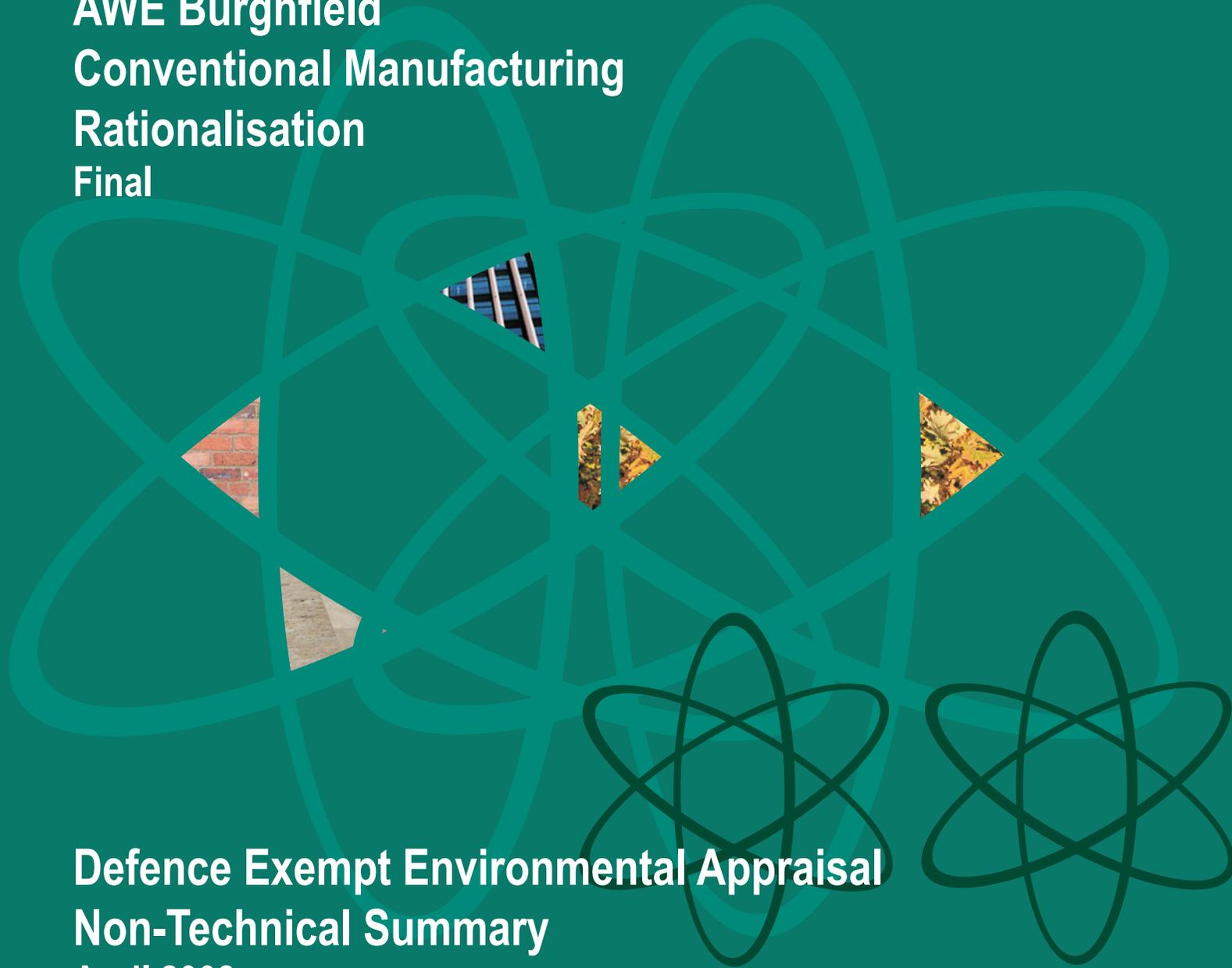


**AWE Burghfield  
Conventional Manufacturing  
Rationalisation  
Final**

**Defence Exempt Environmental Appraisal  
Non-Technical Summary  
April 2008**





Issue Date: April 2008	UNCLASSIFIED DIRECTORATE MAJOR PROJECT	Issue No: 1
Environmental Appraisal Non-Technical Summary	Conventional Manufacturing Rationalisation Facility	Reference: LL32185909

