

DESIGN AND ACCESS STATEMENT: PROPOSED PLASTICS RECYCLING & PROCESSING FACILITY

GOAT MILL ROAD | MERTHYR TYDFIL | CF48 3TD



PREPARED BY



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DRAWING SCHEDULE

Drawing Number	Drawing Title	Scale
JAY1001/04/01	Site Location Plan	1:2500 / 1:50000
JAY1001/04/02	Existing Topographical Survey and Planning Application Boundary	1:2500
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JAY1001/04/04	Development Platform Earthworks Isopachytes	1:2500
JAY1001/04/05	Site Sections	1:2000 / 1:4000
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JAY1001/04/07	Swept Path Analysis	1:2500
JAY1001/04/08	Building 1 Elevations	1:500
JAY1001/04/09	Building 1 Floor Plan	1:500
JAY1001/04/10	Building 2 Elevations	1:500
JAY1001/04/11	Building 3 Floor Plan	1:500
JAY1001/04/12	Fire Tank Details	1:125
JAY1001/04/13	Combined Heat and Power Unit Details	1:100
JAY1001/04/14	Car Park Details	1:250
JAY1001/04/15	Typical Cycle Shelter Details	1:50
JAY1001/04/16	Charging Point Details	1:10
JAY1001/04/17	Weighbridge Details	1:50, 1:100, 1:250
JAY1001/04/18	Proposed External Finishes	NTS
JAY1001/04/19	Security Fence and Details	1:2500
JAY1001/04/20	Close Boarded Fence Details	1:2500

Design and Access Statement

Proposed Plastics Recycling & Processing Facility off Goat Mill Road, Merthyr Tydfil

JAY1001/04/21	Post and Rail Fence Details	1:2500
JAY1001/04/22	Proposed Bale Storage Details	NTS
JAY1001/04/23	Landscape and Ecological Masterplan	1:2500



1. INTRODUCTION

1.1 FORWARD

- 1.1.1 Sirius Planning has been commissioned by Jayplas, a trading name of J & A Young (Leicester) Ltd, to prepare a planning application for the construction and operation of a plastics recycling and processing facility on land off Goat Mill Road, Merthyr Tydfil.
- 1.1.2 The purpose of this Design and Access Statement (DAS) is to allow the applicant to demonstrate that development proposals are based on a thoughtful design process and a sustainable approach to access. The DAS should also demonstrate how the development proposals have evolved during the design process.
- 1.1.3 This statement sets out the design and access principles for the proposed development in accordance with the Chartered Association of Building Engineers (CABE) guidance.

1.2 LOCATION

- 1.2.1 The application site is situated on land off Goat Mill Road to the west of the A4060 and to the east of Pen-Y-Darren centred on NGR 306142, 206982. The location of the site is shown on drawing **JAY1001/04/01** and Figure 1.1 below.



Figure 1.1: Site Location

1.3 CONTEXT

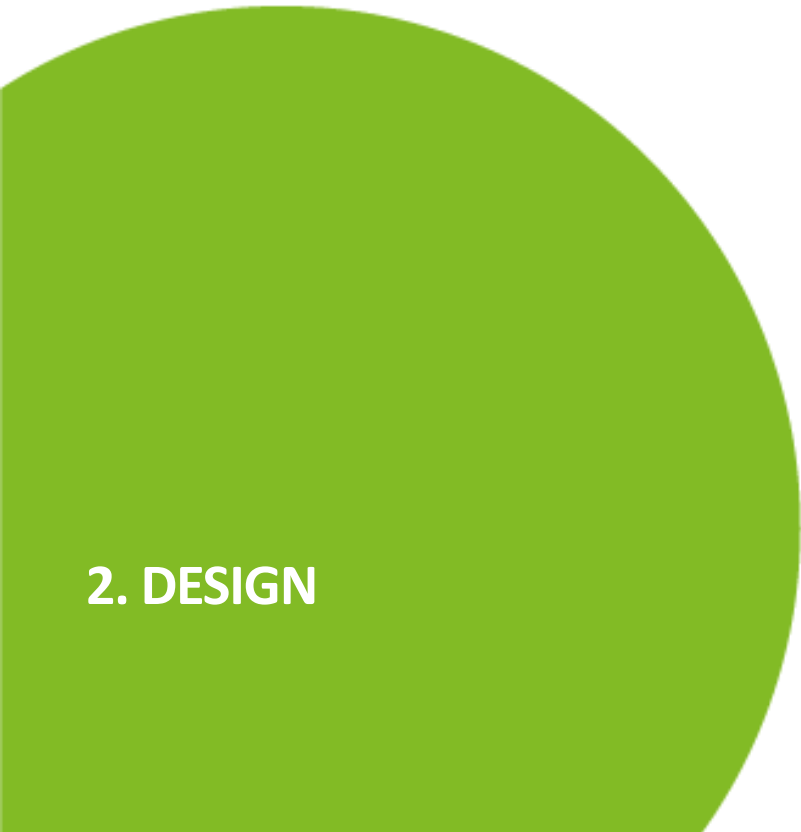
- 1.3.1 The application site has a total area measuring approximately 14.6 hectares. The land is currently vacant with the sites surface comprising of mainly open sparsely grassland gravel and is relatively flat delineated with mature vegetation along its boundaries. To the east of the site is the shoulder of an embankment supporting the A4060 road. The site has seen significant historical development over the

