



Recovering Waste Powering Communities

The 3Rs Facility: Resource Recovery and Renewable Energy Production Facility, Fryers Road, Walsall Amended Proposal

ENVIRONMENTAL STATEMENT VOLUME 4: NON-TECHNICAL SUMMARY

This Document has been prepared in support of the application of full planning permission in accordance with the provisions of the Town and Country Planning Act 1990 for the development of an amended iteration of the Resource Recovery and Renewable Energy Production Facility on land off Fryers Road, Walsall, WS3 2XJ. The application and associated documentation have been produced and co-ordinated by AXIS with technical inputs from:

- AXIS – Transportation, Landscape and Visual, Socio-Economics, Archaeology and Cultural Heritage, Surface Water Drainage and Flood Risk;
- Fichtner – Air Quality and Human Health;
- Argus Ecology – Ecology and Nature Conservation;
- NVC – Noise and Vibration; and
- TerraConsult – Ground Conditions.

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The logo for axis, consisting of the word 'axis' in white lowercase letters inside a dark blue square.

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FOREWORD

This Environmental Statement is submitted in support of a planning application made by BH EnergyGap (BHEG) (Walsall) Limited for the construction and operation of an amended iteration Resource Recovery and Renewable Energy Production Facility (the '3Rs facility') on land to the west of Fryers Road, Walsall.

The Environmental Statement has been prepared in accordance with the Town and County Planning (Environmental Impact Assessment) Regulations 2017 and comprises the following documents:

- The Environmental Statement Main Report (Volume 1), which contains the detailed project description; an evaluation of the current environment in the area of the 3Rs facility; the likely significant environmental impacts of the scheme; and details of the proposed mitigation measures which would alleviate, compensate for, or remove adverse impacts identified in the study. Volume 1 also includes a summary of the overall likely significant environmental impacts of the 3Rs facility;
- Illustrative Figures (Volume 2) which contains all relevant schematics, diagrams and illustrative figures;
- Technical Appendices (Volume 3), which include details of the methodology and information used in the assessment, detailed technical schedules and, where appropriate, raw data;
- This Non-Technical Summary (Volume 4), contains a summary of the Environmental Statement, expressed in non-technical language.

All of the planning application documentation, including the Environmental Statement, can be downloaded free of charge from the planning portal on Walsall Council's web site. Hard copies of the Environmental Statement, as a four Volume set, are available at a cost of £300 by writing to AXIS, Camellia House, Water Lane, Wilmslow, Cheshire, SK9 5BB. Alternatively, the Non-Technical Summary can be purchased on its own from the same point of contact for £15, with the entire Environmental Statement available for purchase on a CD for £15.

1.0 INTRODUCTION AND BACKGROUND

1.1 Introduction

- 1.1.1 This Non-Technical Summary of the Environmental Statement is submitted in support of the planning application made by BH EnergyGap (Walsall) Limited for the construction and operation of the amended Resource Recovery and Renewable Energy Production Facility (the '3Rs facility') on land to the west of Fryers Road, Walsall (the 'Application Site' or 'Site', see Figure NTS 1.1). This document summarises the findings of the Environmental Impact Assessment undertaken for the 3Rs facility in non-technical language.
- 1.1.2 As set out in detail within the Planning Statement, that also supports the application, the 3Rs facility already benefits from an extant planning permission, albeit for a different design solution to that for which permission is now being sought. This extant permission (reference: 15/1157), was granted by Walsall Council on 13th November 2015 and is hereafter referred to as the '2015 Permission'.
- 1.1.3 The Environmental Statement has been prepared in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017. The Environmental Impact Assessment Regulations 2017, supersede those in force at the time of the application resulting in the 2015 Permission. Accordingly, this Environmental Statement incorporates the requirements of the updated Regulations. It also updates the environmental baseline to reflect contemporary conditions on and around the Application Site.
- 1.1.4 The Environmental Statement has been prepared as a complete standalone document for the amended 3Rs facility proposal, rather than an Addendum to the 2015 Environmental Statement. It assesses the likely significant effects of the 3Rs facility, as now proposed, on the environment during the construction and operation of the facility and compares the effects to those that would arise from the scheme approved under the 2015 Permission.

1.2 The Proposed Development

The Main Scheme Amendments

1.2.1 The Application Site and the overall disposition of the main building remain similar to that approved in 2015. A comparison between the 3Rs facility and the scheme approved under the 2015 is set out Table 3.1, with the main amendments to the 3Rs facility highlighted in bold. A series of drawings illustrating the amendments as overlays in plan and elevation view, are provided in NTS Figures 1.2a - e.

Table 3.1: Summary comparison of 3Rs Facility now Proposed and Scheme Approved under the 2015 Permission

Description of item / feature	3Rs Facility as now Proposed	Scheme approved under the 2015 Permission
Application Site area	3.47 hectares	3.3 hectares
Use	No change	Residual waste treatment with energy recovery
Technology	Twin line, grate combustion	Pre-treatment followed by twin-line gasification. Subsequently confirmed through a Certificate of Lawfulness as also encompassing combustion technology
Pre-treatment requirements	Not required – all residual waste would be pre-treated including via source segregation	Front end pre-treatment included
Throughput capacity	Circa 436,000 tpa	Circa 300,000 tpa
Gross electricity generation	49.9 MW	27 MW
Net electricity generation exported to grid	43.5 MW	23 MW
Number of UK domestic homes whose annual average electricity consumption requirements would be met	Approximately 90,000	49,330
Gross external footprint of Main Building	11,470m ²	10,567m ²
Finished floor levels*	Tipping Hall: -4m decrease Rest of Main Building: -3.6m decrease	Tipping Hall: 152m AOD Rest of Main Building: 149.6m AOD
Height* – Tipping Hall	-3.1m decrease	171.6m AOD
Height* – Boiler	Northern section: +6.9m increase Southern section: +0.5m increase	188.6m AOD
Height* – Flue Gas Treatment (FGT)	+3.5m increase	180.6m AOD

Description of item / feature	3Rs Facility as now Proposed	Scheme approved under the 2015 Permission
Height* – Turbine Hall	-8.5m decrease	180.6m AOD
Height* – Air Cooled Condenser (ACC)	+1.4m increase	169.6m AOD
Stacks – number and heights*	Two side by side main emissions flues. No change in height required for the top of the flues. No odour control stacks required	Two main emissions flues encased within a single wind shield, 248.3m AOD. 2 x odour control stacks
Main ancillary infrastructure	<ul style="list-style-type: none"> • Vehicle weighbridges and weighbridge office • Switchyard • Fire Tank and pump house • DNO control room • Tanks / silos (diesel/low sulphur fuel oil, ammonia hydroxide, FGT residues) • Internal roads and manoeuvring areas • Employee and visitor car and cycle parking • Fencing and gating • Service connections • Surface water drainage • Lighting and CCTV • Landscaping 	<ul style="list-style-type: none"> • Vehicle weighbridges and weighbridge office • Switchyard • Fire Tank and pump house • DNO control room • Tanks / silos (diesel/low sulphur fuel oil, ammonia hydroxide, FGT residues) • Internal roads and manoeuvring areas • Employee and visitor car and cycle parking • Fencing and gating • Service connections • Surface water drainage • Lighting and CCTV • Landscaping
Average daily HGV numbers	99 in + 99 out	99 in + 99 out
Employee numbers	50 permanent on-site jobs	50 permanent on-site jobs
Estimated capital cost	£230 million	£100 million

*Under the 2015 consent it was proposed to raise the site ground levels. The 3Rs facility now proposed maintains the site largely at its existing ground level. To allow a direct comparison of the building and site dimensions, combining both the change in site level and building dimensions, the “3Rs Facility as now proposed” column shows the change in the height of key elements of the development as they would be seen from the surrounding areas (e.g. from Fryers Road or other local viewpoints there will be no change in the height of the main emissions flues – the tallest part of the development).

The 3Rs Facility as Now Proposed

1.2.2 The 3Rs facility, as now proposed (also referred to as the ‘Proposed Development’, see Figure NTS 1.3), comprises a conventional, twin line, moving grate combustion plant for the recovery of energy from residual waste. The residual waste would be non-hazardous waste primarily from commercial and industrial sources and may include some municipal waste. Residual waste is the waste which remains after re-use and recycling / composting operations have taken place.

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- 1.2.3 The 3Rs facility would generate 49.9 Megawatts. After subtracting the power used to run the facility itself, it would have the ability to export 43.3 Megawatts of electricity to the local electricity grid, which is enough to meet the annual need of approximately 90,000 homes. The 3Rs facility would also be capable of exporting heat, in the form of steam or hot water, to local heat users. A significant proportion of the energy produced by the Proposed Development would be classed as renewable energy.
- 1.2.4 If the planning application is approved, the overall construction period would last approximately 36 months and the Proposed Development would be operational mid-2023.

