

Mersey Valley Processing Centre: Shell Green Extension

Environmental Statement Volume I:
Non Technical Summary

October 2003

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United Utilities

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For and on behalf of Environmental Resources Management
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Date: <u>7 OCTOBER 2003</u>

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NON TECHNICAL SUMMARY

INTRODUCTION

This document is a summary in non-technical language of the Environmental Statement, undertaken by Environmental Resources Management (ERM) for United Utilities Plc (United Utilities). It supports a planning application for an extension to the existing Mersey Valley Processing Centre at Shell Green, Widnes (see Figure 1.1 for a plan showing the location of the site and Figure 1.2 showing the site boundary). The scheme falls under Schedule I of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 and therefore, an Environmental Impact Assessment (EIA) is required. The Environmental Statement (ES) reports the findings of the Environmental Impact Assessment (EIA). The key objectives of the EIA have been to:

- Establish and review the existing, or baseline, environmental conditions and policies pertaining to the site and the surrounding area;*
- Identify and assess the environmental effects of the activities involved in construction and operation of the proposed extension;*
- Develop, in conjunction with United Utilities, measures that will be taken to remove, minimise or reduce these effects to acceptable levels (known as 'mitigation' measures); and*
- Provide a framework for consultation with public authorities and interested parties.*

In accordance with best practice and Government Guidance, consultation has been undertaken as part of the EIA process with those agencies and parties likely to have an interest in the proposed project.

THE PROPOSED DEVELOPMENT

Background

Sewage sludge is produced as a result of treating the raw sewage collected by the sewer network from residential properties and businesses. Before 1998, sludge produced by wastewater (sewage) treatment works in Greater Manchester and Merseyside was collected in the 80km long Mersey Valley Sludge Pipeline (MSP) and pumped into ships and disposed of at sea. However, this disposal method became illegal after 1998. The Mersey Valley Processing Centre (also referred to as 'the site') became operational in 1998 to receive sludge via the Mersey Valley Sludge Pipeline providing an alternative means of disposal.

The sludge arriving via the pipeline to the site comprises approximately 3% solid matter with the remaining 97% being water. At the site, a proportion of the water (approximately 20%) is removed to form a solid sludge 'cake' via a process known as 'dewatering' that involves squeezing the sludge in plate presses. At present, the processing centre produces approximately 210,000 tonnes of cake per year. This cake is then either burned in purpose-built incinerators or sent for re-use by lorry for land

reclamation or agricultural use. The water removed from the sludge (known as a 'filtrate') is pumped via a pipeline to the wastewater treatment works in Liverpool for treatment before being discharged, under licence, to the sea.

There are currently two sets of incinerators at the site, which together with their associated ancillary equipment (such as gas clean up equipment) are known as incineration 'streams'.

New European Directives on Wastewater Treatment and the Nitrate Directive will increase the amount of sewage sludge produced in the Mersey Valley area and restrict the amount of sludge that can be re-used on land. This will increase the need for incineration capacity to dispose of the sludge as predicted by the original planning application for the existing Processing Centre made in 1993.

United Utilities' extension proposals mainly comprise the construction of two new sludge incineration streams (streams 3 and 4) with associated ancillary equipment (also known as 'plant'). Stream 3 is included in the existing 1996 planning permission and the current Integrated Pollution Control (IPC) Authorisation for the site. However, the current proposals for the third stream incorporate some modifications from the 1996 planning approval and therefore, approval is being sought for the third and fourth stream. The IPC Authorisation is granted by the Environment Agency and is in effect a licence that allows the Processing Centre to operate.

The proposed extension will operate in a similar way to the existing two incineration streams. The existing plate presses, used for dewatering, will be replaced with centrifuges in the existing building. The water from the dewatering process will continue to be piped to the treatment works in Liverpool as at present. Similar incineration plant (using a process known as 'fluidised bed' incineration) and gas clean up processes to the existing streams will be used.

The proposed extension will enable an increased volume of sludge to be incinerated on site.

Project Description

The existing centre is located in the industrial area of Shell Green in Widnes. The site for the proposed extension is largely contained within the existing site boundary. However, a small strip of land to the north of the existing site boundary is required to allow for some new facilities and a new site access road (see Figure 1.3 showing the existing together with proposed development and Figure 1.4 showing an illustrative aerial photomontage of the proposed extension). The extension proposals include:

- A new access road to the site from Bennett's Lane, to the north of the existing site entrance;
- Two new incineration streams housed in a new building alongside the two existing streams within the existing site boundary;
- Additional chemical storage facilities;
- New dewatering equipment (centrifuges) to replace the plate presses within the existing dewatering building;