# Environmental Appraisal Non-Technical Summary

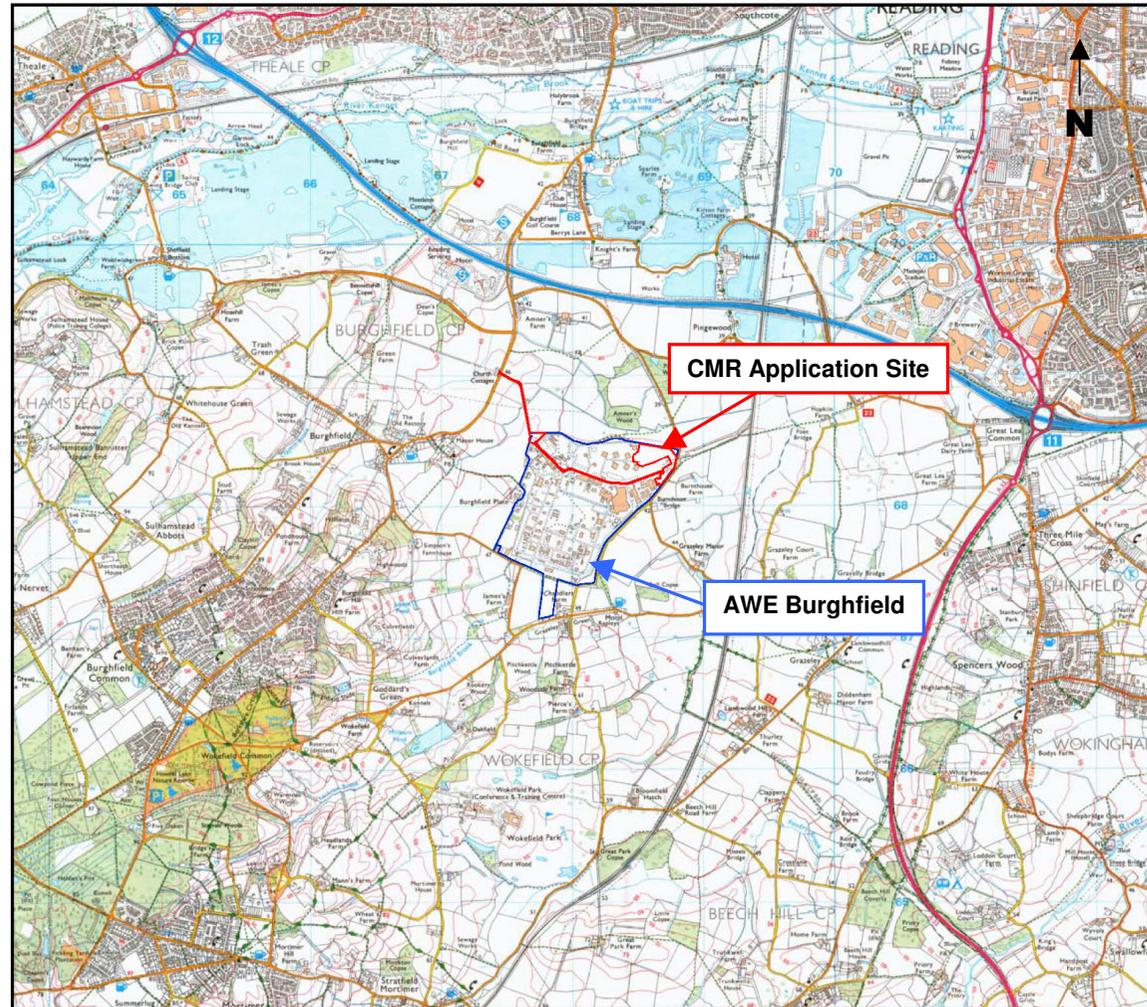
## 1 Introduction

The Ministry of Defence (MoD) hereafter referred to as 'the Applicant' is seeking detailed planning permission for the redevelopment of part of the Atomic Weapons Establishment (AWE) site at Burghfield, Berkshire (Figure 1). The Proposed Development will provide a replacement Conventional Manufacturing Rationalisation (CMR) Facility (hereafter referred to as 'the Proposed Development'), consolidating existing operations presently undertaken in isolated buildings at AWE Aldermaston, to a single purpose built building.

The CMR Application Site (hereafter referred to as 'the Application Site') encompasses an area of 6.43 hectares (ha) and is located within the north-east extent of the AWE Burghfield site. It is centred on National Grid Reference SU 686 684. The Application Site boundary also includes a private road called The Mearings, which lies beyond the site fence line between the AWE Burghfield Main Gate and the Reading Road. The Application Site boundary is shown in Figure 2.

