CONTENTS

INTRODUCTION

3.1 The application site would continue to extract permitted mineral reserves and receive inert material generated from sources within West Sussex to secure the restoration of the site within a 5 year timescale. This approach is reflective of the aspiration of local and national government to not sterilise permitted mineral reserves and to deal with waste at the local level.

3.2 The development is best described below:

"The continuation of mineral extraction for a two year period and the importation of inert material over a five year period only, to enable the restoration of mineral working at Washington Sandpit for the long term benefit of the Sandgate Country Park"

3.3 Following the removal of up to 100,000 tonnes of permitted mineral reserves, the quarry void available for restoration is currently estimated to be 260,000 cubic metres which, based on a material density factor of 1.80 tonnes per cubic metre, would result in a need for 468,000 tonnes of clean inert waste/soil import (260,000 x 1.8 = 468,000): the material density factor has been provided by the applicant and is based on their extensive knowledge and experience.

3.4 The importation of fill material will occur by road transport given the absence of other appropriate transport networks in the vicinity of the site.

PROCESS OF THE PROPOSED DEVELOPMENT

3.5 The proposed development would initially see both mineral extraction and the importation of inert material for the first two years followed by a further three years of the importation of inert material to secure the long term restoration of the site to benefit the Sandgate Country Park.

3.6 The proposed development would require the importation of inert construction material to secure the long term restoration of the site to a beneficial afteruse with the focus for the site being on amenity and habitat creation.

3.7 The proposed method of achieving restoration is to import suitable inert material which would be placed in a safe and controlled manner to achieve the final proposed landform as set out in the proposed restoration scheme (see Volume 2b Technical Appendix 10 Drawings).

MINERAL EXTRACTION

3.8 The remaining sand reserves at the site are estimated to be approximately 100,000 tonnes.

3.9 Existing site operations would continue including the extraction of sand by mechanical means and transportation of this material from the site via the public road network.

3.10 A section of the completed Phase 1 site restoration has been disturbed and needs to be returned to its previously restored condition, to comply with the restoration scheme.

3.11 This operation would be carried out as part of the proposed development using on site material.

PHASED RESTORATION

3.12 The phased restoration of the site will comprise of 5 phases each described below.

3.13 These phases and volumes are indicative only and should not be relied upon for construction purposes.

3.14 The proposed method of achieving restoration is to import suitable inert material which would be placed in a safe and controlled manner to achieve the final agreed landform.

Phase 1

3.15 Initial infilling would take place in the south west corner of the application site. In this phase the upper extent of the recently created sandstone face is retained at approximately 56m AOD with material buttressed up to 51m AOD and creating a 1(v):9(h) falling to 1(v):3(h) slope which ties into the existing landform at the western extremes of the site. The land drops away to approximately 29m AOD to the north where the landform levels reach the site boundary. This initial phase would accommodate C. 54,500 cu.m of fill.

Phase 2

3.16 The second phase of infilling would take place along the western edge of the application site to form the newly defined waterbody on the boundary with the Cemex site. The upper extent of infilling will be at 40m AOD into the site, creating a 1(v):6(h) slope across the eastern edge of the waterbody. The Cemex boundary is at approximately 27m AOD and rises to the west to a series of islands with maximum 1(v):3(h) side slopes, peaking at 40m AOD. This phase would accommodate C. 40,000 cu.m of fill.

Phase 3

3.17 The third phase involves the infilling of material to extend the Phase 2 infill eastwards towards the processing area. The level of land ranges from 40m AOD and 49m AOD, levelling out from a 1(v):3(h) rise to 1(v):10-15(h) slopes in the east. This phase would accommodate C. 60,000 cu.m of fill.

Phase 4

3.18 The fourth phase involves the buttressing of material against the existing northern faces of the site to slacken the toe of the slope and levelling of material across the informal recreational/campsite area. A platform accommodating public access lies at 46m AOD and rises to the east to 48mAOD across the informal recreational/campsite area. Material is then buttressed up against the existing steep faces at the northern edge of the site ranging in height from 46mAOD at their base to 52m AOD, sloping at c. 1(v):8(h). This phase would accommodate C. 57,600 cu.m of fill.

Phase 5

3.19 Phase 5 would involve the final raising of levels across the south east corner of the site where the land is proposed to slope at between 1(v):3(h) and 1(v):20(h) from 49m AOD at the base of the slope to 55m AOD at the top, levelling out to 56m AOD across the picnic area platform on the southern edge. This phase would accommodate C. 48,700 cu.m of fill.

