



ROADWAYS THE RIGHT WAY

RECYCLED TYPE 4 SUBBASE

QUALITY PLAN & WRAP PROTOCOL

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Owner	Issued	Reviewed
A.Smith	11/02/2021	31/12/2021

Wrap Quality Protocol - Type 4 Crushed Asphalt

Overview

This document has been prepared by Hailsham Roadway Construction to briefly outline the operational process and the associated quality control measures at the Woodside Depot and the production of secondary aggregates

Objectives and the quality protocols are :

- To provide a uniform control process from which we can reasonably state that the material imported have been fully recovered and are therefore no longer a waste material.
- To provide customers with a quality managed product to common aggregate Standards / Specifications
 - Approved Industry Standards*
 - Unbound Recycled Aggregate : Granular fill, General Fill, Capping, Sub Base. BS EN 13242.*
 - Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction.*
- To provide an auditable trail to ensure compliance with Waste Management Legislation and assessment of Non-Compliance.

Management Responsibilities

The Depot Manager has overall responsibility for the operations at the Woodside Depot. He is also responsible for the day to day Depot operations and must ensure the operations are in line with the Quality Protocol

The Depot Operatives work under the overall direction of the Depot Manager to implement the procedures of the Quality Protocol.

Resource Management

The operational staff have the appropriate training for the tasks they undertake. The Depot Manager continually assesses the training requirements of new and existing staff and where required, training will be given to ensure the quality objectives of the site operations

Method Statement Of Production

The following materials will be accepted at Woodside Depot for processing in accordance with the European Waste Catalogue Classification (EWC)

EWC Code	Waste Description
17 03 02	Bituminous mixtures other than those mentioned in 17 03 01*