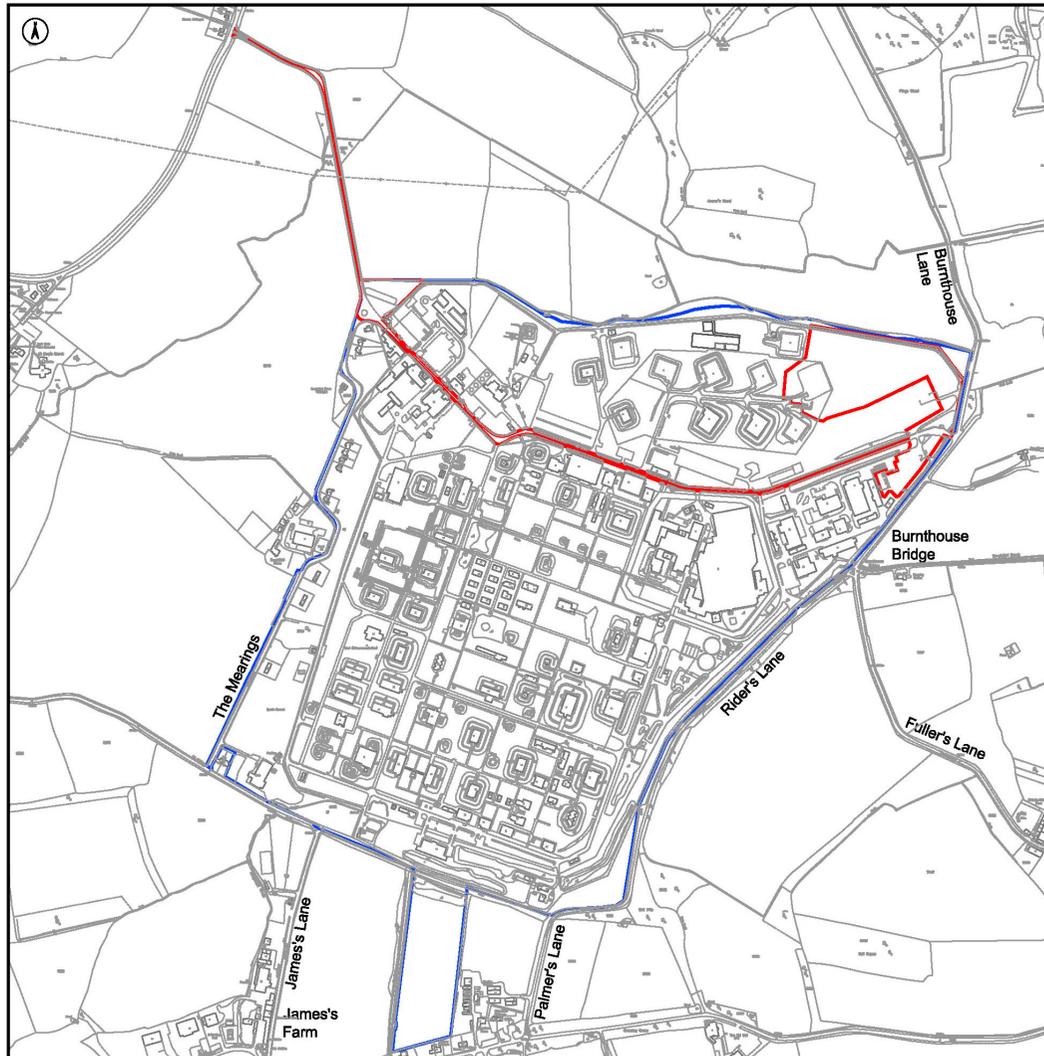
The Proposed Development will provide a total of 9,675 square metres (m<sup>2</sup>) of gross floor space and includes associated disabled car parking and construction related facilities.

Figure 1: Site Location



The Basemap was reproduced from the Ordnance Survey Plan 175 with the permission of the controller of Her Majesty's Stationery Office. Not to Scale

Figure 2: Site Boundary Plan



Basemap taken from AWE GIS.

Not to scale

The Secretary of State for Communities and Local Government has considered the proposals for the CMR Facility and under direction of Regulation 4 (4)(a)(ii) of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999, determined that the requirements of those Regulations shall not apply for this application. This Environmental Appraisal (EA) therefore presents the results of an Environmental Impact Assessment (EIA) study conducted generally in accordance with the appropriate regulations to assess the potential impacts of the development on existing baseline conditions within the Application Site and the local area.

The EA considers the likely environmental impacts of the Proposed Development during site preparation, construction and operational phases, upon on its surroundings, neighbours, wider area and overall context. The EA also details a number of mitigation measures, which have been developed to avoid, remove or reduce any potential adverse impacts on the environment. Where mitigation measures have been identified, these have been incorporated into the project design wherever possible. In cases where no mitigation is required, this is stated. Impacts which remain following the implementation of mitigation measures are termed residual impacts. These residual impacts are classified in accordance with a standard set of significance criteria.

Issue Date: April 2008	UNCLASSIFIED DIRECTORATE MAJOR PROJECT	Issue No: 1
Environmental Appraisal Non-Technical Summary	Conventional Manufacturing Rationalisation Facility	Reference: LL32185909

In certain area enhancement proposals are included in order to meet the long-term aim of improving AWE Burghfield.

The EA comprises two volumes:

**Volume I - EA:** This document forms the main body of the EA detailing the results of environmental investigations, impacts arising and proposed mitigation measures.

**Volume II - EA Technical Appendices:** The Technical Appendices provide detail on the assessments undertaken and information used to inform the EA Volume I. The Appendices provided are:

- Appendix A - Ground Conditions;
- Appendix B - Water Resources;
- Appendix C - Transport;
- Appendix D - Noise and Vibration;
- Appendix E - Landscape and Visual;
- Appendix F - Archaeology and Cultural Heritage; and
- Appendix G - Ecology

This Non-Technical Summary (NTS) provides an overview of the findings of the EIA. The full assessment of the environmental impacts associated with the Proposed Development are presented within the EA.