- *New mini-cooling towers and other ancillary plant to service the two new incineration streams on land, between the existing processing centre and the Aroma and Fine Chemicals site; and*
- *A replacement incinerator stack next to the existing stack. The existing stack will be removed as soon as the replacement stack is operational.*

The construction process required for the extension works is anticipated to take approximately 30 months. A temporary construction area will be created on the land to the north of the existing site boundary between the existing site and Aroma and Fine Chemicals. The main construction activities will include:

- *Site preparation, earthworks (eg soil stripping);*
- *Augered (drilled) piles for foundations;*
- *Erection of structural steelwork;*
- *Construction of buildings;*
- *Installation of equipment;*
- *Modifications to existing plant; and*
- *Commissioning.*

Construction is proposed to start in 2005 in order to enable commissioning and operation of the proposed extension in 2008. Although the development of the proposed extension will increase the incineration capacity of the centre, the general operational processes on site will remain essentially the same.

Planning and Land Use

The proposed extension to the Processing Centre is fully in accordance with land-use allocations and environmental criteria in both the adopted Halton Borough Local Plan (1996) and the emerging development plan, the latest version being the Draft Halton Unitary Development Plan (Second Deposit). The proposed extension fulfils both the Government's and Halton Borough Council's desire to prioritise waste reduction and minimisation for safe waste disposal, and generate power (electricity) from the process for use on-site.

LONG TERM OPERATIONAL EFFECTS

The Environmental Statement (ES) considers that long term operational effects are those that result from an irreversible change to the environment (eg through landtake) or those that persist for the foreseeable future (eg increased local employment or noise from site operations). These effects are summarised by topic below.

Atmospheric Emissions

The assessment of atmospheric emissions (ie emissions to air) in the ES addressed the issues of local air quality and odour, using a computer model. The model was used to compare the impacts from the current permitted licence with a 65 metre stack, to the proposed operation with a new 80 metre stack. The predicted ground level concentrations of potential pollutants were compared to the Air Quality Strategy Objectives.

According to data supplied by Halton Borough Council, air quality around Shell Green is in compliance with the national quality objectives. There have been no complaints made regarding odour or air quality from the existing Processing Centre to either United Utilities or to Halton Borough Council.

As part of the extension proposals, United Utilities will modify the existing incineration streams to enable them to burn more of the potentially odorous air from the treatment process and therefore further reduce the potential for odours to be released from the plant.

The overall effect of the proposed extension to the centre is predicted to be a marginal decrease in predicted ground level concentrations of potential pollutants compared to the current permitted licence, due in part to the proposed increased stack height.

In summary, no significant change in local air quality or odour is predicted from the operation of the proposed extension to the processing centre.

Traffic and Transport

The traffic and transport assessment in the ES has been based on a review of existing conditions in the vicinity of the site according to criteria based on existing Government guidance on transport appraisal.

Existing road traffic access to the site is by way of Gorsey Lane and Bennett's Lane which connect the site to the roundabout on the A562 Fiddler's Ferry Road/Dan's Road. The traffic flow data provided by Halton Borough Council indicates that both the A562 (Dan's Road/Fiddler's Ferry Road) and the A557 are busy, but the council states that both the roads are within their designed capacity and reference to the Local Transport Plan indicates that there are no significant congestion or capacity issues on these roads.

The proposed extension to the processing centre is predicted to result in no change in the number of heavy goods vehicle (HGV) lorry loads per day from the site. There is not predicted to be a significant change in other operational traffic once the centre's extension has been completed.

These changes are not significant in traffic or traffic-related environmental terms according to the criteria adopted for the assessment and hence no significant effects are predicted.

Noise and Vibration

The assessment of noise and vibration in the ES addressed the potential of the operation of proposed extension to the processing centre to effect local noise and vibration sensitive receptors. Noise levels from the operation of the extended facility were predicted and compared to existing noise levels measured on-site and recognised standards.

Observations made during the noise surveys indicated that noise close to the site is dominated by noise from the chemical and industrial process plant from nearby

facilities, together with noise from associated movements of heavy goods vehicles (HGVs). Movements of trains and coal haul vehicles at the nearby Fiddler's Ferry Power Station are also audible at some locations.

Noise from the existing processing centre can be heard at locations close to the site boundary (50m) but not at a distance from the site.

At the nearest residential properties in Barrows Green and Halton View, approximately 400m to the west and north of the site, noise from traffic using the A562 dominates at most times of the day and night. Additional noise sources at these positions are associated with aircraft flying over the area and residents' vehicle movements.

In terms of overall effect, the predicted operational noise levels for the proposed extension are likely to meet the appropriate criteria for both residential and office premises. In the case of the nearest residential properties, the proposed extension is not likely to result in a measurable increase in the current background (known as 'ambient') noise levels.

No significant noise effects at the commercial and residential areas around the site are anticipated from the operation of the proposed extension and no noise mitigation measures are currently proposed.