1.3 The Site and Its Context

- 1.3.1 The Site would be on 3.47 hectares of vacant land located on the southern fringe of Bloxwich, approximately 0.7km south west of Bloxwich District Centre, within the wider built-up area of Metropolitan Walsall. The districts / settlements of Dudley Fields is located to the north and Leamore to the south. The M6 motorway lies approximately 600m to the west.
- 1.3.2 The Site lies within an established industrial area, is triangular in shape, and slopes gently from north to south. The Site has a long industrial heritage, with previous activity ranging from the mining of productive seams within the underlying coal measures, to metal processing associated with the former Trident Alloys Facility located to the west.
- 1.3.3 The Site boundary is currently defined by galvanised steel palisade fencing. There is existing scrub planting located within the Site's southern boundary, adjacent to the Wyrley and Essington Canal, and further bands of scrub along part of the eastern boundary. There is a disused railhead located in the northern part of the Site. The main body of the Site is covered by rough grassland with sporadic patches of immature scrub.
- 1.3.4 Fryers Road runs along the eastern boundary of the Site and provides access to surrounding industrial / commercial development. Fryers Road also offers the principle point of access to the Site via an existing bellmouth junction. Other development along or served off Fryers Road include numerous

industrial and manufacturing units, a scrap metal / breakers yard, a skip hire business and the SUEZ Household Waste Recycling Centre.

- 1.3.5 The southern boundary of the Site is formed by the Wyrley and Essington Canal, which is designated as a Site of Local Importance for Nature Conservation. Beyond this lies further industrial and commercial development. To the west, the Site is bound by industrial buildings in use by Impalloy, and to the south west by a zinc oxide production plant operated by Delaphos. Beyond which lies Bloxwich Business Park.
- 1.3.6 The Site is identified in the Black Country Core Strategy (February 2011) for strategic waste management infrastructure. Within the Walsall Site Allocation Document (January 2019) the Site is allocated within a 'Retained Local Quality Industry' area and identified as a 'Potential Waste Site', falling within the 'Bloxwich – Birchills – Bescot Regeneration Corridor'.
- 1.3.7 The closest residential properties are located on Irvine Road, approximately 170m to the east. The Site is separated from these residential properties by commercial businesses and the Birmingham to Lichfield railway line.
- 1.3.8 The Site falls within Flood Zone 1 (the lowest category of flood risk), is not directly constrained by any statutory or non-statutory ecological designations, nor does it contain or form part of any designated heritage asset, such as a scheduled monument or a Listed Building. There are no public footpaths / rights of way within the Site.

2.0 ALTERNATIVES CONSIDERED

2.1.1 A number of alternative options were considered when developing the 3Rs facility, including:

- Alternative technology solutions;
- Alternative direct combustion technologies; and
- Alternative design solutions.

2.2 Alternative Technology Solutions

2.2.1 Alternative technology options in relation to energy from waste recovery, include:

- Advanced Thermal Treatment (i.e. pyrolysis and gasification); and
- Direct Combustion.

2.2.2 Based on technical and financial assessments a stand-alone direct waste combustion process with the ability to export electricity, heat or a combination of both was selected. This was on the basis that it represents a technology that is a credible and proven, capable of meeting environmental standards and financially and technically viable.

2.3 Alternative Direct Combustion Technologies

2.3.1 Direct waste combustion facilities can be delivered through a variety of sub-technologies. Moving grate is the leading technology in the UK and Europe for the combustion of municipal and other similar wastes and is used in 90% of UK and 98% of European incinerators. It is a proven and developed design, with a number of suppliers available. For these reasons moving grate technology was chosen. A twin line facility (where there are two moving grate furnaces, two boilers and two flue gas treatment facilities running in parallel) was also selected as one line can continue to operate if the other line requires temporary shut (such as during periods of maintenance).

2.4 Alternative Design Solutions

2.4.1 Prior to selecting the current proposals, a range of design options were developed. This design evolution encompassed:

- Overall facility layout;
- Shape and form of the main building;
- Maximising the most efficient use of land; and
- Proximity of receptors and overall appearance of the facility in the Site's context.

3.0 SCHEME DESCRIPTION

3.1 Site Layout

3.1.1 The 3Rs facility would be based around a 'L' shaped main building which would contain the following areas:

- Reception Hall;
- Bunker;
- Boiler Hall;
- Turbine Hall;
- Flue Gas Treatment facility;
- Incinerator Bottom Ash Handling Tunnel; and
- Offices, Workshop, Stores and Staff Welfare Facilities.

3.1.2 The 'L' shaped main building would be 143m in length (along its longest eastern façade) and 135m in length, excluding the electrical container (along its longest southern façade). A plan of the overall layout of the 3Rs facility is shown in Figure NTS 1.3, with a series of elevations are shown on Figures NTS 1.4a - d.

3.1.3 The Air Cooled Condenser would form a triangular shaped structure situated on the inner void of the 'L' shaped main building. The structure would be 49.3m in length, 49.3m in width and 25.0m high and is separate from the main building in order to allow sufficient air flow through the units

3.1.4 The twin stacks (chimneys) would protrude through the Flue Gas Treatment facility roof and extend to a height of approximately 102.3m. Each stack would be 2.3m in diameter and would be braced together near the top.

3.1.5 The 3Rs facility would also include the following elements:

- Vehicle weighbridges and weighbridge office;
- Switchyard (within its own enclosure);
- Fire water tank and associated pump house;
- Western Power Distribution control room;
- Tanks / silos (containing fuel oil, ammonia hydroxide, FGT residues);
- Internal circulation roadways / ramps and manoeuvring areas;

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- Employee and visitor parking / bicycle parking;
 - Fencing and gating;
 - Service connections;
 - Surface water drainage;
 - Lighting and CCTV; and
 - Areas of hard and soft landscaping.

Employment

- 3.1.6 During the construction of the 3R facility peak staff numbers would be approximately 450. During operations the 3Rs facility would employ approximately 50 people, the majority of which would be skilled operative or technical engineers..

Access

- 3.1.7 Access to the site during both the construction and operation would be via a new dedicated vehicular access off Fryers Road. It is proposed that all operational HGV traffic to / from the 3Rs facility would route via Fryers Road and then Leamore Lane which provides access to the A34 Green Lane. The A34 provides a connection with Junction 10 of the M6 via the A454 and A4148.

Drainage

- 3.1.8 The 3Rs facility would give rise to surface water run-off from roads, vehicle parking areas, roofs of buildings and other hard standings. Most surface water would flow into the proposed surface water drainage system. However, some roof water would be diverted to a rainwater harvesting tank located within the main building. Surface water flows from areas susceptible to pollution e.g. roads and parking areas, would pass through petrol / oil interceptors prior to being discharged at an agreed rate into the neighbouring canal.
- 3.1.9 Domestic foul flows (e.g. toilets, kitchens and showers) would be piped to the existing sewer within Fryers Road.

3.2 Proposed Site Operations

Operating Hours and Vehicle Numbers

3.2.1 The 3Rs facility would process residual waste and generate electricity and heat on a 24-hour basis. In line with 2015 Permission, waste and material deliveries would only take place between 07:30 and 19:00 on weekdays and 07:30 to 13:00 on Saturdays (in line with Condition 21 of the 2015 Permission). However, the majority of deliveries would actually occur within a shorter daytime time period.

3.2.2 The operation of the 3Rs facility would give rise to the following average daily HGV movements / numbers:

- **Input:** Residual Waste 80 HGV movements (80 in + 80 out)
 Consumables: 2 HGV movements (2 in + 2 out)
- **Output:** Ash / APCR Exports: 17 HGV movements (17 in + 17out)
- **Total (Input + Output):** 99 HGV movements (99 in + 99 out)

Energy Recovery Process

3.2.3 Figure NTS 1.5 illustrates the processes involved within the energy recovery process, these are then described in more detail below.

Waste Reception and Handling

3.2.4 Residual waste would be delivered to site in bulk articulated HGVs and delivered to the enclosed reception (tipping) hall, where they would tip into the bunker. Cranes would then mix and stack the residual waste / refused derived fuel into the feed chutes of the furnaces.

Combustion Process

3.2.5 The residual waste / refused derived fuel will be burned on a moving grate, which turns and mixes the residual waste to ensure full exposure to the combustion process.

Flue Gas Treatment and Stack

- 3.2.6 Gases generated during the combustion process would be cleaned in the flue gas treatment plant before being released into the atmosphere via the stack (chimney). The treatment plant works by using a number of filters and chemicals to remove pollutants from gases and ensures that the plant operates within the emission limits set out in the Environmental Permit issued by the Environment Agency that will be required prior to operations commencing. As a minimum, the Environmental Permit will meet the requirements of the Industrial Emissions Directive. Emissions from the stack would be monitored continuously and reported in accordance with the Environment Agency's requirements.

By-Product Handling and Disposal

- 3.2.7 Two types of solid by-products would be produced from the operation, ash and Air Pollution Control residues, each of which would have separate handling and disposal arrangements.