The EA is available for viewing by the public during normal office hours at the West Berkshire Planning

Department. Comments on the planning application should be forwarded to West Berkshire Council at the address below:

Planning Department  
West Berkshire Council  
Council Offices  
Market Street  
Newbury  
RG14 5LD

## 2 EA Methodology

The EA process ensures that potential impacts of a new development are taken into account when considering a planning application. It provides a systematic analysis and presentation of information on the main anticipated environmental issues relating to the Proposed Development.

The EA has been prepared in accordance with current guidance for the preparation of Environmental Impact Assessments (EIA).

The EA is based on:

- The establishment of baseline environmental conditions in and around the Application Site;
- Consultation with statutory and non-statutory consultees;
- Review of secondary information, previous environmental studies and publicly-available information;

- Assessment of the relevant national, regional and local planning policy and guidance;
- Physical surveys;
- Monitoring; and
- Expert judgement.

The EA has considered the positive and negative, and short and long-term impacts of the Proposed Development on the baseline environmental and socio-economic conditions of the Application Site and its surrounds. The significance of any impacts has been identified and measures for avoiding or minimising adverse impacts have been incorporated into the final design.

The significance of residual impacts has been evaluated with reference to accepted criteria and legislation where available. Where it has not been possible to quantify impacts, qualitative assessments have been carried out, based on professional experience and judgement. Impacts have been classified as being adverse, negligible or beneficial in significance and of minor, moderate or major in magnitude.

## 3 Planning and Policy Context

The Proposed Development has been assessed against relevant national, regional and local planning policies.

National policy and guidance emphasises the need to take environmental and social issues into

Issue Date: April 2008	UNCLASSIFIED DIRECTORATE MAJOR PROJECT	Issue No: 1
Environmental Appraisal Non-Technical Summary	Conventional Manufacturing Rationalisation Facility	Reference: LL32185909

consideration as a routine part of all Proposed Developments.

The overriding objective in national policy and advice is one of sustainable development with an emphasis on the efficient use of land and the location of development proposals where they can be close to good public transportation, pedestrian and cycle links/facilities.

Regional level policy takes these objectives further by encouraging new development in and around urban areas throughout the South East, ensuring that new developments are well designed and consistent with the overall strategy. The Proposed Development would meet these objectives.

Local policy was also assessed in regards to the adopted West Berkshire Local Plan, which is used for development control purposes throughout the District. The approach of the Local Plan is to support development relating to existing uses where it is needed to maintain continued use.

The Proposed Development comply with policy at a National, Regional and Local level, and meets their overriding objectives of serving the employment, and other needs of the locality, whilst fulfilling the principles of sustainability.

#### 4 Alternatives and Design Evolution

Analysis of alternatives is a key part of the process and serves to ensure that environmental considerations are built into the project design at the earliest possible stage.

The EA considered the following options:

- “Do nothing”;
- Refurbishment of existing facilities;
- Off-site provision; and
- New building

The “do nothing” option was ruled out due to the poor condition of the current buildings and the wide dispersal of the manufacturing facilities around the Aldermaston site. In addition, refurbishment of the existing buildings was considered unsuitable, given the number of separate workshops spread across the Aldermaston site, and the inherent inefficiencies associated with this scenario relating to manufacturing, transportation and safety.

In some cases refurbishment was considered for selected buildings, but again it was rejected as the need to move staff and goods, lack of flexibility to accommodate change, and health and safety grounds made it less sustainable in the longer term.

Existing and proposed CMR operations provide products specifically for use at the AWE Aldermaston and Burghfield sites. Relocation of the CMR Facility off-site would significantly increase

travel, and is also likely to reduce efficiency and affect security, and so this was also ruled out.

It was considered that a new building would solve the shortcomings of the other alternatives that were considered. It offered advantages in terms of appearance, working conditions and environmental efficiency (e.g. reducing goods transportation), whilst creating a balance between financial cost and building life.

Joining the existing conventional manufacturing facilities into a single unit requires a large, generally level site area; no suitable areas were found within AWE Aldermaston. A brownfield site in the north-east of the AWE Burghfield site presented an open area of suitable size, which was generally level. The decision to relocate to AWE Burghfield was therefore made on the basis of a combination of site area, lack of environmental constraints and landform.

#### 5 The Proposed Development

The Proposed Development covers the area of the red line boundary shown in Figure 2 and covers 6.43 ha of the AWE Burghfield site.

The Proposed Development comprises two main components (Figure 3):

- The permanent CMR Facility building with a site access road, six disabled car parking spaces, external works and a landscape scheme

including a Sustainable Drainage System (SuDS); and

- A Temporary Construction Enclave (secure compound) with construction staff car parking (approximately 70 spaces) and an open storage or 'lay down' area.