Similarly no significant vibration impacts are expected at off-site locations.

Landscape and Visual

The landscape and visual assessment in the ES was prepared in accordance with good practice and included a site visit and analysis of particular views (known as 'key' views) from areas accessible to the public (eg footpaths and playing fields). In addition consultations were carried out with a number of organisations in order to obtain information about the landscape and visual character of the area.

The existing site is located within the North Mersey Industrial Area at the Gorsey Industrial estate, south of Dan's Road, Aroma and Fine Chemicals works and Barrows Green housing estate. Beyond the immediate site itself, the character of the landscape is dominated by Fiddler's Ferry power station to the east of the site, with areas of flat farmland separating industrial areas. There are disused tips and pulverised fuel ash (PFA) lagoons adjacent to St Helen's Canal to the south of the site. Overhead electricity power lines leading away from the power station, and roads and railways further break-up the landscape. The nearest houses are to the west in Halton View beyond the A562 Fiddler's Ferry Road.

The proposed extension buildings will follow the award-winning design of the existing buildings that are of high quality. The proposed extension will be largely insignificant when viewed in the context of the existing landscape of the area, which is highly developed and industrial in nature.

Nature Conservation and Biodiversity

The assessment of nature conservation and biodiversity in the ES is based on field and desk study results and consultation with relevant organisations. The studies showed that the proposed extension is not within sites designated for nature conservation value and there are no known records of protected species within this area. Although the bird species Partridge and Skylark, which are of conservation importance are known to occur in fields near to the site.

The proposed extension will result in the loss of small areas of immature woodland and scrub and a small area of grassland. However, the studies concluded that there would be little change to the existing operational effects from the extension of the processing centre. The accompanying landscaping proposals will provide new habitat in the longer term and help to mitigate the effects that may result from the loss of habitat during construction of the scheme. Overall, given the lack of nature conservation value within the site, it is predicted that long term effects on nature conservation and biodiversity will be insignificant.

Land Contamination

In order to assess the potential effects associated with land contamination, a desk study of the site was undertaken as part of the EIA that included a review of previous site investigations. The desk study showed that in general, although the site has been previously been in agricultural use, the surrounding area is prone to contamination from the concentration of industries in the Widnes area. Some evidence of contamination has been found in the area of the site proposed for extension, though it is considered that this is unlikely to constitute a risk to long-term site users. However, the possibility of encountering contamination “hot spots” during the proposed extension development cannot be disregarded.

It is predicted that due to the extent of hard surfacing (such as buildings, car parking areas and roadways) included in the extension proposals, the long term effects from contamination will be insignificant. Also since there are no plans to discharge either waste liquids or solids to ground at the site, additional contamination sources created by operations on the site will be limited to potential accidental losses caused by spillages or leaks. Engineering design of the facilities, in accordance with current standards, and compliance with the requirements of operating permits will substantially reduce these risks.

Provided that the identified mitigation measures are put in place, no long-term effects are anticipated due to contaminated land.

Surface Water Resources

The only proposed changes to discharges to surface water will be those from roof drainage. Surface water drainage from all other hard standing areas will continue to be discharged to mains sewer via interceptors as at present. The roof water will continue be discharged to the enclosed or ‘culverted’ former Widnes sewer known as the ‘Eastern Outfall’ which flows beneath Johnson’s Lane to the southeast of the site and from there to the River Mersey via the existing concrete channel, as at present.

Potential effects associated with the future operation are related only to the increased volume of uncontaminated surface drainage associated with the increased roof area. The increase in surface water that will be discharged to the Eastern Outfall is not considered to be significant, especially given the additional land drainage discharges and power station cooling water discharge to the Eastern Outfall downstream of the site.

Adequate engineering provision will be included in the design of the plant in order to minimise the potential for drainage leakage and hence potential contamination effects to surface water features.

Socio-Economics

The existing processing centre currently employs approximately 60 people on a permanent basis. The proposed extension is likely to have no substantial change on the number of employees.

The proposed extension will generate employment opportunities during the construction phase, which will provide indirect and follow-on benefits for the local economy. However, during the operation and maintenance phases, changes to permanent employment at the Processing Centre and the general socio-economic conditions in Halton generally are expected to be minor.

Archaeology and Cultural Heritage

As part of the EIA, a desk-based study of the potential effects on archaeology and cultural heritage as a result of the proposed extension was undertaken using existing documents and maps. The study showed that there are no Listed Buildings or Conservation Areas near to the site. However, there are two archaeological records held by the Site and Monuments Record in the wider area, namely documentary references to the location of a Medieval windmill and watermill.

At this stage it is anticipated that the proposed development will have no significant effects on archaeology or cultural heritage.