Table 3-0 Potential Volumes of Phases

Phase Number	Potential Volume (cu.m)
1	54,500
2	40,000
3	60,000
4	57,600
5	48,700
	260,800

3.20 Estimated Total Volume (cu.m) 260,800.

PROPOSED RESTORATION SCHEME

3.21 The proposed development would see the importation of inert material on site in parallel with the continued working of the sand resources on site for 2 years, involving the deepening of the pit from 26m AOD to approximately 17m AOD. Inert materials would continue to be progressively used to backfill the site for a further three years starting in the south west corner and working clockwise around the site.

3.22 The land would be raised to between 36m AOD at its western edge, to 57m AOD along the existing site boundary at the southern edge. The site would be seeded and planted as per the proposed restoration scheme (drawing WP L/15 in Volume 2B - Technical Appendix 10), and so although permanent in nature, restoration works would integrate the site into its setting without issue.

3.23 No important elements of the existing landscape would be lost as a result of the proposed restoration scheme and the screening effects of trees and woodlands close to the site would be retained.

3.24 In comparison with the current permitted restoration plan, the proposed restoration generally increases the area of grassland within the site at the expense of the lake area. This allows greater scope for picnic areas and creates a larger more sheltered recreation area at the base of the access road ramp. This area has the potential to be developed as a small camping area.

3.25 The proposed restoration scheme would see some selective thinning of woodland at the south eastern corner of the site to accommodate a new parking area, as well as additional landform abutting the Cemex lake at the western edge of the site, but the scheme is contained within the existing framework of woodland at the site periphery, and uses existing features, e.g. access, carefully within the design. Therefore, the final restoration would be of benefit to the character of the wider landscape and the proposed country park.

TRAFFIC MOVEMENTS

3.26 Assuming that the importation of fill commences in 2014 and continues until 2018, around 93,600 tonnes of material could be expected per year of operation (468,000 / 5 = 93,600).

3.27 Vehicular access to the application is currently via a private haul road that connects onto Hamper's Lane some 8 metres north of the priority T-junction that is created where Hamper's Lane connects onto the A283-Storrington Road. Some 1.3 kilometres east of the application site, the A283-Storrington Road becomes a designated lorry route. At this location, access is also provided onto the A24-London Road: another designated lorry route

3.28 Notwithstanding this, the recently permitted (ref: DC/10/1457) residential development located on land east of the application site includes changes to the A283-Storrington Road that will alter the access arrangements, particularly in the context of movements from Hamper's Lane onto the A283-Storrington Road.

3.29 Amongst other things, the planned improvements comprise the realignment of the A283-Storrington Road to occupy land currently used as highway verge, to the south. The result of this, in the context of the development proposals, is to increase the available visibility from Hamper's Lane along the A283-Storrington Road. It also increases the separation between the A283-Storrington Road and the existing site access from 8 metres to around 15 metres. This change will ensure that vehicles exiting the quarry will be allowed to wait at the give-way lane of Hamper's Lane without the risk of impeding traffic entering onto Hamper's Lane from the A283-Storrington Road.

3.30 The approved highway improvements are detailed further in Chapter 6 Traffic and Transport of this Environmental Statement.

3.31 In view of the fact the above improvements are consented under planning permission DC/10/1457, and knowing that a reserved matters planning application has been submitted, it is considered likely that the road improvements are likely to be constructed within the life of the proposed 2-year extension of quarrying operations. Hence, the improvements are considered as the baseline highway network.

3.32 Finally, material would be transported in 4-axle 'tipper' lorries carrying typical payloads of around 16-18 tonnes/9 cubic metres. The below photograph provides an example of the sort of vehicle anticipated to be used for the movement of material away from the site.