The new CMR Facility will be a single storey building with a partially mezzanine floor, providing a total of 9,675m<sup>2</sup> gross floor space. The building will have a curved roof with a maximum height of 55m Above Ordnance Datum (AOD).

The main processes that will be carried out within the CMR Facility include conventional machine shop activities connected with precision machining of metals, graphite and ceramics. Administrative and office support space will also be provided.

130 permanent staff will be safeguarded and transferred from existing workshops at AWE Aldermaston; no new jobs will be created.

The building will sit on a concrete slab with shallow foundations and will have a structural steel frame with external metal cladding designed as a whitish-grey chequerboard pattern to break up the scale of the building.

Windows will be provided on the ground floor, the mezzanine level on the southern and eastern walls, and partly along the northern wall at high-level.

Figure 5-1: The Proposed Development Masterplan



Basemap taken from AWE GIS.

Not to scale

Issue Date: April 2008	UNCLASSIFIED DIRECTORATE MAJOR PROJECT	Issue No: 1
Environmental Appraisal Non-Technical Summary	Conventional Manufacturing Rationalisation Facility	Reference: LL32185909

Various outside storage areas will be required in line with health and safety requirements, good working practice, and operational efficiency. These will be either clad to match the CMR building or landscaped.

A new access road will be built inside the existing site perimeter road to the north and east of the CMR Facility. This will provide a shared access for the disabled parking area, the shuttle bus service for operational staff, and service/delivery vehicles. New 8m high lighting columns will be provided along the road, and low-level lighting bollards will mark the path between the disabled parking and the main building entrance.

The Sustainable Drainage System (SuDS) will be built to the north of the new facility, forming a series of shallow surface water storage ponds. Rainwater from the CMR Facility roof and paved areas around the building will be drained to the ponds, which will slow the drainage flow rate down and remove silt and other debris before it is discharged to an existing drainage outfall.

The ponds will be designed to improve the amenity and enhance ecological value of the Application Site. Reeds and other waterside plants will be planted in the ponds, whilst trees and shrubs will be planted around the ponds and the CMR Facility.

A temporary construction enclave will be built before the start of construction, enclosing the working area, and the construction parking and lay-down area.

The construction enclave fence and temporary construction parking/lay down area will be removed on completion of the construction works.

Open land to the east of the proposed CMR Facility will be available for temporary storage during the construction works. Manual wheel-washing and security services will also be located in this area.

Temporary buildings housing welfare facilities and offices for the construction workers will be located in the construction parking and lay down area together with space for materials storage.

## 6 Construction Phase

The construction phase can be split into two key elements, as summarised below:

- 1) A permanent manufacturing facility to re-house existing conventional manufacturing processes and activities under one roof within the Burghfield site. This single-storey building will provide associated offices at mezzanine level.
- 2) A construction enclave will be erected around the proposed building (the construction site) with a temporary welfare building, car park and lay-down area (the construction parking area) to the south-west of Pingewood Gate providing approximately 70 spaces.

The scheme will be constructed over a total period of 36 months, with a further 14 months for fit-out

and transfer of equipment from existing workshops at AWE Aldermaston.

Environmental impacts can arise either from normal day-to-day construction operations or from abnormal operations and accidents.

AWE is committed to a Code of Construction Practice (CoCP). This CoCP explains the overall approach by AWE to manage and effectively control overall environmental impact arising from the construction activities arising from the Proposed Development.

Furthermore, the creation of a construction enclave will minimise disruption to the surrounding area during construction, and enable the construction activity to be contained within a defined area.

The assessment found that the construction phase of the development will have a minor beneficial impact on the socio-economic of the area due to the creation of construction jobs. Minor adverse impacts will occur with respect to noise and vibration; and landscape and views. These construction phase impacts will be temporary in nature. For all other areas of assessment e.g. ground conditions, water resources, ecology and air quality, the impact of construction will be negligible.

## 7 Ground Conditions

An assessment of the geological conditions, land contamination, and related surface water and

Issue Date: April 2008	UNCLASSIFIED DIRECTORATE MAJOR PROJECT	Issue No: 1
Environmental Appraisal Non-Technical Summary	Conventional Manufacturing Rationalisation Facility	Reference: LL32185909

groundwater characteristics has been undertaken. It involved an in-depth review of the site's history, geology, surface water and groundwater, a review and assessment of previous intrusive ground investigations that have been conducted within the boundary / surrounding area of the Application Site.

The generalised ground conditions on the Application Site comprises a thin layer of Made Ground overlying London Clay, which in turn is underlain by the 'Lambeth Group', which is predominantly a sandy clay in this locality and Chalk. The London Clay Formation is classified as a non-aquifer and the underlying Lambeth Group is classed as a minor aquifer.

Soil gas monitoring revealed the presence of low levels of chemical compounds known as Volatile Organic Compounds (VOCs), methane, carbon dioxide and the absence of oxygen in some areas of the Application Site. The impact associated with ground gas and any potential landfill gas from the off-site Former Site Tip has been assessed as being negligible.