Health Risk Assessment

This assessment considers the effects of human exposure from emissions to air of certain substances released by the proposed four-stream incineration Processing Centre. Human exposure to potential pollutants via discharges to the aquatic environment and from solid waste disposal are not considered to be significant.

The assessment considers the effects on the health of an adult resident at the point of maximum exposure. The substances considered are those that are 'persistent' in the environment and have several pathways from the point of release to the human receptor. Essentially they can be described as dioxins and metals.

The assessment demonstrates that the maximally exposed resident is not subject to a significant carcinogenic risk or non-carcinogenic hazard, arising from exposures via both inhalation and the ingestion of foods.

The health impact effects of the proposed extension to the processing centre are therefore not considered to be significant and no mitigation additional measures other than those incorporated into the design of the proposed extension are considered to be required.

SHORT TERM CONSTRUCTION EFFECTS

The short term construction effects are those deemed to be effects that persist for a limited period only (approximately 30 months), due to construction activities such as the use of construction plant or the movement of construction materials and workers. However, construction effects will vary throughout this period as different activities take place.

Atmospheric Emissions

Construction traffic is not predicted to cause a significant increase in traffic along the majority of roads in the study area and is therefore not predicted to result in a significant effect on local air quality. The main aspect of the assessment therefore investigates the potential nuisance effects from dust caused by construction activities. The effect of dust, as a nuisance, is partially dependent on existing deposition rates. In this area there is nothing to suggest that existing local dust deposition rates are unusually high or low for an industrial area.

The main consideration with respect to dust is one of soiling at residential properties. There are, however, no legal standards relating to acceptable levels of deposited dust. Based on previous experience, construction dust is only likely to cause a minor effect within 100m of the source of the dust generate and there are no residential properties within this distance. Dust effects can be minimised by the application of appropriate mitigation measures. It is therefore considered that construction dust will not cause a significant effect.

Traffic and Transport

During construction of the proposed extension to the Processing Centre, there will be a requirement for transportation and delivery of a range of materials to the site by heavy goods vehicle (HGV) lorries. The construction phase will also result in traffic movements associated with trips made by the construction workforce. It has been assumed in the ES that construction traffic will reach the site from the wider motorway and trunk road network and then onto the A562.

It is anticipated that the maximum number of construction workforce vehicle movements per peak hour will be 93 movements. At present, this number of movements is expected to coincide with normal weekday peak traffic periods. Similarly, the number of HGV movements per peak hour is expected to be eight movements.

The potential traffic effects of the estimated construction vehicle movements have been predicted, based on forecasts of traffic generation during construction and the assumed route assignment.

The assessment of the predicted increases in construction traffic for the busiest period of construction activity indicates that only small increases in daily and peak hour traffic flows are predicted. Traffic effects are not therefore, predicted to be significant for the daily flows on the roads assessed, or for the peak hour flows on these roads other than A562 Fiddler's Ferry Road. In the morning peak hour a 5.6% increase in traffic has been predicted on Fiddler's Ferry Road.

However, Halton Borough Council has identified the junction of A562 with the A557 Widnes Eastern Relief Road as being congested and therefore sensitive to traffic flows in excess of 5% of the junction's capacity. This junction is located around 1.5km west of the processing centre along the A562. The predicted increase in morning peak hour construction flows along this road and therefore, potentially at the junction is slightly above this criterion. However, this assessment is based on a worst case assumption and therefore, for the majority of the construction phase traffic effects will be less and below the criterion.

Overall, significant traffic or traffic-related environmental effects from site traffic are not predicted during construction of the proposed extension.

Noise and Vibration

The assessment of predicted noise levels for the noisiest phases of the work during the construction programme has demonstrated that no significant noise effects are anticipated for daytime working activities. It is also likely that evening construction work could be carried out without significant noise effects at residential properties. Noise impacts at some nearby industrial locations would result from night-time construction work, but there is some scope for mitigation of these noise impacts. However, construction activity during the night-time is only likely to occur in exceptional circumstances.

Given the surrounding industrial land uses and the separation distances to the nearest residential properties, vibration effects are not expected.

Landscape and Visual

Short term landscape and visual effects will result from alterations to the landscape during the construction period.

The main effects include those resulting from the installation of contractor's compounds and site offices which will involve clearing the woodland strip to the north of the site, temporary traffic and pedestrian management, construction lighting, soil stripping, piling, HGV and special load movement and storage, installation and movement of construction machinery.

These activities will result in short term adverse effects on the landscape character and views in the area as a whole. A range of proposed mitigation measures are presented in the ES to ensure that all practical measures are taken to reduce the potential visual and landscape effects of the construction works. If these mitigation measures are implemented it is predicted that the effects will be minor.