years including rail lines, reservoirs and Dowlais Great Tip (associated with Dowlais Iron Works formerly to the immediate north).



Figure 1.2: Drone aerial image of the site and surrounding area

- 1.3.2 The site is situated within an industrial setting with an established industrial estate located to the north of the site. The A4060 runs along the eastern boundary of the site beyond which lies an opencast coal mine and the Fofs-y-fran Land Reclamation Scheme. Residential areas are located beyond Goat Mill Road to the west of the site and beyond Mount View to the south.
- 1.3.3 The application site is accessed by two spur roads leading off roundabout junctions on Goat Mill Road, a well-established route for large vehicles and lorries frequently using the industrial estate to the north, which in turn can be accessed off the A4060 providing good links to the wider road network. This existing access will be utilised during both the construction and operational phase.



2. DESIGN

2.1 USE

2.1.1 The proposed development is for the installation and operation of a plastics recycling and processing facility and associated infrastructure. The facility will be capable of taking in waste rigid plastics and film from commercial, industrial and the public sector to recycle and process. The closed loop cycle is a sustainable approach to materials management and will help the transition to a zero-waste ecology.

2.1.2 The proposed site, when fully operational, will accept and process c. 150,000 tonnes of plastic materials per annum. The proposed facility consists of the following elements:

- Two individual warehouse units (enclosed steel portal frame), with the first building including an internal office/administration area;
- Reserved area for the provision of a future third warehouse unit;
- External storage area in the form of an impermeable hardstanding area;
- Car parking (including electric charging points) and bike racks;
- Weighbridge;
- Combined Heat and Power Unit;
- Fire water storage tank;
- Surface water attenuation area;
- Landscaping; and
- Lighting

2.1.3 Figure 2.1 presents the site layout. The description of the development is provided within Chapter 3 of the Planning Statement.

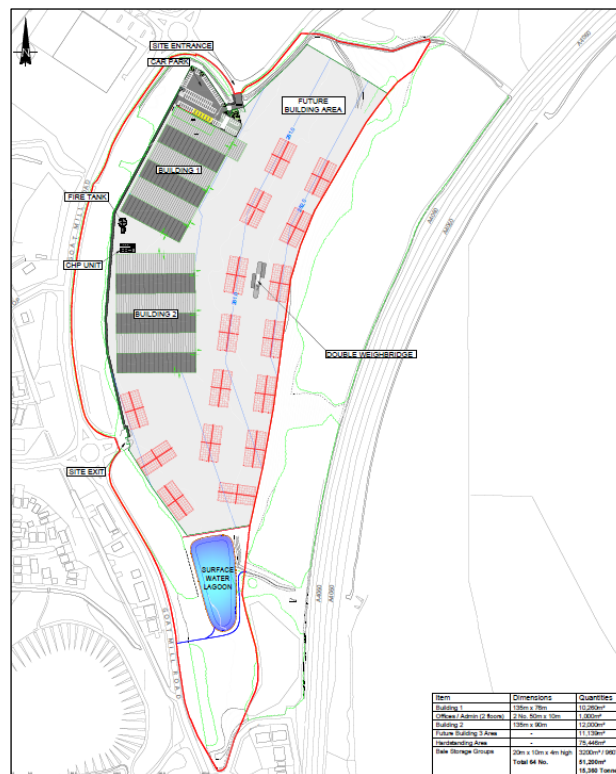


Figure 2.1: Proposed Site Layout

General Process Description

- 2.1.4 The proposed plastic recycling and processing facility consists of two individual warehouse units, with a potential expansion area for a third building, housing various plant and machinery equipment to enable recycling and processing of different types of plastic to produce close loop products. All plant and machinery operations will be undertaken within the buildings.
- 2.1.5 The detailed design of the internal plant within the two proposed buildings is still being undertaken and will be based on updated market conditions, however, the proposed buildings on site are likely to house the following facilities/plants.