Image source: http://www.trucklocator.co.uk/trucks-for-sale/COR0011646_01l.jpg

Figure 3-0 Typical 4-axle Lorry used in Operations

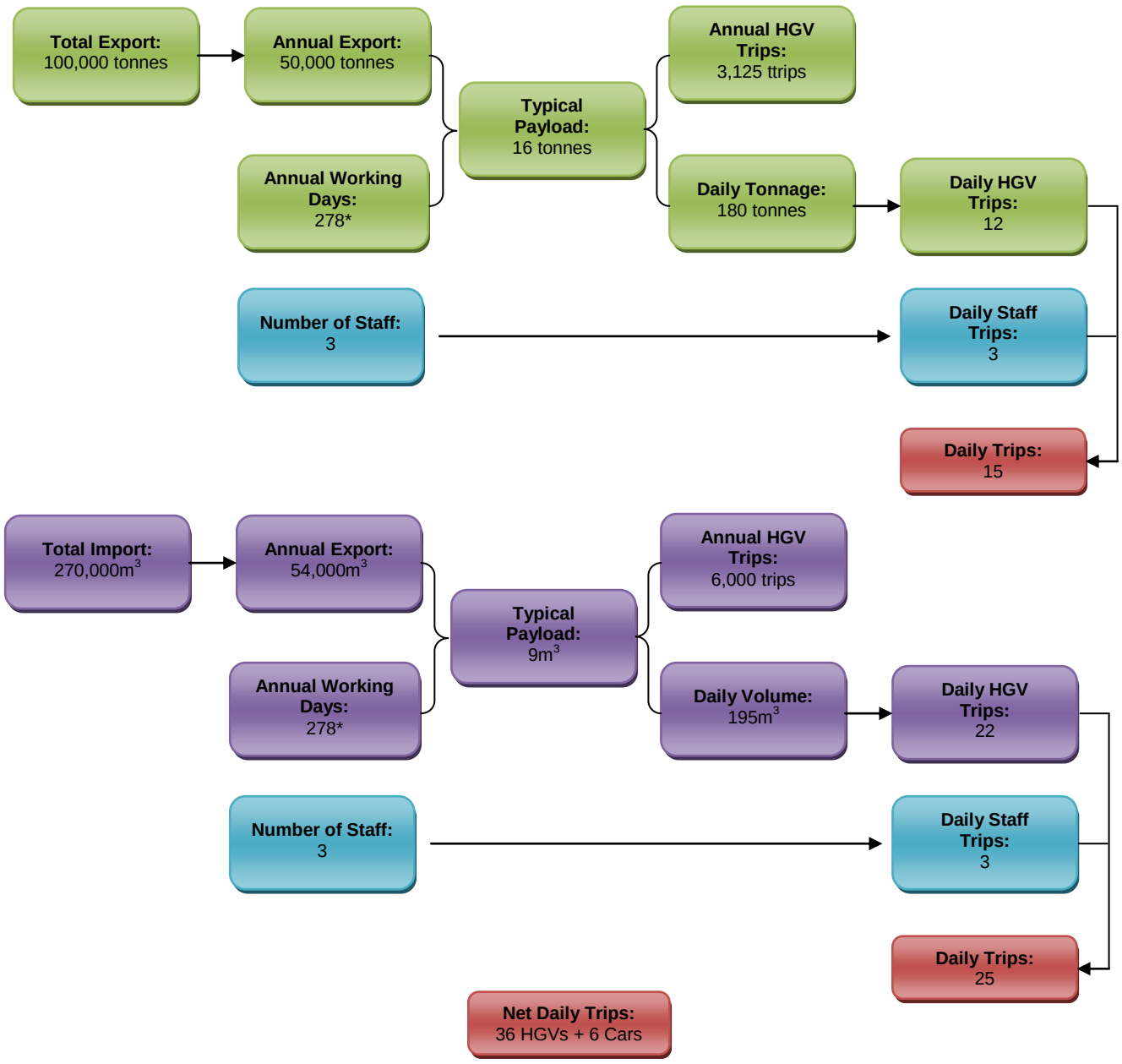
Traffic Effects

3.33 The trip generation effects of the proposed development relate to the exportation of up to 100,000 tonnes of sand over a two-year and the concurrent restoration of the site, requiring an assumed 270,000 cubic metres over a five-year period. In view of this, peak traffic generation shall occur when restoration activities occur alongside exportation of sand (years one and two). In the third to fifth year of operations, however, the trip generation will reduce to include only activities associated with the restoration of the site. Hence, for the sake of robustness, both scenarios are considered within the ES Chapter on Traffic.

3.34 The trip generation of the proposed development is determined below using first-principles assumptions, in line with best practice guidance[1].