Nature Conservation and Biodiversity

Measures will be implemented to reduce the risk of construction related impacts on nature conservation interests. Best management practices to control dust, noise, and drainage, together with the use of appropriate bunds around temporary storage tanks to contain spills and leaks will be implemented throughout the works. In particular vegetation clearance will be undertaken outside of the breeding bird season (mid-March to early July) wherever possible to prevent effects to nesting birds.

There is likely to be some temporary disturbance to wildlife around the site during construction from human presence, noise, lighting and dust. However, no particularly sensitive species are known to exist within the site area and due to the industrial location and the associated road network that is a source of existing noise, light and human disturbance it is predicted that short term effects on nature conservation and biodiversity will be minor.

Land Contamination and Surface Water Resource

The potential presence of contamination “hot spots” within the site is a potential risk to construction workers from exposure to contaminated soil and dust. In addition piling methods may increase the potential for contact between site workers and contaminated soil, by bringing contaminated soil from below the site surface to the surface, although this is to an extent mitigated by the short term nature of the exposure. Risk reduction, by damping down and good earthworks housekeeping practice, provision of hygiene and decontamination facilities on site, and personal protection, are all measures that can provide substantial mitigation and provided such measures are implemented throughout the works the potential effects are expected to be minor.

Water arising from construction, including rainwater falling on uncompleted earthworks, has the potential to effect the water environment. Appropriate management controls, including the temporary storage in settlement ponds of runoff water, its discharge to the drainage system and good earthworks housekeeping practice, will minimise the potential for adverse effects on the water environment.

Socio Economics

Socio-economic effects arising during the construction phase will relate to employment generated by the construction process, involving direct employment on site, plus indirect and induced employment effects within the local economy.

Based on previous experience in undertaking projects similar in nature, size and scale, United Utilities have estimated that the proposed extension to the processing centre will generate direct construction employment for 250 persons. Typically about one quarter of construction jobs are taken up by local residents on major civil engineering contracts, with the remainder being brought to the site from the contractor’s base of operations. On this basis, 63 jobs should go to people living in the local area

These temporary jobs will support further employment in the local economy. Overall the temporary employment generated is equivalent to 269 full time employment

positions over the construction period. This will have a minor positive effect on the socio-economic conditions within the Halton area.