3.3 Energy Recovery

- 3.3.1 One of the major benefits of the 3Rs facility would be the ability to recover 43.5 Megawatts of electricity to the local electricity grid. This is sufficient to meet the entire annual domestic electricity needs of over 93,000 homes. The 3Rs facility would also be capable of exporting heat, in the form of steam or hot water, to local heat users.

3.4 Construction

Timetable and Hours

- 3.4.1 The overall construction period is anticipated to take approximately 36 months, with operation starting mid-2023.
- 3.4.2 Construction operations would occur between 07.00 to 19.00hrs weekdays and 08:00 to 14:00 Saturdays, with no construction work on Sundays or Bank Holidays. It is possible that some construction activities would be undertaken

outside these hours e.g. delivery of abnormal loads, continuous concrete pours. During commissioning of the building, works would be undertaken 24 hours a day, seven days a week.

Construction Environmental Management Plan

- 3.4.3 A Construction Environmental Management Plan would be developed to manage and report environmental effects of the 3Rs facility during construction. This would typically cover elements such as drainage, water quality and hydrology, dust, emissions and odours, health and safety / site management, waste and traffic management and contaminated materials.

3.5 Operational Environmental Management

- 3.5.1 An Environmental Management System would be in place during operation to manage and monitor rodents and pests, dust and odour, fire and litter. In addition, an Environmental Permit (issued and enforced by the Environment Agency) will also be required to operate the 3Rs facility.

4.0 SUMMARY OF EFFECTS

4.1 Introduction

4.1.1 The likely significant environmental effects of the Proposed Development are fully described within the Environmental Statement Main Report (Volume 1), with a brief summary of the overall findings detailed below.

4.2 Cumulative Impacts

4.2.1 Each of the technical assessments considered cumulative effects of the 3Rs facility along with other schemes in planning in the area. All technical assessments found there to be no significant cumulative effects together with the 3Rs facility.

4.3 Landscape and Visual Effects

4.3.1 The 3Rs facility would sit within an industrial landscape and whilst it would be a prominent feature due its size and scale compared to nearby existing buildings, it would be in keeping with the character of the immediate surroundings. The dense pattern of residential development in Bloxwich to the north, east and south, would greatly restrict the potential for the 3Rs facility to influence the landscape character of these areas. Vegetation cover would also limit the influence of the 3Rs facility on the landscape character of Rough Wood Chase to the west. Improvements to the frontage of the Site, as part of the landscape design would contribute to the landscape locally. Therefore, effects on landscape / townscape would not be significant.

4.3.2 The 3Rs facility would include a tall new building and stack being introduced into an industrial area that has little positive scenic quality. Dense urban development to the north, east and south, and considerable vegetation cover within Rough Wood Chase to the west restrict views. Therefore, in general, the visual effects of the 3Rs facility would not be significant. However, from some locations, the 3Rs facility would be a prominent addition to a view where existing development tends to be well screened by vegetation. This would be the case from a short stretch of the Wyrley to Essington Canal to the south of the Site and to the east of the Sneyd footbridge, from locations within the

Odell Road Playing Fields, and from locations within Oily Gough's Local Nature Reserve. Significant visual effects would also be experienced by some residential properties on the western side of Irvine Road and some apartments off Station Street and along Water Reed Grove.

4.3.3 The Site itself is within a wider area allocated in local planning documents for employment use, and specifically for waste management facilities. Therefore, proposals for such development are likely to come forward irrespective of the presence / absence of the 3Rs facility. Changes in views resulting from the presence of large-scale industrial / infrastructure development is implicit in such an allocation. Whilst localised significant visual effects would occur, these are judged to be acceptable, when seen in context.

4.3.4 When compared with the 2015 Permission, the 3Rs facility as now proposed would be larger in footprint and above ground building height in some sections. However, the effects of the two schemes upon the character of the surrounding area and upon views would be similar.

4.4 Noise and Vibration

4.4.1 A robust assessment of baseline sound levels was undertaken by collecting fixed and spot roaming noise monitoring data at five noise sensitive receptors in close proximity to the Site, over a Saturday and Sunday, so that the assessment was made against times when the background noise is lowest.

4.4.2 In accordance with appropriate standards, best practical means would be employed to control noise generation during the construction period. Measures may include restrictions on construction working hours, sensible routing of equipment to site and careful choice of piling rigs to minimise noise. Such measures would be defined within the Construction Environmental Management Plan.

4.4.3 In relation to the operational phase a number of measures to control noise are proposed to ensure noise levels are within the Local Authority standards. The measures would be based on the employment of Best Available Techniques to mitigate any potential peak noise sources.

4.4.4 The assessment shows that there would be no significant noise impacts during construction or operation of the 3Rs facility following the implementation of appropriate mitigation. The conclusions of this assessment for the 3Rs facility remain materially unchanged from those conclusions found in the 2015 Environmental Statement to support the 2015 Permission.

4.5 Air Quality and Human Health

4.5.1 The main air emissions associated with the construction and operation of the 3Rs facility would be stack process emissions and development-generated traffic emissions. Detailed modelling of emissions has been undertaken to assess potential impacts.

4.5.2 The assessment found that the effects of stack process emissions on human health and ecological receptors to be negligible, with the exception of nitrogen and acid deposition at the Cannock Extension Canal Special Area of Conservation. The impact at Cannock Extension Canal Special Area of Conservation is however lower than that predicted for the 2015 Permission, and therefore the change from the 2015 Permission is 'not significant'.

4.5.3 The 3Rs facility also has the potential to cause impacts associated with the release of dust. Analysis was undertaken and it was concluded that these impacts during operation would not be significant.

4.5.4 The increase in operational vehicles associated with the 3Rs facility is minimal, when compared to the scheme consented under the 2015 Permission, such that they are not expected to have a measurable impact on local air quality, and the effect is considered to be 'negligible'.

4.5.5 Overall, the effects of the 3Rs facility on air quality are predicted to be 'negligible' and 'not significant' and fall within the same descriptors (i.e. category of effect) as those reported in the 2015 ES relating to the 2015 Permission.

4.6 Ecological and Nature Conservation

- 4.6.1 The nearest sites of ecological importance include Cannock Extension Canal Special Area for Conservation located 3.7km north-east of the Site, Rough Wood Chase Local Nature Reserve and Site of Importance for Nature Conservation located 230m west of the Site and Wyrley and Essington Canal Local Nature Reserve and Site of Local Importance for Nature Conservation located 1.86km north west of the Site. In addition, the Phase 1 survey did not find any suitable habitats or signs of species such as badger, otter or water vole on the Site.
- 4.6.2 The 3Rs facility would not have any direct effect on habitats of ecological value, additional to that reported in the 2015 Environmental Statement which supported the 2015 Permission and would therefore be not be significant in ecological terms.
- 4.6.3 No significant effects are predicted on statutory or locally designated sites, including air quality impacts of emissions from the 3Rs facility, or effects of noise and human disturbance. Mitigation measures embedded into the design of the facility would avoid other significant indirect effects occurring during construction and operation.
- 4.6.4 Additional mitigation measures are proposed to improve the protection and management of features outside the development footprint with respect to the protection of breeding birds and minimising the spread of invasive species.
- 4.6.5 In conclusion, no significant residual ecological effects are predicted, and it is reasonable to predict that there would be no net loss of biodiversity interest as a consequence of the 3Rs facility.

4.7 Geology, Ground Conditions and Hydrogeology

- 4.7.1 The assessment identified that during the 1880s, the Site and surrounding areas were subject to extensive mineral extraction. In addition, it is understood that the adjacent smelting works deposited waste materials (without licensing) at the Site up to and beyond 1977.

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- 4.7.2 The Site is generally overlain with a clay capping layer, Made Ground (land where natural and undisturbed soils have been largely replaced by man-made or artificial materials), Glacial Till or completely weathered mudstone, and Pennine Middle Coal Measures Formation.
- 4.7.3 The nearest Classified River is the Snyed Brook located 3km south of the Site, with the Wyrley and Essington Canal is located immediately adjacent to the southern boundary of the Site.
- 4.7.4 The risk of pollution of controlled waters and harm to human health during construction of the 3Rs facility would be negligible.
- 4.7.5 Following the implementation of recommended mitigation measures the residual effect of the 3Rs facility with respect to all receptors is assessed to be negligible as either ground contamination sources or effective pathways to receptors would have been removed.
- 4.7.6 The conclusions of the assessment for the 3Rs facility remain materially unchanged from those conclusions found in the 2015 Environmental Statement to support the 2015 Permission.

4.8 Surface Waters and Flood Risk

- 4.8.1 As outlined above Snyed Brook is located 3km south of the Site and the Wyrley and Essington Canal is immediately adjacent to the southern boundary of the Site. The Site is located within Flood Zone 1 and therefore has a low probability of flooding.
- 4.8.2 Assuming good working practises are adopted throughout the construction phase, the predicted impact of the 3Rs facility in terms of flood risk, water quality, foul and surface water drainage and water supply are all considered to be negligible.
- 4.8.3 The potential impact on surface water and the risk of flooding of the 3Rs facility during operation would be negligible and the same as that found in the 2015 Environmental Statement to supported the 2015 Permission. As such, no additional mitigation measures are deemed necessary beyond local

improvement / modification works relating to existing drainage and water mains.

