and 3.3 consider the physical and chemical aspects of the wastes that would be used at this site for construction of the bunds. The safeguards in place would prevent unsuitable wastes from being incorporated into the bunds. The procedures described above include classification of the wastes in accordance with Schedule 600 of the MCDHW Specification and therefore they can be shown to be comparable to the non-waste material replaced. Slope stability analysis reveals that the proposed use of waste will result in a stable configuration.

It is concluded that the recovered waste material is suitable for its intended use.

4.4 Is the minimum amount of waste being used to achieve the intended benefit?

The scheme requires the use of bunds measuring 4m high with an 11m wide base. Currently, the bunds are close to or at 3m high with an 8m base. A calculation has been made to quantify the volume of material that is required to complete the works in

accordance with the planning consent. The 1999 metres of bund will require 22 cubic metres of material per metre run of bund to complete the works, but an average of 12 cubic metres per metre run is already placed. This amounts to a current requirement of 10 cubic metres per metre run which equates to some 20,000 cubic metres. With proper compaction the placed bulk density of the soil type wastes should achieve 1.8 tonnes per cubic metre giving a scheme requirement of some 37,000 tonnes. It is therefore appropriate that the 50,000 tonne limit provided by the Standard Rules Permit will be appropriate and sufficient. There is no means of reducing the requirement for material as the consented profiles have to be achieved. The bunds will be measured independently to ensure that they meet the design requirements precisely, without overfilling.

It is concluded that the minimum amount of waste is being achieved to realise the benefit.

4.5 Is the waste being used as a substitute for a non-waste material?

If waste material is not to be used then the works will have to be completed using imported non-waste naturally occurring materials. This is not a mere possibility but is a certainty as the track is now under pressure to complete the works (which have been outstanding for some time). The presence of part completed bunds around the track is evidence that non-waste materials have been used in construction at the site and it is the future replacement of these materials that this proposal aims to achieve. To date there has been one exemption registered at the site for the Use of Waste in Construction (U1) and this places strict limits on the quantity imported to the site. This has started to replace the alternative non-waste materials but the Permit is required to allow the works to be brought to a conclusion.

It is concluded that the waste will be used as a substitute for non-waste material.

4.6 Will the proposal be completed to an appropriate standard?

The proposals are subject to planning conditions as well as conditions imposed by the landlord (the Local Authority). The objectives of the scheme have been considered in detail and the proposals are stable and will provide a lasting benefit to the racetrack and the surrounding population. The racetrack has no interest in providing a poor finish as the quality of the circuit and the spectator facilities is an important aspect of its business. The bunds are to be topsoiled and grassed once completed to provide a suitable surface for spectators and to enhance the visual appearance of the circuit. This is also a planning requirement and will prevent soil erosion. Maintenance of the finished bunds is a requirement of the landlords consent for the works.

It is concluded that the bunds will be completed to an appropriate standard.

5 SUMMARY

Each of the five tests for Recovery set out in RGN 13 have been considered and in order to determine whether the activity is recovery rather than disposal an overall view of the responses has to be made. As well as the responses made in this waste recovery plan, the proposals have the benefit of planning consent and the approval of the local authority. The planning consent requires the works to be undertaken in accordance with the submitted plans so the scheme is well defined and quantifiable. The lasting benefit to the racetrack will be the spectator capacity that can be accommodated on the spectator banks and for the local residents the benefit will be noise abatement.

Section 4 of this plan considers each of the required tests and in each case the conclusion is reached that the proposals meet the requirements of the test. Accordingly, the scheme demonstrates recovery and can therefore be considered to be a waste recovery activity rather than a disposal activity. The works can be carried out in a manner to prevent risk to the environment, thereby meeting the relevant objectives of the Waste Framework Directive.