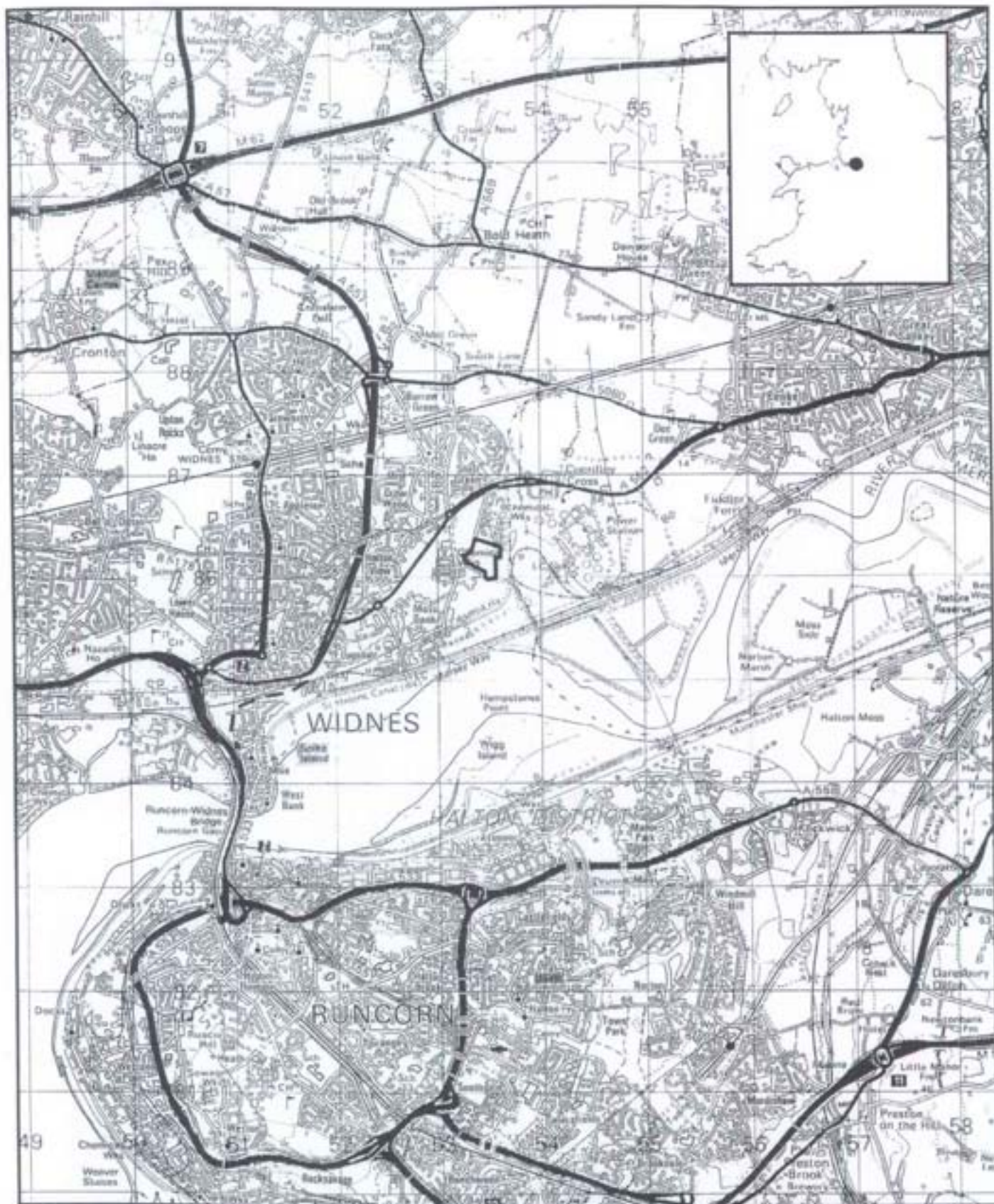
Archaeology and Cultural Heritage

Although it is possible that Medieval or earlier resources may be present within the proposed development area it is considered unlikely that archaeological deposits will be encountered. However, to ensure that if archaeological deposits are encountered that these are treated in an appropriate manner, the County Archaeologist will be consulted prior to the works commencing to establish appropriate procedures.

SUMMARY AND CONCLUSIONS


Having regard to the assessment contained in the ES, it is not considered that the proposed extension scheme will have either significant long or short term adverse effects on atmospheric emissions, traffic and transport, noise and vibration, landscape and visual, nature conservation and biodiversity, land contamination, water resources, socio-economics, or archaeology and cultural heritage.

In conclusion, the EIA has outlined the need for expanded facilities at the Mersey Valley Processing Centre and demonstrated that the site is appropriate for the proposed extension.



