ENVIRONMENTAL STATEMENT CHAPTER 3: DESCRIPTION OF THE PROPOSED DEVELOPMENT

Land South of Rover Way, Cardiff CF24 5PH

Harsco Metals Group Limited

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3.1.0 Proposed Development

3.1.1 This chapter of the Environmental Statement (ES) provides a description of the proposed development, including details regarding the site preparation, construction process and development programme, proposed land use, layout and equipment, access and parking, and employment.

Description of Development

3.1.2 The application submitted to Cardiff Council seeks full planning permission for:

"Installation of an Asphalt Batching Plant, along with associated infrastructure and works"

3.1.3 The planning drawings for the proposed development have been prepared by Harsco Metals Group Ltd. These have been prepared following an iterative design process which has been influenced by pre-application consultation with key-stakeholders, including Cardiff Council and Natural Resources Wales. Further information regarding pre-application consultation is provided within Chapter 5: Scoping and Consultation.

3.1.4 In addition, the design has also been guided by the various technical assessments that have been undertaken to support the planning application submission and in collating the EIA. Further information regarding the iterative design process is provided within Chapter 4: Consideration of Alternatives.

Proposed Land Use

3.1.5 The proposed Asphalt Batching Plant and associated materials storage area will be in keeping with the existing use of the Celsa Steel site and its designation within the Cardiff Local Development Plan (allocation EC1.3). The proposed Asphalt Batching Plant will fall within a Class B2 (General Industrial) use as defined within the Town and Country Planning (Use Classes) Order 1987 (as amended).

Layout and Equipment

Layout

3.1.6 The layout of the proposed Asphalt Batching Plant is shown within Figure 3-1 below and provided to scale within Appendix 3-1.

3.1.7 The plant will be located within the central confines of the red line site area, with an area to the west utilised for vehicular access, fill and departure via entry and exit weighbridges. Within the eastern confines of the site, a range of materials storage bays will be located along the boundary, thereby leaving a central manoeuvring area for vehicles.