4.9 Cultural Heritage

4.9.1 Within the 2.5km radius study area from the Site there are 20 Grade II Listed Buildings, one Scheduled Monument and three Conservation Areas.

4.9.2 The effects of the 3Rs facility upon the setting of designated cultural heritage assets within the study area would not be significant, given the context in which the cultural heritage assets are located (urban with a variety of development). The introduction of the 3Rs facility would not change this urban and industrial townscape, and its presence would not result in any change in setting that would be greater than negligible.

4.9.3 The conclusions of the assessment for the 3Rs facility remain materially unchanged from those conclusions found in the 2015 Environmental Statement to support the 2015 Permission.

4.10 Traffic and Transportation

4.10.1 Baseline annual average weekday traffic flows on the local road network was derived from traffic survey data. Personal Injury Accident (PIA) shows within a period of five years, only three accidents occurred along Fryers Road, all of which were classified as 'slight' and none which occurred along the Site frontage.

4.10.2 The assessment found that the changes in construction and operational traffic flows associated with the 3Rs facility would generally be well within the 30% threshold set out in Rule 1 of the Institute of Environmental Management and Assessment guidelines, apart from on Fryers Road and Leamore Road. However, the sections of both roads that would be effected are unlikely to accommodate high levels of pedestrian movements and do not contain sensitive receptors.

4.10.3 It is concluded that traffic related environmental effects associated with the construction and operation of both the 2015 Permission and 3Rs facility are

likely to be negligible adverse in nature and no further mitigation measures are required.

4.11 Socio-Economics

4.11.1 Employment in the construction sector in Walsall was slightly below regional and national averages in 2017 and unemployment was above regional and national averages in 2018.

4.11.2 The experience of the Design Team on projects of a similar size and scale suggests that the 3Rs facility could create up to 450 direct construction jobs at any one time and would have a positive influence upon the continued viability of a range of contractor companies and their employees, as well as other businesses forming part of the supply chain in the Study Area. This would be of general benefit to the wider economy, in terms of retention and possible upgrading of skilled workers, and viability of construction sector businesses. Construction effects would be temporary, but construction activity (and the experience and skills gained / developed) has the potential to lead to further opportunities for both businesses and individual workers should further development in the area be progressed.

4.11.3 When considered against the construction employment that would have resulted from the 2015 Permission, there would be an increase in direct employment of up to approximately 28%.

4.11.4 Once operational, the 3Rs facility would directly create approximately 50 jobs. A further 90 jobs are likely to be created or supported by indirect or induced expenditure (e.g. services bought-in to the Site, or spending outside the Site by employees). Once the effects of displacement and leakage are considered, it is estimated that within the Study Area approximately 78-79 jobs would be supported directly or indirectly, which would add an estimated £2.868 million to the economy each year. The 3Rs facility would have clear potential benefits in reducing the above average unemployment levels in Walsall Borough, particularly as a range of different job types, at different skill levels, would be provided.

4.11.5 The amount of permanent employment created would be no different from that resulting from the 2015 Permission. However, the proportion of jobs that would require specialist skills, or would be in a professional or managerial role would be much greater for the 3Rs facility. As such, average salaries would be higher. The contribution of the 3Rs facility to the economy of the Study Area would therefore be greater than for the 2015 Permission.

4.12 Conclusion

4.12.1 The ES has assessed and evaluated all potential significant, direct, indirect, cumulative and in-combination environmental effects of the 3Rs facility. Where adverse effects have been identified, measures to prevent, reduce, and if appropriate offset these have been described.

4.12.2 The assessment has concluded that the 3Rs facility would not give rise to any significant adverse residual environmental effects.