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 Proposed Site Location



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 Kilometres

*Figure 1.1
 Site Location*

Shell Green

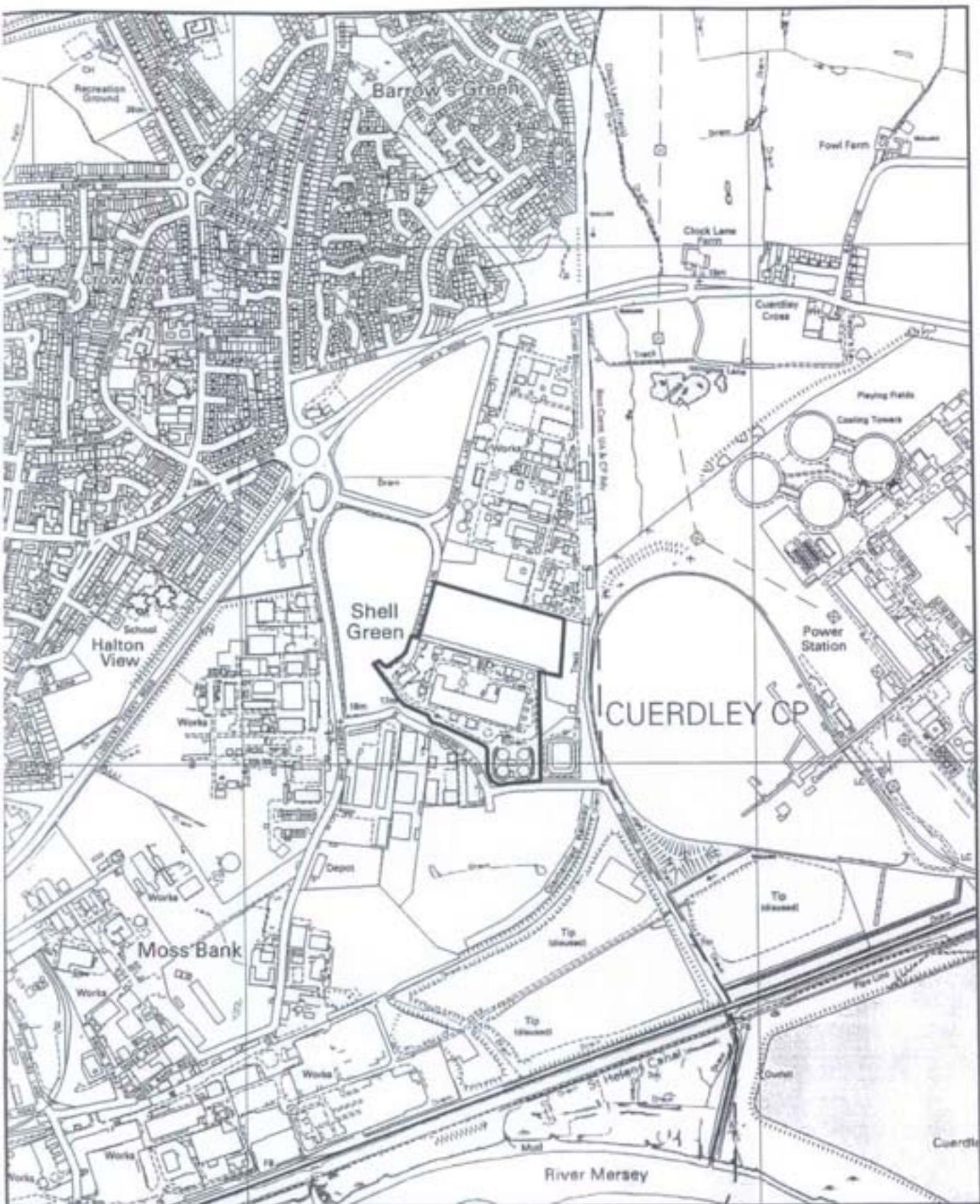

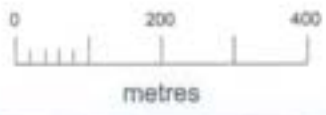


Figure 1.2
Site Boundary

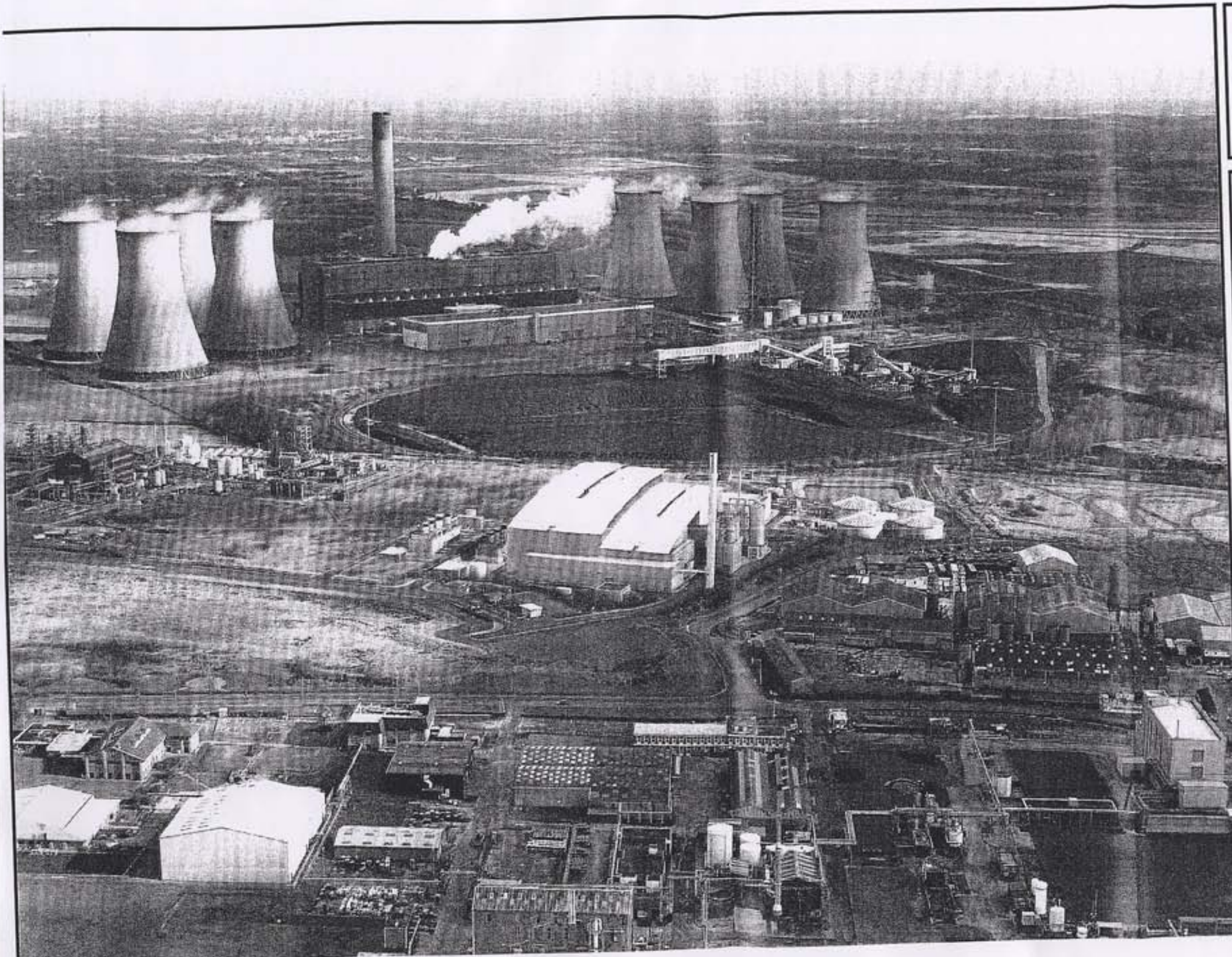
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 Proposed Site Boundary