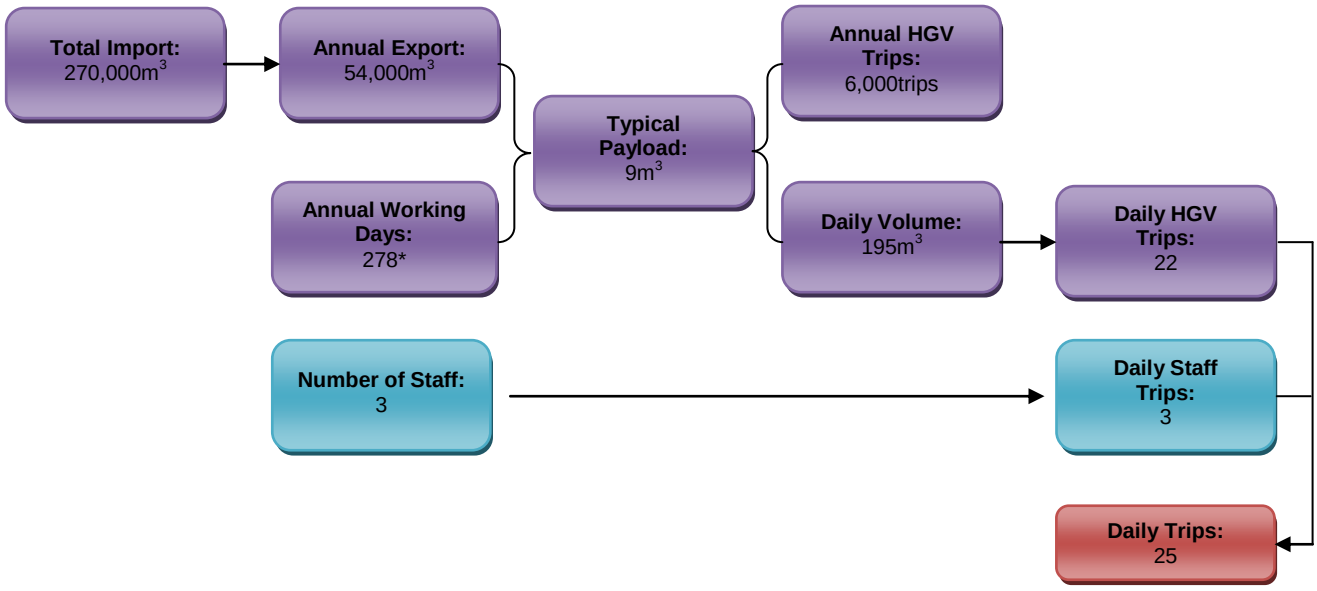
[1] Guidance on Transport Assessment, Department for Transport (March 2007).

Figure 3-1 Average Whole Day Trip Generation (One-Way) – Restoration + Exports



**Operating days calculated as 5.5 days per week x 52 weeks in the year, minus 8 bank holidays.*

Figure 3-2 Average Whole Day Trip Generation (One-Way) – Restoration Only



Operating days calculated as 5.5 days per week x 52 weeks in the year, minus 8 bank holidays.

3.35 It should be noted that the hours of operation on a Saturday would yield half the number of goods vehicles per day, although staff numbers would remain the same.

3.36 Taking into account the hours of operation identified above and reflecting the commercial incentives to stagger deliveries throughout the day, the following arrival/departure profile has been established. It is noteworthy that, due to statistical rounding, the sum of the hourly trip generations indicates a higher daily total than is shown above in the above Figures. Hence, the below tables should only be referenced in the context of the hourly demand.

Table 3-0 Two- Way Trip Generation Profile – Restoration + Exports

		Hour Commencing											
		07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00
Weekday	HGVs	-	5	10	10	10	10	10	10	10	10	5	-
	Staff	6	-	-	-	-	-	-	-	-	-	-	6
Saturday	HGVs	-	5	10	10	10	5	-	-	-	-	-	-
	Staff	6	-	-	-	-	-	6	-	-	-	-	-

Table 3-1 Two-Way Trip Generation Profile – Restoration Only

		Hour Commencing											
		07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00
Weekday	HGVs	-	3	6	6	6	6	6	6	6	6	3	-
	Staff	3	-	-	-	-	-	-	-	-	-	-	3
Saturday	HGVs	-	3	6	6	6	6	-	-	-	-	-	-
	Staff	3	-	-	-	-	-	3	-	-	-	-	-

3.37 Based on the above, the over-whelming majority of traffic (75%) occurs outside of the busiest times on the highway network and, even within the traditional peak periods, the hourly trip generation is equivalent to just one HGV movement every 12 minutes in the two-year period when extraction occurs concurrent with restoration activities. Thereafter, the trip generation during peak periods is just one HGV movement every 20 minutes.

HOURS OF OPERATION

3.38 Operating times would mirror those conditioned to the existing planning permission, these being 08:00 to 18:00hrs Monday to Friday, and 08:00 to 13:00hrs on Saturdays.

3.39 No operations shall occur on Bank and School Holidays, or on Sundays

TEMPORARY SITE INFRASTRUCTURE

3.40 In order to complete the extraction and restoration operations the following site infrastructure is required (as set out in Technical Appendix 5 volume 2B).

- Temporary Single Storey temporary office building;
- Wheel Wash;
- Weighbridge;
- JCB Excavator;
- Cat D6T; and
- Power-screen Warrior 1400 x

EMPLOYMENT

3.41 Up to five full time jobs would be created at the Site.

3.42 The staff employed is expected to arrive at the site in the 30 minutes preceding the commencement of daily operations and, similarly, they would depart 30 minutes after ending operations each day.