Phase 1

- A Plastics Recycling Facility (PRF) to sort incoming rigid and film plastics into different polymer types and colours;

Phase 2

- Polymer Wash Plants where caps, labels and other contaminants are removed, and materials baled.

- 2.1.6 Figure 2.2 below illustrates a Process Flow Diagram for the Facility once fully operational.

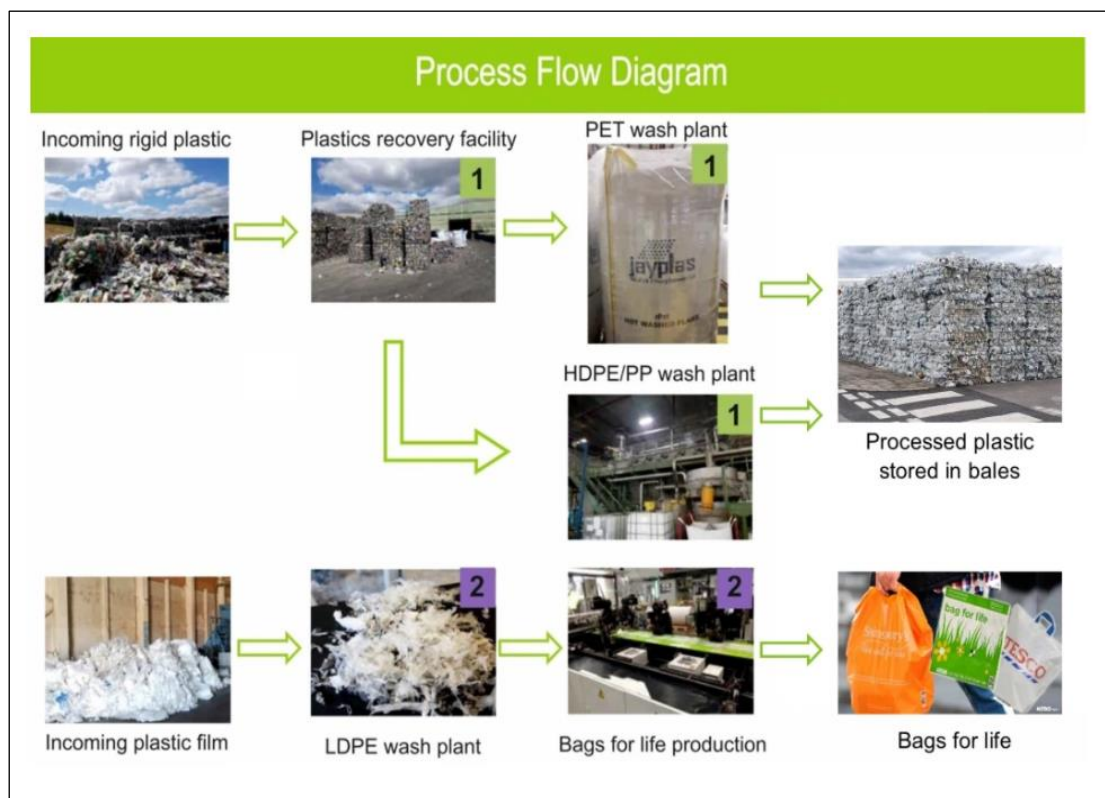


Figure 2.2: Process Flow Diagram of the Proposed Plastics Recycling & Processing Facility

- 2.1.7 Phase 1 of the proposed development includes a Plastics Recycling Facility (PRF) which will take in the mixed rigid and film plastics collected by waste collection operators, such as local authorities. The PRF then separates the plastics into different types of plastics (for example HDPE, PET, PP etc.) and for HDPE and PET separates further for colour. Other plastics fractions (e.g. black trays) will be segregated and baled for onward treatment at other Jayplas sites or by a third party.
- 2.1.8 Materials are then transferred into Building 2 which includes the polymer wash plants where caps, labels and other contaminants are removed, and materials baled and either transported to another

Jayplas site or sold onto the open market.