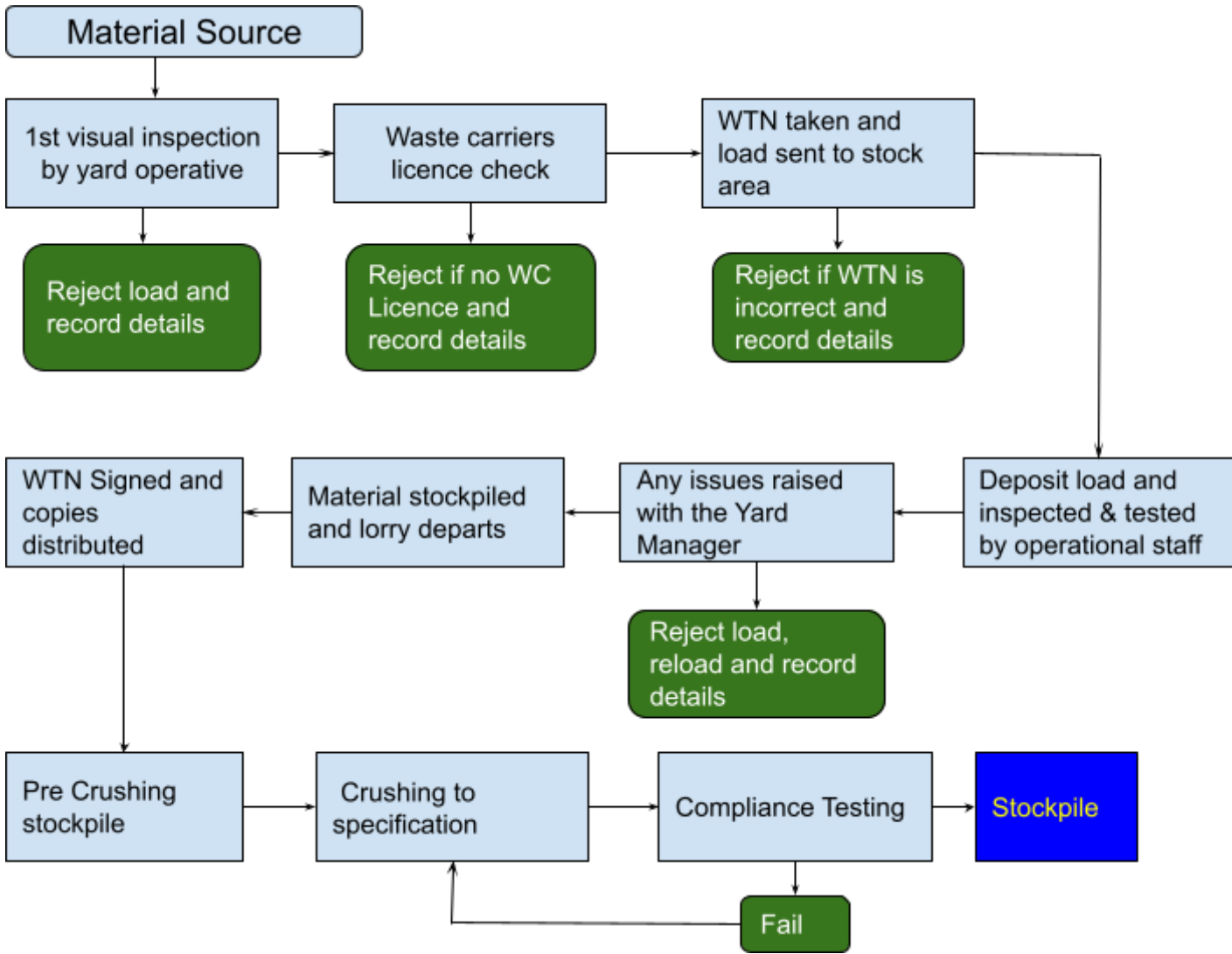
Incoming Material Acceptance Criteria

All waste materials received at the Woodside Depot will be subject to the following criteria

1. Materials entering the site, stop at the entrance gate for the recording of weight and inspection of the load.
2. Inspection will include a PAK marker test to detect asphalt waste containing coal tar. Such waste will not be accepted.
3. If there is any doubt over the load on inspection it should be rejected and recorded in the Rejected Incoming Load Log. The Hailsham Roadway conveyance note will act as the Waste Transfer Note (WTN) for material on Hailsham Roadway vehicles.
4. For loads on a third party haulier, the yard operative will check to see if the haulier has a waste carriers licence and take a copy for the file, the driver will issue a WTN to the yard operative or complete a Hailsham Roadway template note. In some instances a WTN may cover multiple loads of the same material from the same site.
5. The Waste Transfer Note must include the date, vehicle registration, waste description, EWC code, waste origin and waste quantity.
6. The data within the note will be checked and must be completed in full, correct and match the site acceptance criteria. The acceptable wastes on the environmental permit must be considered prior to accepting any material.
7. Following a satisfactory first stage inspection, the vehicle shall be directed to the allocated stocking area.
8. Once tipped the material will be inspected again by the shovel/excavator driver. If there is an issue noted with the material at this stage, the shovel/excavator driver will contact the yard manager.
9. Material may be rejected for a number of reasons. If the material does not conform to our environmental permit it will be rejected at the first stage inspection performed by the yard operative. Material may comply with the environmental permit requirements but still be rejected on grounds of quality.
10. If the material is rejected following the second stage inspection the procedure for Reloading Rejected Materials will be followed.
11. Once the material has been accepted, the vehicle will depart.

- 12. Where used Hailsham Roadway waste transfer notes are a four part ticket. The top/white copy will be kept by the site foreman. The blue copy will be filed by the yard operative and kept in the stores. The yellow copy shall be given to the driver to retain. The pink copy is handed to the office for recording.
- 13. Hailsham Roadway template notes are also a four part ticket. The top/white copy is kept by the producer. The blue copy by the yard operative.

Acceptance of Construction and Demolition Waste Flowchart



Processing Procedure

The recycled aggregates are produced to a recognised standard and/or specification. This specification will define the properties and characteristics of the product, as suitable for its application.

All process equipment is well maintained and monitored during process.

Input materials are stocked in a controlled manner in clearly identified locations

The finished product is identifiable up to the point of sale, making sure the correct material is supplied to the customer.

Procedures are in place and implemented to maintain the quality of the product during handling, storage, transport and delivery including regular inspection and testing of the product to a QA system

Training will be carried out for some staff involved on the following:

- acceptance criteria;
- procedures for non-compliant input wastes and output products;
- sampling and inspection.

Records of relevant controls and inspections, calibrations, changes and training are maintained for a suitable period of time.

The production process will only involve materials that have passed the acceptance process.

The production process consists of the loading of the material from the stockpile with a 360 excavator into a mobile crusher. The material is crushed to a specification with the metals removed with a magnet and stored in a skip bin. The crushed materials will then be stockpiled. All removed steel will be collected and stored in a small stockpile and disposed of to a specialist recycling facility

Testing and Quality Control

The following is a summary of the products that are currently produced at the Woodside Depot.

- Type 4 Crushed Asphalt

Approved Industry Standards

Table B1: Standards, specifications and quality controls for the use of aggregates

Product and Use	Standard	Specification	Quality controls
2 Unbound recycled aggregate: Granular fill General fill Capping	BS EN 13242: Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction	Highways Agency Specification for Highway Works: Series 600 HAUC: Specification for the reinstatement of openings in highways BS EN 13285: Unbound mixtures: Specifications	BS EN 13242: Level 4 Attestation Evaluation of Conformity to BS EN 16236* SHW: Quality Control procedures in accordance with the Quality Protocol for the production of aggregates from inert waste SROH: Compliance with SHW

*BS EN 16236 Evaluation of conformity of aggregates – Initial Type Testing and Factory production Control.