Shell Green

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*Figure 1.4
Illustrative Aerial
Photomontage of
Proposed Extension*

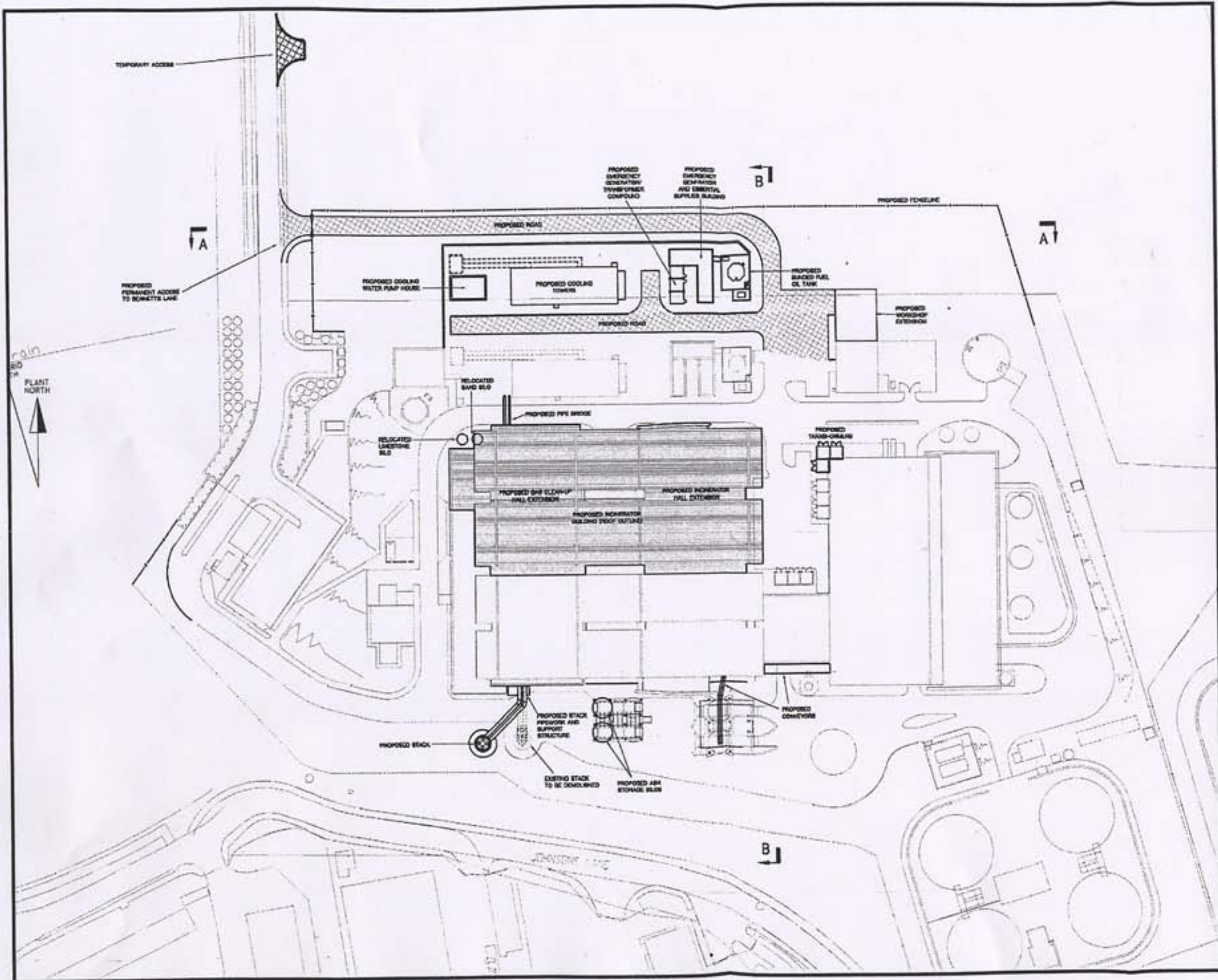
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Figure 1.3
Existing and Proposed
Extension Plan

Shell Green



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