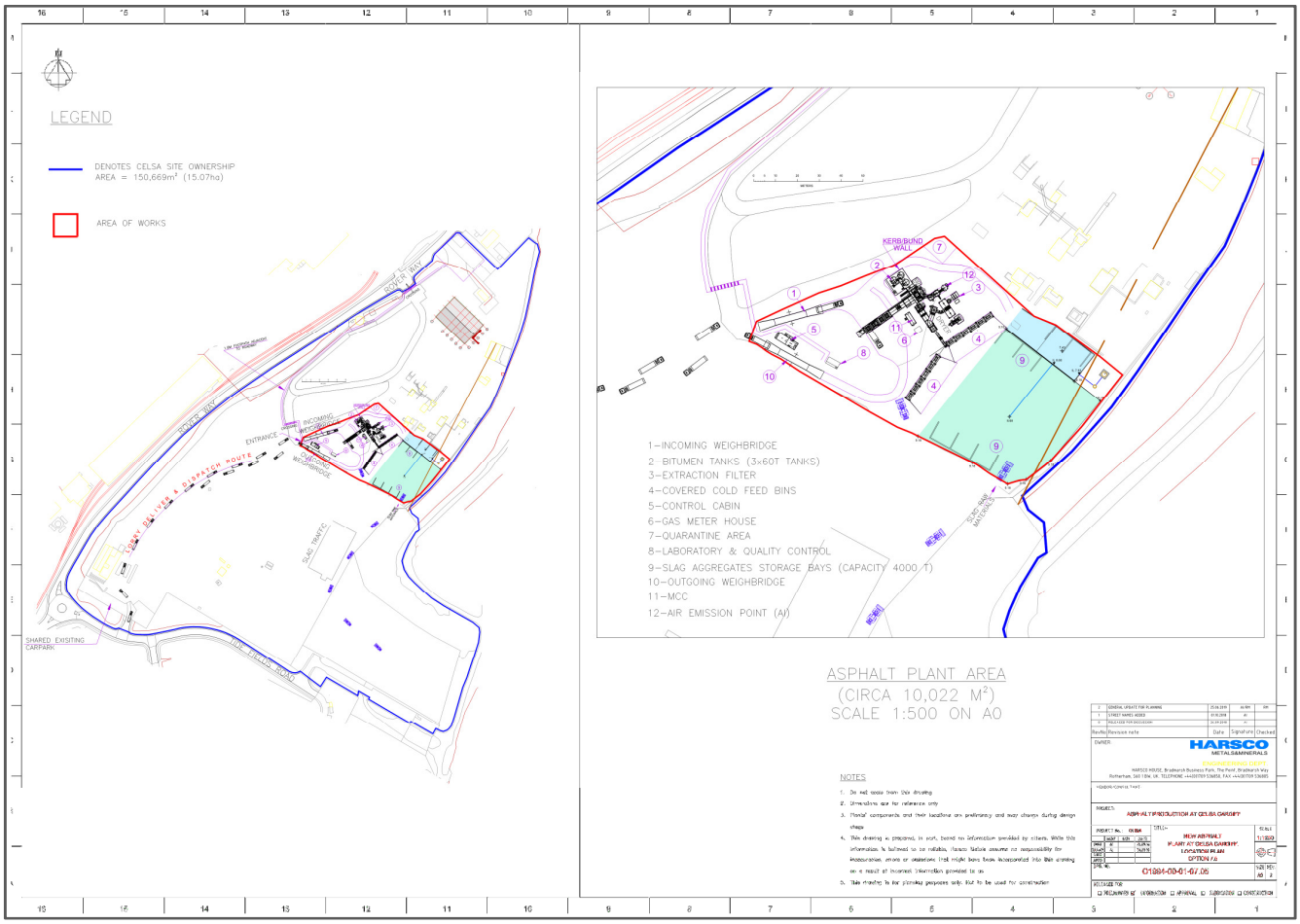
3.1.8 The bunded materials storage bays will be constructed from large prefabricated concrete blocks which lock together when stacked and covered by way of a pre-fabricated roof to keep materials dry. These are industry accepted materials for the formation of such large materials storage bays and entirely fit for purpose.

3.1.9 To accommodate the new concrete pad and erection of the Asphalt Batching Plant, a settlement lagoon and soakaway is to be constructed along the northeastern boundary of the application site

(adjacent to the SIMS Metal site). As detailed within Chapter 10, this settlement lagoon has been designed to accommodate the necessary surface water runoff capacity for the operation of the application site and will have a maximum discharge rate of between 5 – 10 ls^{-1}. The water within the lagoon will be 0.5m deep when fully drained down.

3.1.10 There is an existing concrete pad on site and this will be utilised as part of the proposals. This will be upgraded where necessary to support the weight of the Asphalt Batching Plant, weighbridges and associated HGVs. The plant will also be anchored to this pad by way of minor piles and anchor points (i.e. tensile cables to a fixed point).

Figure 3-1: Proposed Site Layout



3.1.11 In addition to the above, it has been agreed that the internal haul roads between the Asphalt Batching Plant operational area and Tide Fields Road would be upgraded by way of asphalt surfacing. Notwithstanding, drainage of these internal roads will remain as existing with runoff occurring onto the edge of the roadway.