Sampling for radioactive contamination did not identify any samples above the specified criteria. Therefore, radioactivity is not considered to be a risk. In addition, risk from explosive residues and buried unexploded ordnance was found to be low.

No concentrations of the soil contaminants were found to exceed the accepted UK criteria and therefore are not considered to represent a risk to

human health. Concentrations of some contaminants were found to be elevated within the groundwater beneath the application site. However, no obvious source of contamination was identified. Furthermore previous groundwater studies at AWE Burghfield have identified similar concentrations. These studies have also included detailed risk assessments which indicate that the similar elevated concentrations within the groundwater is unlikely to pose a risk to the (potable) water abstraction or Burghfield Brook. On the basis of these results, no remediation is considered necessary for groundwater or soils. However, groundwater monitoring will be undertaken during and post construction.

No asbestos was encountered within the CMR Application Site. However, asbestos has been identified within the off-site Former Site Tip which is located to the south of the CMR Application Site. The proposed fence line and HGV access route does encroach on the eastern edge of the Former Site Tip. The land through which the HGV access passes is currently being remediated with contamination being removed offsite. The proposed fence line will require mitigation measures to limit any disturbance and therefore any risk to construction workers. These mitigation measures will be implemented to ensure the risk to site users will be negligible.

Given the above, it is considered that the Proposed Development can be implemented without

significant adverse impacts. However, provision will be made during construction for unforeseen situations. A Remediation Method Statement and 'Safe Systems of Work' will be prepared detailing procedures to deal with the eventuality of unforeseen contamination and excavations within the Application Site.

## 8 Water Resources

The impact of the Proposed Development on the surface water, hydrology and hydrogeology of the surrounding area has been assessed. This involved an in-depth review of the site's history, geology, surface water and groundwater, a review and assessment of a series of ground investigations that have been conducted within the Application Site boundary and immediate surroundings.

No surface water features are present within, or in the immediate vicinity of, the Proposed Development. The Application Site lies within a groundwater Source Protection Zone (SPZ). The Ministry of Defence (MoD) operates a licensed groundwater abstraction within the AWE Burghfield boundary; this is the only licensed groundwater abstraction within one kilometre of the Application Site. The groundwater is abstracted from the chalk aquifer situated at depth beneath the Burghfield site and one of its uses is understood to be as drinking water.

Four surface water features are present in close proximity to the Application Site including the

Issue Date: April 2008	UNCLASSIFIED DIRECTORATE MAJOR PROJECT	Issue No: 1
Environmental Appraisal Non-Technical Summary	Conventional Manufacturing Rationalisation Facility	Reference: LL32185909

Burghfield Brook, Foundry Brook, an unnamed watercourse and the River Kennet. The Application Site is outside of the 1 in 100-year and 1 in 1,000-year floodplains of these watercourses. In addition, there is no history of surface water flooding at the Application Site.

No significant impacts to water resources are expected to occur throughout the construction phases of the development provided that standard, best practice mitigation measures are applied including the storage of oils and hydrocarbons in designated locations away from surface water drains with an impermeable base and bund; designated areas will be assigned for cleaning associated with concrete or cementing processes to prevent contamination of surface-waters.

The Flood Risk Assessment carried out for the Application Site concluded that there is no fluvial flood risk to the site during a 1 in 100-year or a 1 in 1,000-year flood event.

A Sustainable Drainage System (SuDs) has been incorporated into the design of the Proposed Development in order to mitigate against surface runoff. It will comprise a series of shallow surface ponds, which will be constructed to the north of the proposed building.

Overall, it was concluded that there will be a *negligible* impact on surface water runoff, groundwater flow, water quality, water supply and

site drainage during both the construction and operational phases.

## 9 Transport

An assessment of the impact the Proposed Development will have the surrounding transport network both during construction and the operational phase has been carried out. The assessment has considered national, regional and local transport planning policies and has been guided by 'The Guidelines for the Environmental Assessment of Road Traffic' produced by the former Institute of Environmental Assessment.

Data was collected regarding various aspects of transportation including the existing traffic data, existing pedestrian and cycle provision and passenger transport services to and from the Application Site. Surveys were also undertaken of existing traffic patterns. This data was used to assess the potential impact and propose a series of mitigation measures.

It is proposed that the operational workforce will access the Proposed Facility via the existing Main Gate. All construction vehicles and non-construction Light Goods Vehicles (LGV's) / Heavy Goods Vehicles (HGV's) are proposed to use Pingewood Gate.

It is predicted that there will be a maximum of 18 HGV movements (in and out) per day at the peak of the construction work (foundations). The average

number of HGV's throughout the construction period will be approximately six per day.

A summary of the impact assessment for each transport user group as a result of the Proposed Development is provided below:

**Pedestrians and Cyclists:** The impact on pedestrians and cyclists for severance, safety, amenity and delay from the Proposed Development is considered to be negligible.