2.2 SCALE

- 2.2.1 The scale of the proposed facility reflects a number of factors including the volume of materials to be managed by the facility and localised site constraints such as available space and location of sensitive receptors.
- 2.2.2 The largest structures on site will be the warehouse units. The northern most building (building 1) is approximately 14m to eaves and 16m to ridge and measures approximately 135m x 76m, having a floor space of 10,260m² and the southern building (building 2) is approximately 12m to eaves and 14m to ridge and measures approximately 135m x 90m, having a floor space of 12,000m². The buildings will be constructed using a steel portal frame design and clad with galvanised steel powder coated profile cladding. Each unit will contain welfare facilities and building 1 includes an integral administrative office covering 2 floors measuring 1,000m² (50m x 10m). Drawing No's. **JAY1001/04/08** and **JAY1001/04/10** illustrates the building elevations.
- 2.2.3 The buildings have been sized to accommodate the internal plant required for the recycling and processing process. Drawing **JAY1001/04/05** and Figure 2.3 provides sections of the proposed development site.

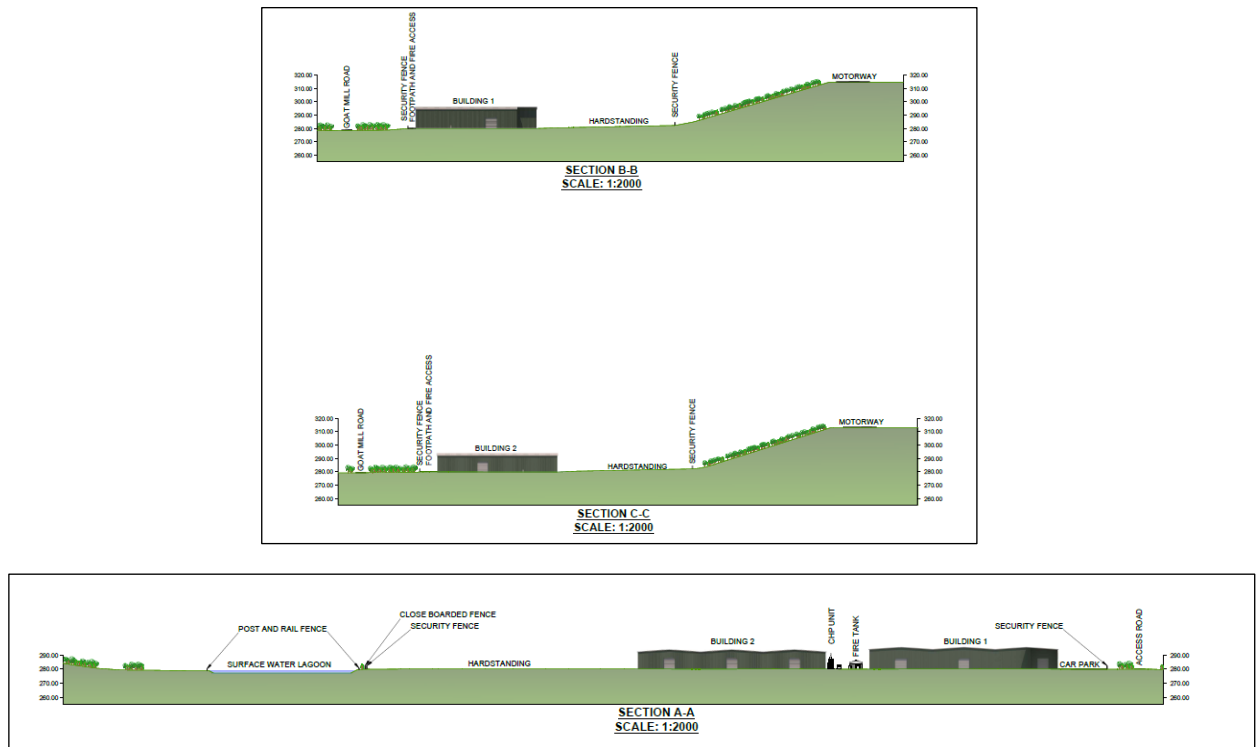


Figure 2.3: Sections of the Proposed Development

- 2.2.4 Following various environmental and technical assessments (see **Appendices C – Q**), it is considered that the proposed buildings and infrastructure would be of a suitable scale for the site.