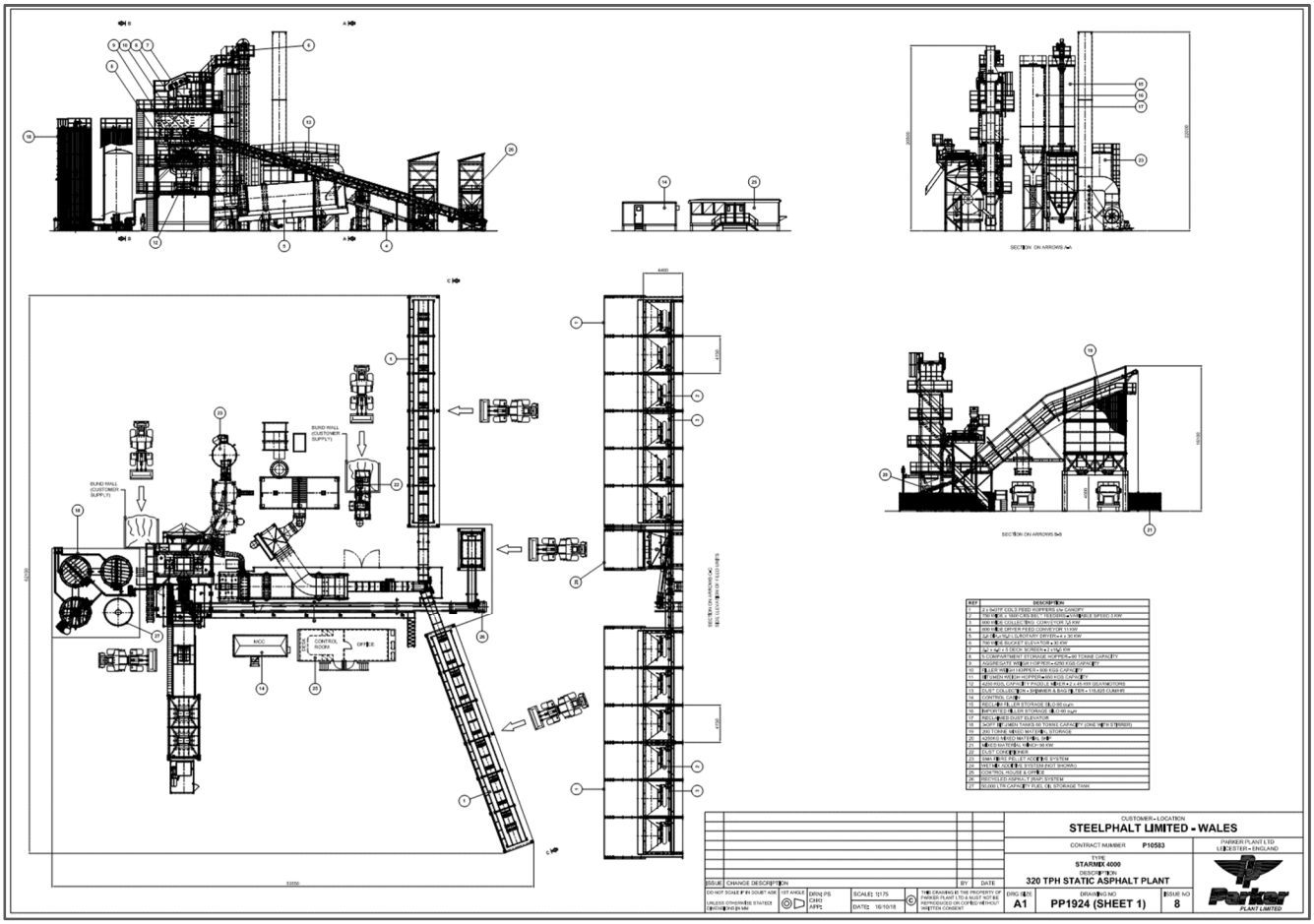
Equipment

3.1.12 The batching plant itself will comprise of a range of storage silos, feed and weigh hoppers, belt feeders, conveyors, a rotary dryer, bucket elevator, deck screens, paddle mixer, dust collection skimmer and fill bag, bitumen tanks, fibre pellet additive system and a control cabin. Further information regarding the individual components of the plant are provided within the 'Parker Plant

Limited, Starmix 4000 Technical Specifications' document in Appendix 3-2.

3.1.13 Whilst operating in a set process, the plant is modular to allow for replacement parts and/or 'bolt-on' additions to improve functionality where appropriate. The technical drawings of the Asphalt Batching Plant are shown within Figure 3-2 below and are provided to scale within Appendix 3-3.

Figure 3-2: Technical Drawings of Asphalt Plant



Batching Plant Process

3.1.14 The asphalt plant has the capacity to produce up to 320 tonnes per hour of asphalt materials. The process uses slag (a waste generated on site by Celsa's production process) which has been crushed and screened to remove the metallic fraction leaving a quality aggregate. The arising slag aggregate will be fed into the asphalt plant with the addition of bitumen, Road Asphalt Planning's, cellulose, fibres and filler in varying proportions to produce different specifications of asphalt.