Figures



Key

- Site Location

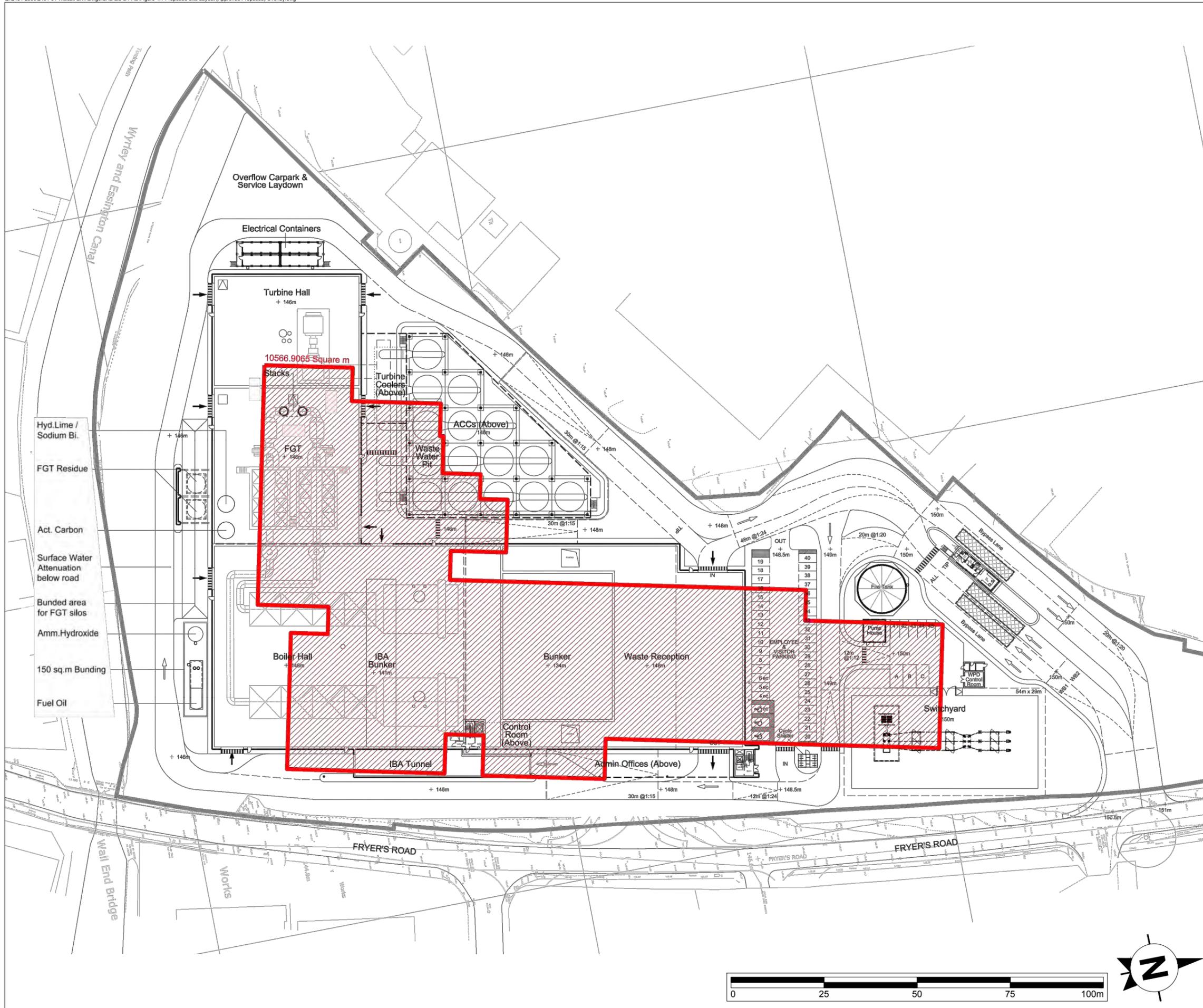
WALSALL RESOURCE RECOVERY AND RENEWABLE ENERGY PRODUCTION FACILITY

Figure NTS 1.1

Site Location Plan

Scale
1:25,000@A3

Date
September 2019



 Consented Scheme Footprint

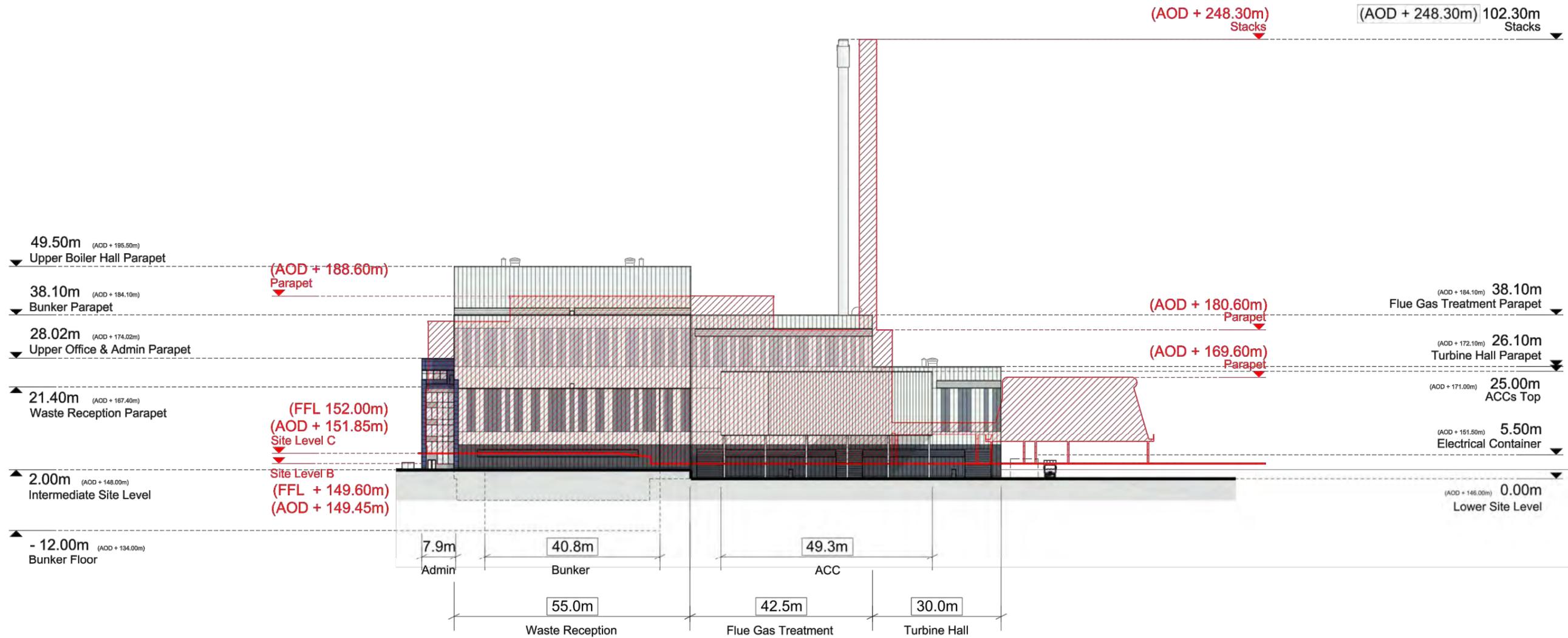
WALSALL RESOURCE RECOVERY AND RENEWABLE ENERGY PRODUCTION FACILITY

Figure NTS 1.2a

Proposed Site Layout (Approved v Proposed) Overlay

Scale
1:1000@A3

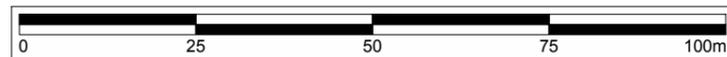
Date
September 2019



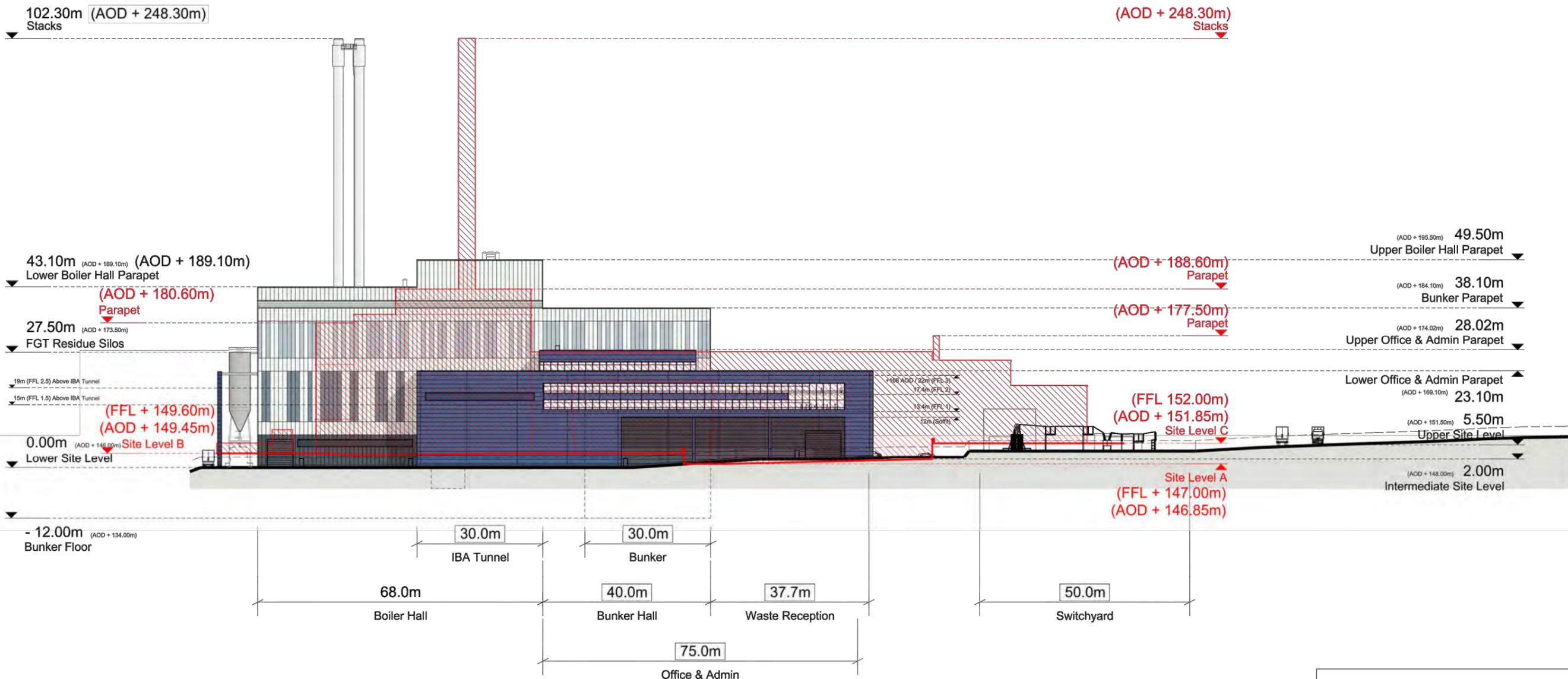
Key

□ Proposed Scheme - PL310

▨ Consented Scheme

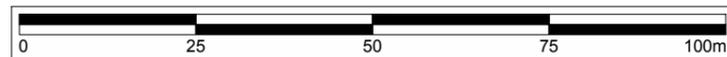


WALSALL RESOURCE RECOVERY AND RENEWABLE ENERGY PRODUCTION FACILITY	
Figure NTS 1.2b	
Proposed North Elevation (Approved v Proposed) Overlay	
Scale 1:1000@A3	Date September 2019

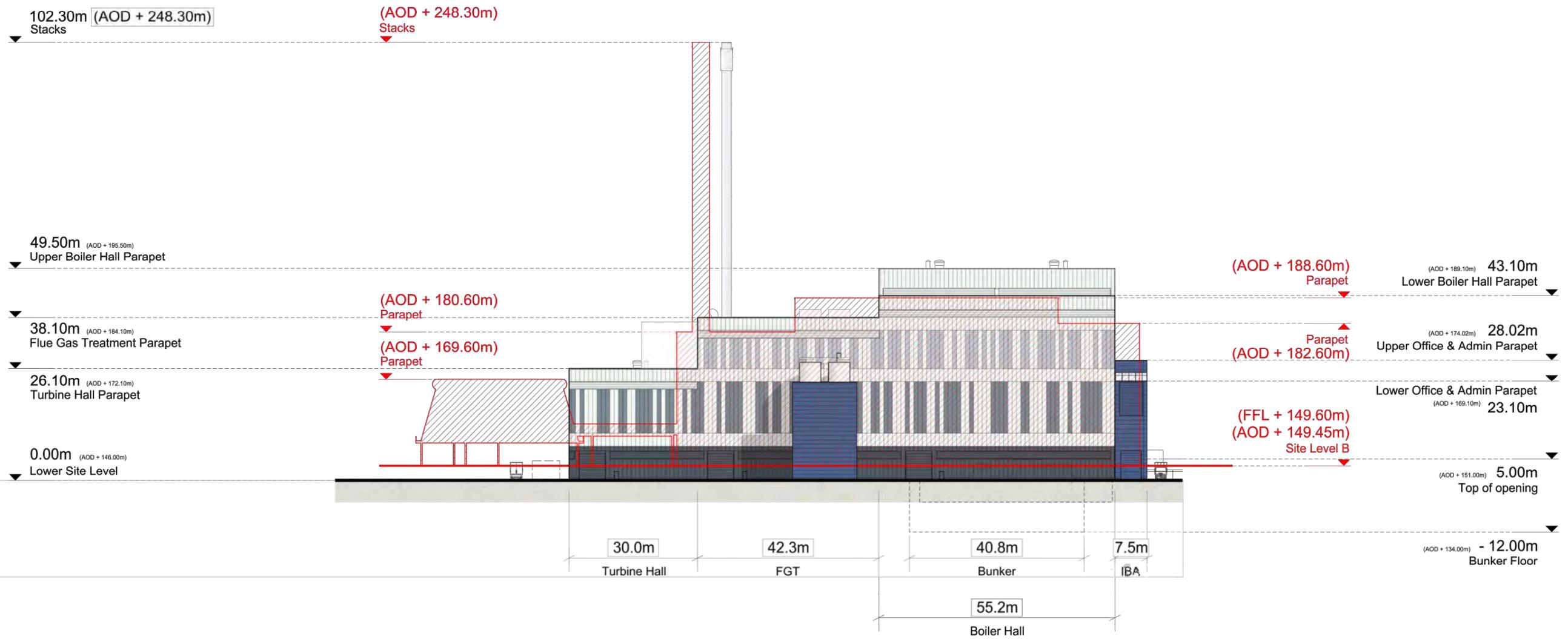


Key

Proposed Scheme - PL311
 Consented Scheme



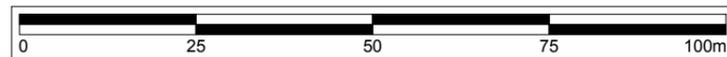
WALSALL RESOURCE RECOVERY AND RENEWABLE ENERGY PRODUCTION FACILITY	
Figure NTS 1.2c	
Proposed East Elevation (Approved v Proposed) Overlay	
Scale 1:1000@A3	Date September 2019