**Passenger Transport Users:** Good passenger transport services will be in place as a result of the NOA planning consent. The improved bus services serving AWE Burghfield will be in place as a result of the Travel Plan by the proposed year of opening of the new CMR Facility in 2012. This will lead to improved quality, reliability and frequency of service. Controlled crossings will also be in place to aid making connection to services to and from the site. The potential impact for users of passenger transport in terms of severance, safety, amenity and delay are considered to be negligible.

**Car Driver:** Delays to car drivers on key roads and junctions as a result of the CMR Facility have been assessed, and have been shown to be negligible.

Overall, it is concluded that the Proposed Development will have a negligible impact on the surrounding transport network.

## 10 Air Quality

Issue Date: April 2008	UNCLASSIFIED DIRECTORATE MAJOR PROJECT	Issue No: 1
Environmental Appraisal Non-Technical Summary	Conventional Manufacturing Rationalisation Facility	Reference: LL32185909

The assessment on air quality has considered the impacts resulting from the construction and operational phases of the Proposed Development. The study concentrated on key pollutants associated with road traffic emissions that have been highlighted as a problem by West Berkshire Council (namely Nitrogen dioxide and particulates). In addition, given that the operational Proposed Development will use electricity, and heat produced by a gas powered combined heat and power (CHP) plant located within the building, emissions from the CHP plant have been assessed using computer modelling.

Receptors and impacts have been identified and mitigation measures proposed. Figure 4 shows the site features and closest receptors. As part of the mitigation proposed for the construction phase no burning of materials will be allowed on site; loading and unloading will only be allowed in designated areas; and materials handling and storage areas will be sited within the Application Site, but as far away as possible from public/residential areas.

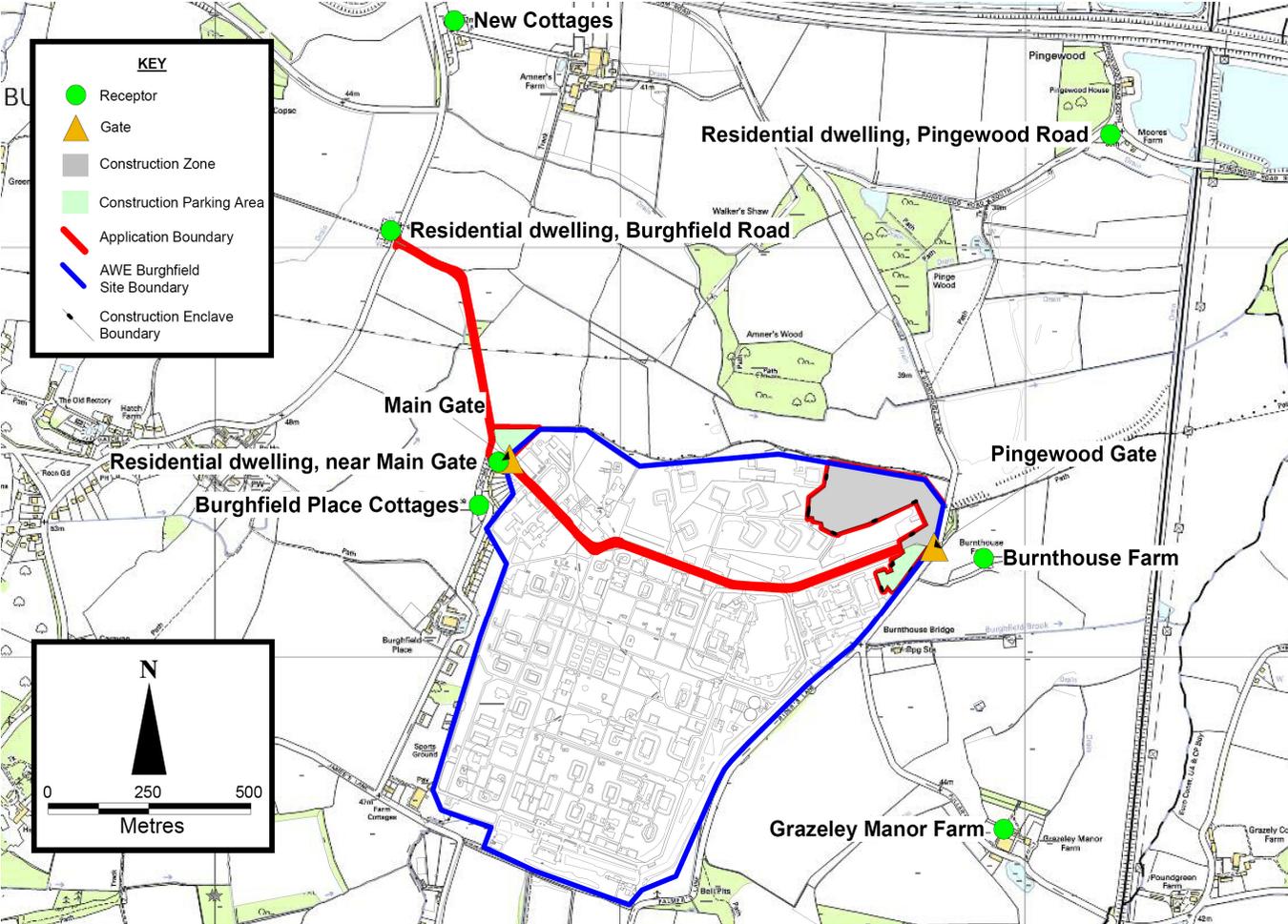
Provided that construction mitigation measures are implemented as described, the residual impacts on local air quality from the construction phases of the Proposed Development are deemed to be negligible.