3.1.15 The Asphalt Batching Plant process can be broken down into clear operational stages as detailed below:

- The first step is to feed unheated-raw aggregates into different bins of the cold aggregate feeder bins at the south-eastern most extent of the plant (note that the aggregates are separated into separate bins subject to size and quality);
- Cold feeder gates on individual bins control the flow of aggregates into the plant itself, with

the amount of each aggregate inputted into the plant dependent on the mix specified by the purchaser;

- The aggregates are then transferred to a rotary drier by way of a charging conveyor and the aggregates are heat-dried;
- At this stage primary and secondary dust collectors operate to collect settling heavy dust particles to prevent dispersion into the surrounding environment, with discharge via the chimney stack. The dust extraction system includes a pre-skimmer and interconnecting pipework to the rotary drier screen, mixer, elevator and filler silo. The bag filter unit incorporates a collecting hopper to store the collected dust which is used in the asphalt mix. A Continuous Emissions Monitor will be installed, and the plant specification is designed to achieve particulate emissions of less than 25mg/m3;
- Following heating, the aggregates are transferred to the tower unit by way of a bucket elevator;
- At the top of the tower unit is multiple layered screening unit which the hot aggregates pass through to get re-separated and stored into different bins based on their sizes;
- From the hot storage bins, the aggregates are then weighed and discharged in to the mixing unit. In the mixer, aggregates will be mixed with bitumen and filler material;
- The bitumen is stored and heated within separate tanks adjacent to the tower unit. Bitumen is pumped to the weighing hopper prior to discharge. This bucket weighs it before addition into the mixer;
- Filler material is added in a separate container and it is pumped to its weighing hopper for subsequent discharge into the mixing unit;
- After mixing, the hot mix asphalt is either discharged into waiting trucks or into the mixed material storage silos;
- All processes identified above are controlled by way of computerized program and monitoring equipment located within the control cabin. This cabin is manned by a suitably trained member of staff at all times, who can manually override the plant in cases of emergency.

3.1.16 The asphalt is produced in accordance with the Slag Quality Protocol to a required specification enabling it to achieve ‘end of waste status’. The process enables the recovery of slag from the steel making process thus reducing reliance on disposal to landfill. By recovering waste materials, the need to source virgin materials is also reduced. It is intended that Harsco will operate this plant under Celsa’s environmental permit.

Figure 3-3: Photograph of similar Asphalt Batching Plant (Rotherham, South Yorkshire)

Site Preparation and Construction

Site Preparation

3.1.17 As identified above, there is an existing concrete pad on site and this will be utilised as part of the proposals. The pad will be upgraded where necessary to support the weight of the Asphalt Batching Plant, weighbridges and associated HGVs. The plant will also be anchored to this pad by way of minor piles and anchor points (i.e. tensile cables to a fixed point).

3.1.18 The pad will be laid as to drain to a settlement lagoon and soakaway which will be constructed on the northern bounds of the application site, adjacent to the SIMS Metal site. The levels changes required to facilitate drainage and the settlement lagoon will require approximately 1,800m3 of cut and 1,870m3 of fill to achieve.

3.1.19 As detailed above the settlement lagoon and soakaway will have a maximum discharge rate of between 5-10 ls-1 and anticipated 0.5m depth of water when fully drained. During periods of excessive rainfall, the materials storage area will be capable of acting as a surface water storage area. This will ensure that runoff from the Asphalt Batching Plant and materials storage area do not disperse onto the surrounding land.

3.1.20 The site preparation works will be undertaken utilising a range of excavation and grading equipment including and not limited to tracked excavators and wheeled loaders.

Construction

3.1.21 The Asphalt Batching Plant will be delivered to site as modular components and subsequently constructed/fitted together on site. This will ensure that the components are easily delivered to site and allows for minor variations to the installation process subject to weather and site conditions.