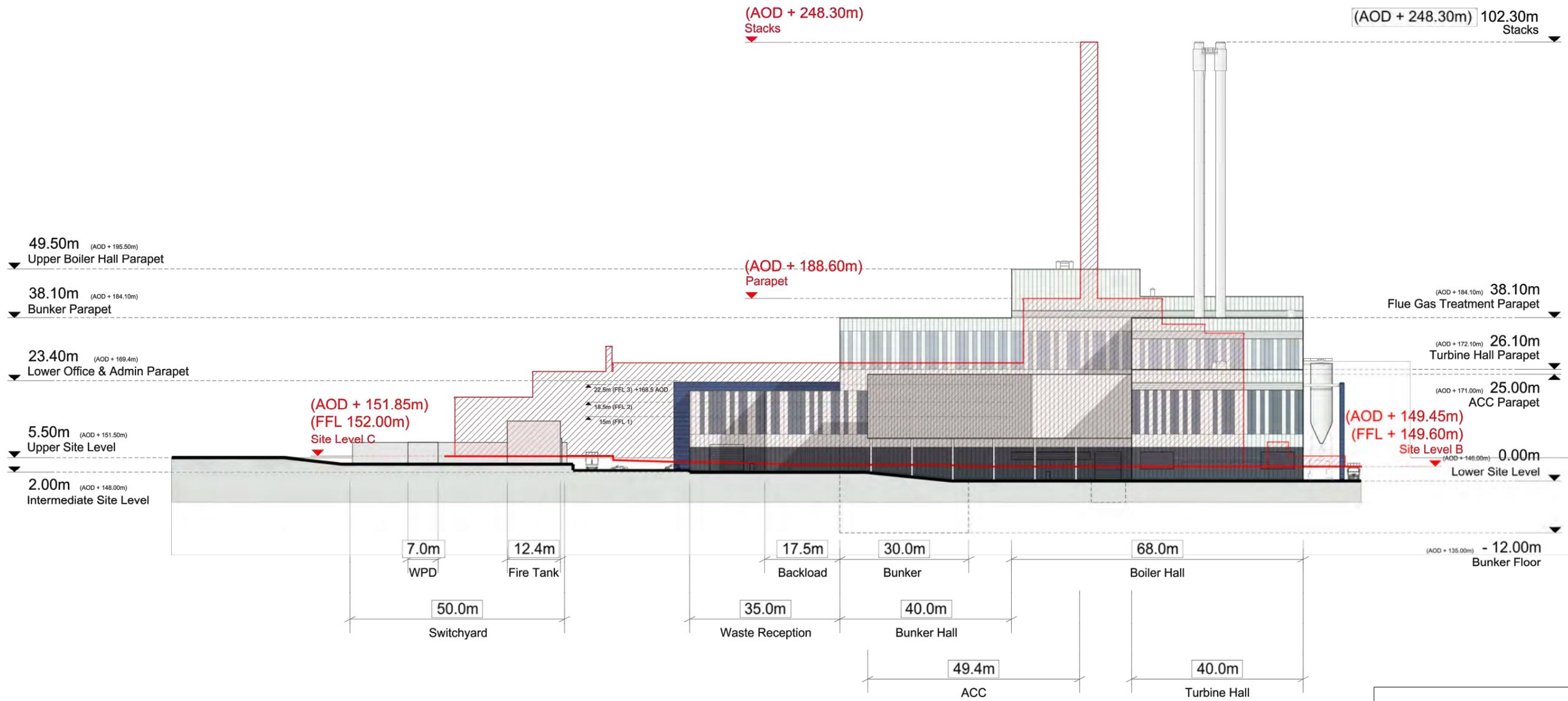
Key

□ Proposed Scheme - PL312

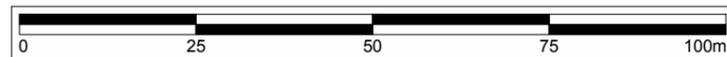
▨ Consented Scheme



WALSALL RESOURCE RECOVERY AND RENEWABLE ENERGY PRODUCTION FACILITY	
Figure NTS 1.2d	
Proposed South Elevation (Approved v Proposed) Overlay	
Scale 1:1000@A3	Date September 2019



Key
 [White Box] Proposed Scheme - PL313
 [Hatched Box] Consented Scheme



WALSALL RESOURCE RECOVERY AND RENEWABLE ENERGY PRODUCTION FACILITY	
Figure NTS 1.2e	
Proposed West Elevation (Approved v Proposed) Overlay	
Scale 1:1000@A3	Date September 2019



WALSALL RESOURCE RECOVERY AND RENEWABLE ENERGY PRODUCTION FACILITY

Figure NTS 1.3

Site Layout Plan

Scale
1:1000@A3

Date
September 2019



WALSALL RESOURCE RECOVERY AND RENEWABLE ENERGY PRODUCTION FACILITY

Figure NTS 1.4a

North Elevation

Scale
1:500@A3

Date
September 2019

102.30m
Stacks
(AOD + 248.30m)

- | | | | | |
|---|---|--|---|---|
| Ⓐ Composite metal wall cladding
Colour: Albatross (RAL 240 80 05) | Ⓔ Powder coated aluminium louvres Colour:
White(RAL 9003) & Solent Blue(RAL 240 40 40) | Ⓜ Paint finish to Stack and Ducts
Colour: Oyster (RAL 7035) | Ⓛ Painted metal personnel doors
Colour: Solent Blue (RAL 240 40 40) | Ⓝ PPC Sheffield type bicycle rack
Colour: Anthracite Grey (RAL 7016) |
| Ⓑ Composite metal wall cladding
Colour: Solent Blue (RAL 240 40 40) | Ⓢ Insulated high speed doors
Colour: Anthracite Grey (RAL 7016) | Ⓨ Paint finish to Tanks and Silos etc.
Colour: Anthracite Grey / Light grey | Ⓧ Painted metal personnel doors
Colour: Albatross (RAL 240 80 05) | Ⓓ PPC metal gantries, stairs / ACC
Structure Colour: Oyster (RAL 7035) |
| Ⓒ Composite metal wall cladding
Colour: Alaska (RAL 7000) | Ⓣ Insulated high speed doors
Colour: Solent Blue (RAL 240 40 40) | ⓐ Painted metal personnel doors
Colour: Anthracite Grey (RAL 7016) | Ⓩ Powder coated metal capping / flashing
Colour: Solent Blue (RAL 240 40 40) | Ⓥ Engineering brick wall
Colour: Staffordshire blue |
| Ⓓ Composite metal wall cladding
Colour: Anthracite Grey (RAL 7016) | Ⓤ Low level plinth
Colour: Fairfaced concrete | ⓑ Painted metal personnel doors
Colour: White (RAL 9003) | ⓗ Flat roofing - Single ply membrane system
Colour: Basalt Grey (RAL 7012) | Ⓦ Steel Pallisade Fencing
Colour: Galvanised |
| Ⓚ Composite metal wall cladding
Colour: White (RAL 9003) | Ⓡ Powder coated metal flashing and capping
Colour: White (RAL 9003) | Ⓒ Aluminium framed curtain walling and
glazing Colour: RAL 7011 Iron Grey | Ⓣ Trapezoidal metal wall cladding
Colour: Anthracite Grey (RAL 7016) | Ⓧ Steel Mesh Fencing / Gates
Colour: Black |
| Ⓛ Powder coated aluminium louvres
Colour: Anthracite Grey (RAL 7016) | Ⓠ Powder coated metal flashing and capping
Colour: Solent Blue (RAL 240 40 40) | Ⓞ Backpainted glazing
Colour: RAL 7001 Silver Grey | ⓖ Polycarbonate wall and roof panels
Colour: Clear | Ⓨ Steel Pedestrian Railings
Colour: Green |