Testing

The materials are independently tested regularly by a UKAS approved testing facility, in accordance with the relevant specifications and inline with the WRAP Aggregates Quality Protocol.

Property	Test Frequency
Grading	1 per week of production working days
Composition	1 per week of production working days
Water absorption	1 per month of production working days
Water soluble sulphate	1 per month of production working days
Resistance to fragmentation	1 per month of production working days
Freeze-thaw resistance (magnesium sulphate soundness)	1 per month of production working days
Frost Heave	1 per month of production working days
California bearing ratio	1 per month of production working days
Liquid and plastic limits	1 per month of production working days

Type 4 unbound sub-base

Roadways testing requirement for Type 4 unbound sub-base

Test	Roadways Type 4 testing policy
PSD (Grading & moisture content) EN 933-1	1 per week of production working days
Constituents EN 933-11	1 per week of production working days
Plastic/Liquid limit, BS 1377:Part 2:1990	1 per month of production working days
Los Angeles (resistance to fragmentation) EN1097-2	1 per month of production working days
Magnesium sulphate soundness EN1367-2	1 per month of production working days
OMC MDD, BS 1377:Part 4:1990:Clause 3	1 per month of production working days
Water absorption-Particle Density (WA PD), EN1097-6	1 per month of production working days
Frost Heave, BS 812:Part 124:2009 & SHW Clause 801	1 per month of production working days
Sulphate suite: W/S sulphate, EN1744-1 cl 10 Total Sulphur, EN1744-1 cl 11 Sulphide, EN1744-1 cl 13	1 per month of production working days
PH	1 per month of production working days

Asbestos Screen

1 per month of production working days

Percentage by mass Passing			
Sieve Size (mm)	Typical Grading	Specification	
		Min	Max
63	100	100	100
31.5	90	75	99
16	50	43	81
8	50	23	66
4	20	12	53
2	10	6	42
1	5	3	32
0.063	2	0	9

From the results sent from the external test house, Basic Grading trends and graphs are produced and made available for any customer requests.

Any Non Conformances are investigated and communicated back to the Depot manager with the appropriate action taken place, whether its an adjustment to the plant or just a re-sample of the product.

Delivery Documentation

The product is delivered or collected with proof of delivery or collection

A Roadways Delivery ticket will contain the following information,

- Date
- Location of delivery
- Registration of vehicle
- Quantity
- Description of load

Review

This protocol will be reviewed annually at senior manager level or when there are significant changes to Standards, Law, changes to market place or any pollution Incidents.

Appendix - Clause 807

807 (02/16) Type 4 (asphalt arisings) Unbound Mixtures

1 (02/16) Type 4 unbound mixture shall be made from recycled aggregates containing asphalt arisings, and may contain crushed rock, crushed slag, crushed concrete or well burnt non-plastic shale and up to 10% by mass of natural sand that passes the 4 mm size test sieve.

2 (02/16) Asphalt arisings shall be either asphalt road planings or granulated asphalt, but excluding materials contaminated with tar or tar-bitumen binders. Asphalt planings are defined as materials derived from the asphalt layers of the pavement using a mobile machine fitted with milling cutters. Granulated asphalt is defined as asphalt bound material recycled from roads under reconstruction or surplus asphalt material destined for bound pavement layers, but unused, which has been granulated.

3 (02/16) Type 4 unbound mixture shall have an asphalt (Class Ra) content greater than 50% when tested in accordance with Clause 710, and the recovered bitumen content of the asphalt shall be not more than 10% when tested in accordance with BS EN 12697-1.

4 (02/16) Type 4 unbound mixture shall comply with BS EN 13285 and the requirements of Table 8/1. The grading requirements for the mixture are summarised in Table 8/5.

5 (02/16) The properties of aggregates used in the mixture shall be in accordance with BS EN 13242 and the requirements of Table 8/2.

6 (02/16) The size fraction of the unbound mixture passing the 0.425 mm size test sieve shall be non-plastic as defined by BS 1377-2 and tested in compliance therewith.

7 (02/16) Where the mixture contains recycled coarse aggregate or recycled concrete aggregate, it shall comply with sub-Clause 801.5.

8 (02/16) The mixture shall be transported, laid and compacted without drying out or segregation, at a moisture content within the range 1% above to 2% below the declared value of optimum water content when tested as required by BS EN 13285. The moisture content shall be determined by oven drying at a reduced temperature setting of 45°C to 50°C.

9 (02/16) Where required by contract specific Appendix 7/1, Type 4 unbound mixtures shall be assessed using a trafficking trial complying with sub-Clause 802.12.