3.1.22 A number of mobile cranes (no larger than 100 tonne) will be utilised to move equipment from the delivery vehicles to position on site. Given the nature of the wider site, this delivery and erection

method will not result in disturbance to the existing operations of either Celsa Steel or SIMS Metal.

3.1.23 All works will be undertaken by Harsco Metals Group Ltd, utilising their own specialist team familiar with erecting and operating such Asphalt Batching Plant equipment. All equipment will be thoroughly tested prior to full operation of the Asphalt Batching Plant.

Development Programme

3.1.24 The entire development programme is anticipated to take approximately 18 weeks, with the following key elements of work being contained therein:

- Site Preparation – Site Clearance and ad hoc works required to commence construction operations – 2 weeks;
- Site Preparation – Earthworks to form site levels and settlement lagoon – 3 weeks;
- Site Preparation – Concrete slab layout & soakaway – 2 weeks;
- Construction – Delivery and erection of Asphalt Batching Plant, weighbridges and concrete storage bins – 10 weeks; and
- Post Construction – Safety and operational checks of Asphalt Batching Plant – 1 week.

3.1.25 The exact dates for the undertaking of the above are liable to change given that the necessary consents need to be obtained through both the planning and permitting regimes. Upon completion of the development programme, commencement of operations would commence immediately and asphalt would begin to be delivered to market.

3.1.26 Any subsequent repairs, maintenance or upgrading of the equipment would be undertaken on site and in an ad-hoc manner according to requirements.

Operational Hours

3.1.27 The proposed Asphalt Batching Plant is anticipated to operate for approximately 300 days per annum, during which the plant is proposed to operate between the following hours:

Table 3-1: Hours of Operation (FOR REVIEW)

Day	Period of Operation
Monday to Friday	06:00 to 18:00 Hours (N.B. Hours may be extended as required to fulfil an order)
Saturdays	As required to fulfil an order
Sundays & Public Holidays	As required to fulfil an order

3.1.28 Given the industrial nature of site and the surrounding area, these hours of operation are considered entirely appropriate. Furthermore, these hours of operation are in accordance with the current working hours operated by Celsa Steel and SIMS Metal.

Throughput & Materials

3.1.29 The Asphalt Batching Plant has the capacity to produce up to 320 tonnes per hour of asphalt materials. The process will utilise waste materials from the steel works which would otherwise need to be disposed of as a waste material. As such, there are clear operational and sustainability benefits to the asphalt plant being located within this site. Notwithstanding, there will need to be further materials imported to the site for the operation of the plant and also vehicular movements taking the prepared asphalt away from the site.

3.1.30 It should be noted that, at present, Harsco Metals group import up to 88 ktns of slag from the Celsa steel site for their Asphalt Batching Plant in Rotherham; 27ktns transported by rail and 52ktns by road. As such, the installation of this Asphalt Batching Plant at the Cardiff site will have significant sustainability benefits in terms of reducing haulage movements across the country. This has been duly considered within the submitted Transport Assessment.

3.1.31 The asphalt is produced in accordance with the Slag Quality Protocol to a required specification enabling it to achieve 'end of waste status'. As such, the process enables the recovery of slag from the steel making process thus reducing haulage and a reliance on disposal to landfill. By recovering waste materials, the need to source virgin materials is also reduced.

3.1.32 Some raw materials will be brought on to site which will be incorporated into the asphalt mix. However, the plant will predominantly process the slag which will reduce the need for Celsa to transport slag off site to other outlets.

3.1.33 Table 3-2 below provides details of the materials to be both imported and exported from the site for the operation of the Asphalt Batching Plant. The tonnages per year are approximations and may vary slightly dependent on throughput / demand.

3.1.34 Given that both processed and unprocessed slag will be obtained on site from Celsa's existing operations, the amount of materials for these elements are not able to be quantified at this point in time.