49.50m
Upper Boiler Hall Parapet
(AOD + 195.50m)

38.10m
Bunker Parapet
(AOD + 184.10m)

28.02m
Upper Office & Admin Parapet
(AOD + 174.02m)

21.40m
Waste Reception Parapet
(AOD + 167.40m)

2.00m
Intermediate Site Level
(AOD + 148.00m)

- 5.00m
IBA Bunker Floor
(AOD + 141.00m)

- 12.00m
Bunker Floor
(AOD + 134.00m)

(AOD + 184.10m) 38.10m
Flue Gas Treatment Parapet

(AOD + 172.10m) 26.10m
Turbine Hall Parapet

(AOD + 171.00m) 25.00m
ACCs Top

(AOD + 150.54m) 4.54m
Electrical Container

(AOD + 146.00m) 0.00m
Lower Site Level

7.9m Admin

40.8m Bunker

55.0m Waste Reception

49.3m ACC

42.5m Flue Gas Treatment

30.0m Turbine Hall





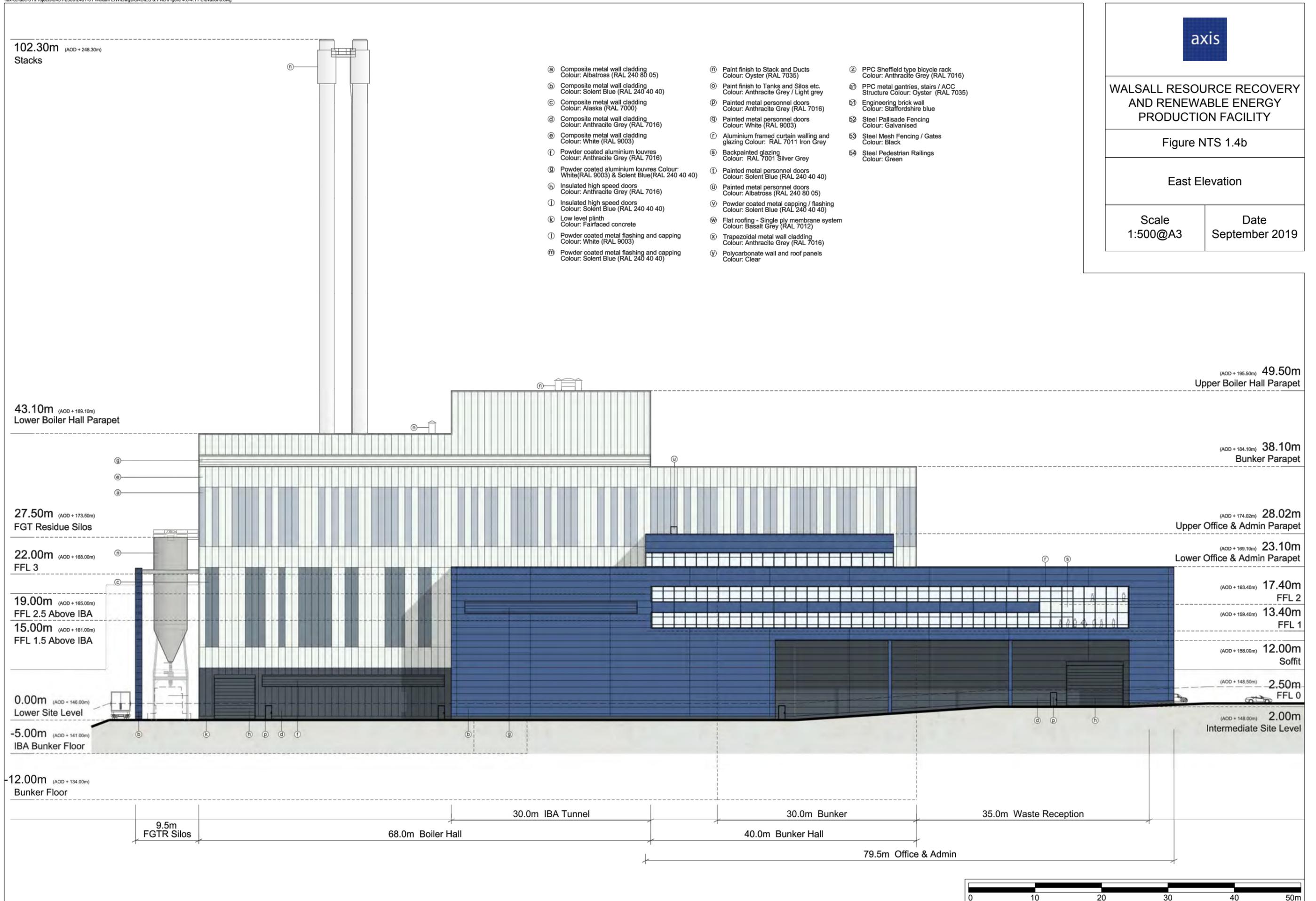
**WALSALL RESOURCE RECOVERY
AND RENEWABLE ENERGY
PRODUCTION FACILITY**

Figure NTS 1.4b

East Elevation

Scale
1:500@A3

Date
September 2019





**WALSALL RESOURCE RECOVERY
AND RENEWABLE ENERGY
PRODUCTION FACILITY**

Figure NTS 1.4c

South Elevation

Scale
1:500@A3

Date
September 2019

102.30m
Stacks
(AOD + 248.30m)

49.50m (AOD + 195.50m)
Upper Boiler Hall Parapet

38.10m (AOD + 184.10m)
Flue Gas Treatment Parapet

26.10m (AOD + 172.10m)
Turbine Hall Parapet

0.00m (AOD + 146.00m)
Lower Site Level

(AOD + 188.10m) 43.10m
Lower Boiler Hall Parapet

(AOD + 174.02m) 28.02m
Upper Office & Admin Parapet

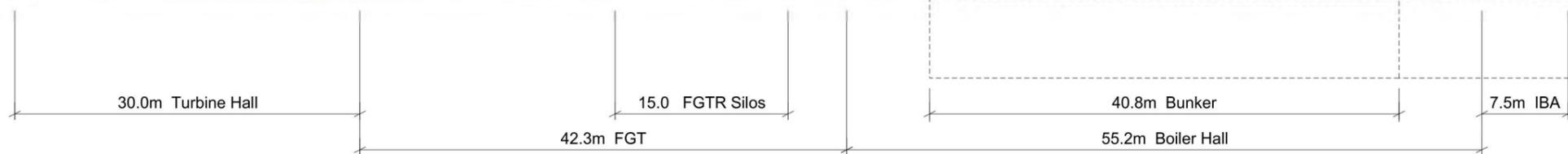
(AOD + 169.10m) 23.10m
Lower Office & Admin Parapet

(AOD + 151.00m) 5.00m
Top of opening

(AOD + 141.00m) - 5.00m
IBA Bunker Floor

(AOD + 134.00m) - 12.00m
Bunker Floor

- Ⓐ Composite metal wall cladding
Colour: Albatross (RAL 240 80 05)
- Ⓑ Composite metal wall cladding
Colour: Solent Blue (RAL 240 40 40)
- Ⓒ Composite metal wall cladding
Colour: Alaska (RAL 7000)
- Ⓓ Composite metal wall cladding
Colour: Anthracite Grey (RAL 7016)
- Ⓔ Composite metal wall cladding
Colour: White (RAL 9003)
- Ⓕ Powder coated aluminium louvres
Colour: Anthracite Grey (RAL 7016)
- Ⓖ Powder coated aluminium louvres
Colour: White (RAL 9003) & Solent Blue (RAL 240 40 40)
- Ⓗ Insulated high speed doors
Colour: Anthracite Grey (RAL 7016)
- Ⓙ Insulated high speed doors
Colour: Solent Blue (RAL 240 40 40)
- Ⓚ Low level plinth
Colour: Fairfaced concrete
- Ⓛ Powder coated metal flashing and capping
Colour: White (RAL 9003)
- Ⓜ Powder coated metal flashing and capping
Colour: Solent Blue (RAL 240 40 40)
- Ⓝ Paint finish to Stack and Ducts
Colour: Oyster (RAL 7035)
- Ⓞ Paint finish to Tanks and Silos etc.
Colour: Anthracite Grey / Light grey
- Ⓟ Painted metal personnel doors
Colour: Anthracite Grey (RAL 7016)
- Ⓠ Painted metal personnel doors
Colour: White (RAL 9003)
- Ⓡ Aluminium framed curtain walling and glazing
Colour: RAL 7011 Iron Grey
- Ⓢ Backpainted glazing
Colour: RAL 7001 Silver Grey
- Ⓣ Painted metal personnel doors
Colour: Solent Blue (RAL 240 40 40)
- Ⓤ Painted metal personnel doors
Colour: Albatross (RAL 240 80 05)
- Ⓡ Powder coated metal capping / flashing
Colour: Solent Blue (RAL 240 40 40)
- Ⓢ Flat roofing - Single ply membrane system
Colour: Basalt Grey (RAL 7012)
- Ⓣ Trapezoidal metal wall cladding
Colour: Anthracite Grey (RAL 7016)
- Ⓥ Polycarbonate wall and roof panels
Colour: Clear
- Ⓒ PPC Sheffield type bicycle rack
Colour: Anthracite Grey (RAL 7016)
- Ⓓ PPC metal gantries, stairs / ACC
Structure Colour: Oyster (RAL 7035)
- Ⓔ Engineering brick wall
Colour: Staffordshire blue
- Ⓕ Steel Pallsade Fencing
Colour: Galvanised
- Ⓖ Steel Mesh Fencing / Gates
Colour: Black
- Ⓗ Steel Pedestrian Railings
Colour: Green