2.3 LAYOUT

- 2.3.1 Drawing **JAY1001/04/06** and Figure 2.1 above illustrates the proposed site layout for the facility. The layout has been designed as per the operational requirements for the site and has been strongly influenced by ongoing dialogue with other specialist consultants in the design team particularly with regard to noise, ecology, surface water drainage and visual impact from outside the site.
- 2.3.2 As with most modern facilities, the waste processing operations are contained within buildings, thus

offering greater controls over any potential negative impacts. Each element of the site accommodates a different process / operations and arrangements reflect the operational requirements such as process inputs and outputs, vehicle circulation and regulatory controls.

- 2.3.3 The proposed site layout has been guided by detailed assessments and an extensive design iterative process has been undertaken to minimise impact and enable the incorporate of mitigation, where necessary, and enhancement.

Proposed Building Positions

- 2.3.4 The proposed buildings are situated within the northern part of the site to be furthest away from the residential receptors to the south and west. In addition, the buildings have been positioned so that the front of the buildings face east, towards the storage yard in order to minimise any noise emissions associated with the movement of materials in and out of the buildings.
- 2.3.5 The proposed car park is located adjacent to the offices within Building 1. A proposed footpath runs to the rear of the two buildings for safe pedestrian access.
- 2.3.6 A reserved area has been illustrated on the proposed site masterplan for a future third warehouse unit if the market requires. In the meantime, it is anticipated that the future reserved area will be used as additional open storage when necessary.

Storage Yard

- 2.3.7 The external storage yard will store incoming plastic materials and processed products. Processed plastic grades will be stored externally in 'bales' prior to onward removal for further processing. The bales (approximately sized 2m x 1m x 1m each) will be stored in units of four quadrants separated by a 5m high concrete push wall of a maximum size of 20m x 10m x 4m as illustrated on Drawing no. **JAY1001/04/22**. Forklift trucks / telehandler are to be used in the storage yard to load and unload bales. The storage yard has been laid out to enable vehicle manoeuvring areas.
- 2.3.8 An Environmental Permit will be required to control the operation of the facility. The layout of the storage bales accords with fire prevention measures as per Natural Resource Wales guidance.

Retention of Woodland Boundary

- 2.3.9 The proposed scheme retains the majority of broadleaved woodland plantation delineating the sites boundaries and a significant area of grassland. Retention of the established perimeter vegetation will aid the integration of the development, retaining the established local green infrastructure, whilst also mitigating potential visual effects.

Drainage

- 2.3.10 It is proposed that surface water runoff from the impermeable areas of the site will discharge to a new surface water lagoon to be located to the south of the storage yard, before discharging off site into a watercourse on the western boundary of the site. Given the presence of an existing watercourse running across the southern part of the site, downstream of Morlais B off-site outfall, this has been diverted around the proposed surface water lagoon as indicated on Drawing no. KRS.0297.021.01.
- 2.3.11 A post and rail fence is proposed to secure the lagoon as detailed on Drawing no. JAY1001/04/21.
- 2.3.12 Diverting the existing watercourse is considered the more sustainable option for the site. Consideration was given to a potential pipe over the existing watercourse from the impermeable area to the proposed lagoon and then discharge into the watercourse from the lagoon however, this wasn't considered to incorporate into the natural water environment. Consideration was also given to take the discharge from the Ffos y Fran area into the proposed lagoon, however the site would have to rely on the management of this upstream system which could potentially cause issues. In addition, this catchment

area may be developed in future and therefore separating the flows from the site and the existing outfall from the Ffos y Fran area would avoid any known effect on the sustainability of the current proposals.

- 2.3.13 Consideration was given to locate the proposed lagoon further south, however the position of the proposed surface water lagoon has been dictated by the diversion of the existing watercourse.
- 2.3.14 The size of the surface water lagoon has been calculated such that the development has the capacity to accommodate the 1 in 100-year rainfall evening including a 30% increase in rainfall intensity that is predicted to occur as a result of climate change.
- 2.3.15 A pre-application response has been received from the Sustainable Drainage Approving Body (SAB) confirming the principle of the surface water scheme is acceptable. Construction details of the surface water lagoon and a detailed surface water management scheme will be submitted to the SAB Authority for approval.

2.4 DESIGN PRINCIPLES

- 2.4.1 It is planned that the site layout will allow for the phased development of the site from the northern most building (Building 1) to the southern most building (Building 2). In addition, a reserved area has been illustrated on the proposed site masterplan for a potential third building, if the market requires in the future.
- 2.4.2 The development platform is designed to allow efficient cut and fill balancing, avoiding the need for excessive import or export of materials.
- 2.4.3 The proposal has been designed to maximise the footprint upon the existing disturbed land reducing the spread into the woodland bordering the site, thereby retaining these features to provide visual barriers and landscape structure.