Table 3-2: Materials and Quantum

State	Source / Destination	Material	Year 1 (tonnes / year)	Year 5 (tonnes / year)	Vehicle Type and Size
Input	On-site	Unprocessed slag	TBC	TBC	N/A
Input	On-site	Processed slag	TBC	TBC	N/A
Input	Off-site	Bitumen	5,000	12,500	30 tonne artic tanker
Input	Off-site	Limestone	5,000	25,000	30 tonne artic rigid tipper

State	Source / Destination	Material	Year 1 (tonnes / year)	Year 5 (tonnes / year)	Vehicle Type and Size
Input	Off-site	RAP	Included in Asphalt products number (RAP is produced from returned Asphalt)	Included in Asphalt products number (RAP is produced from returned Asphalt)	20 tonne rigid tipper
Input	Off-site	Filler	1,500	4,000	30 tonne artic tanker
Input	Off-site	SMA Fibre Pellets	50	125	20 tonne artic tanker
Input	Off-site	Additive (No. IBC's)	5	5	7.5 tonne flatbed
Output	Off-site	Asphalt products	100,000	250,000	20 tonne rigid tipper

3.1.35 The following materials are to be stored within the covered storage bays; EAF slag dust, EAF 6mm slag chippings, Limestone dust, Limestone 6mm chippings, and Sand. In addition, the remaining EAF and limestone chipping stock does not need to be stored in covered bays.

Access and Parking

Pedestrian and Cycle Access

3.1.36 Given the nature of the site and the surrounding area, it is considered unlikely that members of staff or visitors would visit the site by either foot or cycle. As such, no supporting infrastructure (i.e. footpaths or cycle parking) are proposed as part of the application.

Vehicle Access

3.1.37 Access into the site will be strictly controlled to operational personnel only.

3.1.38 It is envisaged that operational staff would either use public transport or park in the car park to the south of Rover Way, adjacent to and accessible from the main vehicular access point to the site on Tide Fields Road.

3.1.39 Delivery vehicles and mixer trucks will access the site via the internal haul roads within the Celsa Steel Works site, gaining access to and from the highway via Tide Fields Road which bounds the site to the south. No vehicular access will be available via the access onto Rover Way given that this is utilised by larger vehicles associated with the wider Steel Works operations.

3.1.40 The internal haul roads will be upgraded and laid in asphalt as part of the proposals, albeit drainage of these internal roads will remain as existing with runoff occurring onto the edge of the roadway.

3.1.41 Whilst aggregate and bitumen will need to be imported to site, it is proposed that waste finings (crushed slag) from the Celsa Steel Works would be utilised in the Asphalt Batching Plant process.

This ensures that the waste materials located within the wider Celsa Steel Works site have a functional re-use and also reduces the level of highways movements needed to serve the Asphalt Plant.

Landscaping

3.1.42 No landscaping works are proposed as part of the development proposals.

Employment

3.1.43 The proposed Asphalt Batching Plant will be operated by Harsco Metals Group Ltd and will employ up to a total of 10 full time staff, however initially this will be a smaller number and the operation will scale up to meet demand. These will be in addition to those already employed by Celsa Steel UK and will be entirely 'new' jobs created within the Cardiff market.

3.1.44 There will be a split of responsibilities with slag movement continuing to be undertaken by Celsa with the new plant to be controlled and operated by Harsco.

3.1.45 Of those employed, the roles to be undertaken will include the following:

- Operations Manager;
- Asphalt Plant Operator;
- Loading Shovel Operator;
- Weighbridge Operator;
- Transport Planner;
- Sales Admin;
- Technical Staff; and
- Maintenance Staff.

Summary

3.1.46 The proposed development seeks to develop a complimentary industrial use, namely the asphalt batching plant, at an existing allocated employment site. There are clear benefits to the co-location of the asphalt plant on site given that it is able to utilise waste materials arising at the existing Celsa Steel Works site.

3.1.47 Furthermore, the site is well located in terms of accessibility to the surrounding highway network and will deliver benefits to the internal haul road layout within the site itself. The proposals will also reduce the movement of materials by removing road and rail movements currently delivering such waste materials to Harsco's facility in Rotherham. Finally, the proposals will create up to 10 new full time employment positions and will therefore deliver further direct and indirect economic benefits to Cardiff.

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