WALSALL RESOURCE RECOVERY AND RENEWABLE ENERGY PRODUCTION FACILITY

Figure NTS 1.4d

West Elevation

Scale
1:500@A3

Date
September 2019

102.30m
Stacks
(AOD + 248.30m)

- | | | | | |
|---|---|---|--|---|
| <ul style="list-style-type: none"> a Composite metal wall cladding Colour: Albatross (RAL 240 80 05) b Composite metal wall cladding Colour: Solent Blue (RAL 240 40 40) c Composite metal wall cladding Colour: Alaska (RAL 7000) d Composite metal wall cladding Colour: Anthracite Grey (RAL 7016) e Composite metal wall cladding Colour: White (RAL 9003) f Powder coated aluminium louvres Colour: Anthracite Grey (RAL 7016) | <ul style="list-style-type: none"> g Powder coated aluminium louvres Colour: White(RAL 9003) & Solent Blue(RAL 240 40 40) h Insulated high speed doors Colour: Anthracite Grey (RAL 7016) i Insulated high speed doors Colour: Solent Blue (RAL 240 40 40) k Low level plinth Colour: Fairfaced concrete l Powder coated metal flashing and capping Colour: White (RAL 9003) m Powder coated metal flashing and capping Colour: Solent Blue (RAL 240 40 40) | <ul style="list-style-type: none"> n Paint finish to Stack and Ducts Colour: Oyster (RAL 7035) o Paint finish to Tanks and Silos etc. Colour: Anthracite Grey / Light grey p Painted metal personnel doors Colour: Anthracite Grey (RAL 7016) q Painted metal personnel doors Colour: White (RAL 9003) r Aluminium framed curtain walling and glazing Colour: RAL 7011 Iron Grey s Backpainted glazing Colour: RAL 7001 Silver Grey | <ul style="list-style-type: none"> t Painted metal personnel doors Colour: Solent Blue (RAL 240 40 40) u Painted metal personnel doors Colour: Albatross (RAL 240 80 05) v Powder coated metal capping / flashing Colour: Solent Blue (RAL 240 40 40) w Flat roofing - Single ply membrane system Colour: Basalt Grey (RAL 7012) x Trapezoidal metal wall cladding Colour: Anthracite Grey (RAL 7016) y Polycarbonate wall and roof panels Colour: Clear | <ul style="list-style-type: none"> z PPC Sheffield type bicycle rack Colour: Anthracite Grey (RAL 7016) aa PPC metal gantries, stairs / ACC Structure Colour: Oyster (RAL 7035) ab Engineering brick wall Colour: Staffordshire blue ac Steel Pallisade Fencing Colour: Galvanised ad Steel Mesh Fencing / Gates Colour: Black ae Steel Pedestrian Railings Colour: Green |
|---|---|---|--|---|

49.50m
Upper Boiler Hall Parapet
(AOD + 195.50m)

38.10m
Bunker Parapet
(AOD + 184.10m)

23.10m
Lower Office & Admin Parapet
(AOD + 169.10m)

17.40m
FFL 2
(AOD + 163.40m)

13.40m
FFL 1
(AOD + 159.40m)

2.00m
Intermediate Site Level
(AOD + 148.00m)

38.10m
Flue Gas Treatment Parapet
(AOD + 184.10m)

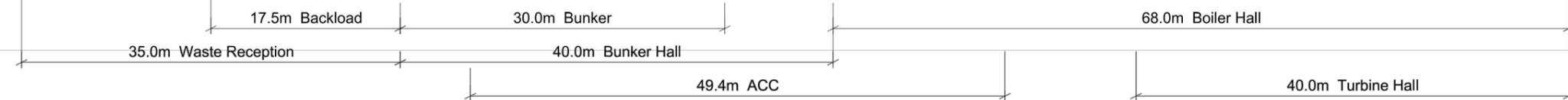
26.10m
Turbine Hall Parapet
(AOD + 172.10m)

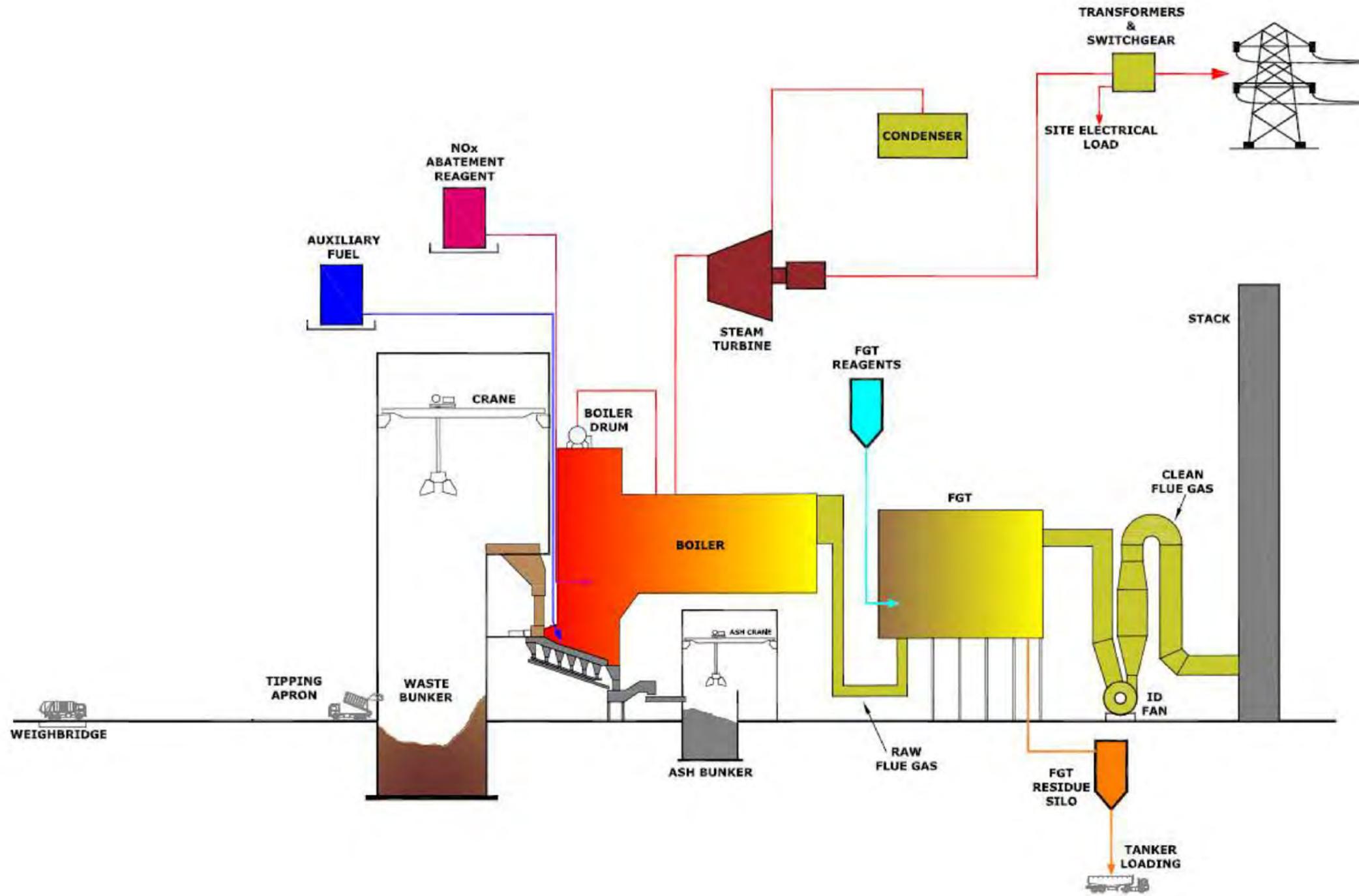
25.00m
ACC Parapet
(AOD + 171.00m)

0.00m
Lower Site Level
(AOD + 146.00m)

- 5.00m
IBA Bunker Floor
(AOD + 141.00m)

9.5m
FGTR Silos
(AOD + 135.00m)
- 12.00m
Bunker Floor





WALSALL RESOURCE RECOVERY AND RENEWABLE ENERGY PRODUCTION FACILITY

Figure NTS 1.5

Energy from Waste Process Flow Diagram

Scale NA

Date September 2019