Landscaping

- 2.4.4 A detailed scheme of landscaping and visual mitigation proposals is illustrated on Drawing **JAY1001/04/23**. All mature tree cover around the site perimeter will be retained and protected, the vegetation is key to forming an established setting for the development and screening visibility over the wider landscape. In addition, additional tree planting is proposed upon the northern and southern boundary to screen internal views into the site and to compensate for lost scrub planting following the construction of the surfaces water lagoon. In addition, a close boarded timber fence is proposed along the southern boundary of the operational area to screen views into the storage area from the south.

Visual Appearance

- 2.4.5 The proposal has been designed to be sympatetic to the surrounding area with the form and size of the proposed buildings has been informed by the internal plant required for the recycling processing operations.
- 2.4.6 The mossy green cladding of the buildings assists the building to blend in with the local context of the area. The proposals are set within a context of existing industrial warehouse units to the north and within an established vegetation fringe of mature tree cover, backed by the A4060 road corridor and the mining areas beyond.

Security & Lighting

- 2.4.7 The site will be secured by a 2.4m high Paladin security fencing with matching vehicular/pedestrian access gates. Drawing **JAY1001/04/19** provides details on the security fencing for the site.
- 2.4.8 An exterior lighting strategy has been prepared (**Appendix O**) for health and safety requirements to ensure a safe external work environment for operatives on site. Optics have carefully been selected to

avoid glare and light spill as much as possible whilst achieving the required lighting levels. Columns close to ecological sensitive areas have rear shields proposed to further reduce rear light spill. In addition, to reduce the impact of lighting on Bats present in the woodland corridors, all proposed lighting utilises an LED light source to avoid light sources with high UV content.



3. ACCESS

- 3.1.1 The application site is accessed by two spur roads leading off roundabout junctions on Goat Mill Road, a well-established route for large vehicles and lorries frequently using the industrial estate to the north, which in turn can be accessed off the A4060 providing good links to the wider road network.

3.2 TRAFFIC GENERATION

Construction Phase

- 3.2.1 Estimated average vehicle movements associated with the temporary construction phase of the facility will be 50 daily movements.
- 3.2.2 LGVs would largely act as a means of transport to the site for the workforce, however sustainable transportation will be encouraged. The extent of LGV movements will vary at different stages of the construction work in response to the activities taking place at any given time.

Operational Phase

- 3.2.3 Estimated average vehicle movements associated with the fully operational facility is 84 vehicle movements (two-way) during the AM peak period and 69 vehicle movements (two-way) during the PM peak period. From information provided by the applicant, it is expected that the site will generate in the order of 10 HGV movements per hour. OGV movements would likely to be in the order of 11 trips (two-way) in the AM peak and 3 trips (two-way) in the PM peak; equating to roughly 1 OGV trip per 5-6 minutes / 20 minutes in the AM and PM peaks, respectively. Drawing JAY1001/04/07 shows typical HGV movements around the site.

3.3 CAR PARKING

- 3.3.1 During construction it is expected that the existing site will provide sufficient available land for temporary parking and lay-down for the construction phase.
- 3.3.2 Once fully operational, employees and visitors will park in the car park to the north of Building 1. The proposal provides the provision of a total of 90 standard car parking spaces (73 spaces plus 17 overflow spaces). 6 disable parking spaces and 4 motorcycle parking spaces are also provided along with 7 electric vehicle charging spaces and a further 4 passive charging spaces. In addition, 8 cycle parking spaces will be located in proximity to the office within Building 1. Drawing **JAY1001/04/14** illustrates the car park layout. The Transport Assessment concludes that the proposed car parking provisions are considered sufficient to meet the predicted parking demand generated by the proposal.



Figure 3.1: Visualisation of the Proposed Plastics Recycling & Processing Facility Car Parking Area



4. CONCLUSION

- 4.1.1 This statement describes a proposal by Jayplas for the construction and operation of a plastics recycling and processing facility on land off Goat Mill Road, Merthyr Tydfil.
- 4.1.2 The DAS demonstrates that the extent of the works can be contained upon a focussed footprint adjacent to an existing industrial area. It is considered that the scale and appearance of the proposed development is not out of character with the local setting. The layout of the site has been designed in response to the operations of a plastic recycling and processing facility.