Residual impacts on local air quality in terms of traffic and process derived pollutants as a result of

the operational phase of the Proposed Development are deemed to be negligible.

Overall, the Proposed Development is not predicted to have any significant impact on local air quality.

Figure 4: Site Features and Receptor Locations



Based upon Ordnance Survey maps with the permission of the Controller of Her Majesty's Stationary Office.  
Licence No. 100039993.

Issue Date: April 2008	UNCLASSIFIED DIRECTORATE MAJOR PROJECT	Issue No: 1
Environmental Appraisal Non-Technical Summary	Conventional Manufacturing Rationalisation Facility	Reference: LL32185909

## 11 Noise and Vibration

An assessment has been carried out to determine the impact of noise and vibration arising from the construction and operation of the Proposed Development. The impact of this additional noise was measured by comparison with existing noise levels measured adjacent to identified sensitive receptors and along the proposed construction traffic routes. Once the receptors were identified, the assessment was undertaken and mitigation measures were proposed.

Provided that construction mitigation measures are implemented as described, the residual impacts for noise from the construction phases of the Proposed Development are deemed to be negligible.

Vibration from construction activities will not affect sensitive off-site properties due to their distance from the Application Site. The Code of Construction Practice (CoCP) and good working practices will help reduce any vibration impacts on sensitive uses within the AWE Burghfield site.

During operation of the Facility, changes to traffic noise will be of negligible significance due to the relatively small number of vehicle movements and provision of a limited number of parking spaces. Fixed plant will be designed and operated in accordance with local authority policy and relevant guidance. Therefore, impacts arising from plant noise will not be significant and can be classed as negligible.

Assuming that appropriate mitigation measures and best practice is employed for all possible sources of noise, no significant residual impacts are expected. No permanent residual affects have been identified.

## 12 Socio-Economics

An assessment of the socio-economic impacts of the Proposed Development has been undertaken, which included a review of employment, income, effects on the labour market, and other impacts of the Proposed Development.

The construction of the Proposed Development will create a number of employment opportunities. Although these jobs are short-term they represent an economic impact that can be estimated as a function of the scale and type of construction. AWE has confirmed that the construction of the site is estimated to last 36 months and will result in approximately 80 construction employees on-site at any one time during construction. Overall, the construction phase impact is considered to be of minor beneficial significance.

The Proposed Development is intended to replace existing facilities accommodating up to 130 employees at AWE Aldermaston, who will relocate to AWE Burghfield. It is therefore assumed the Proposed Development will safeguard 130 jobs for the people of the South East.

Impacts on supporting manufacturing infrastructure, including retail and leisure, the local manufacturing

market, and the local housing market have been assessed. Given that the proposal involves the direct transfer of staff from AWE Aldermaston, and that the two sites are only 8.4km apart, the net effect is likely to be of negligible impact on local services and retail provision.

The proposal will transfer manufacturing space to AWE Burghfield and this will contribute to local and regional economic stability. It will not be let on the open market and therefore will not affect the local manufacturing market. It will be of minor beneficial impact on the local and regional economy, as it will improve the physical building stock and long-term potential of the Application Site.

Based on an understanding of where current employees live and their willingness to travel to work obtained from a travel to work survey, it is expected that the Proposed Development is unlikely to place additional demand on the local housing market or social services (i.e. school and hospitals).

## 13 Landscape and Visual

The assessment considered the impact of the Proposed Development on the surrounding landscape and views. The assessment is based on the 'Guidelines for Landscape and Visual Impact Assessment' published jointly by the Landscape Institute and the Institute of Environmental Management and Assessment.

Issue Date: April 2008	UNCLASSIFIED DIRECTORATE MAJOR PROJECT	Issue No: 1
Environmental Appraisal Non-Technical Summary	Conventional Manufacturing Rationalisation Facility	Reference: LL32185909

The proposed CMR Facility Development sits within a previously developed area within the AWE Burghfield site, and is bounded to the west and the south by existing development. The quality of the existing landscape character areas is either poor or ordinary and of low or medium landscape value and sensitivity to change.

Impacts from the construction of the Proposed Development are likely to be significant during the site enabling and the subsequent construction phases, but are mitigated by the restriction of overall working height. This is therefore, likely to constitute a temporary minor adverse impact.

Once the landscape mitigation measures have been successfully established, the Proposed Development will sit within an enhanced landscape structure, not only improving the quality of the landscape character areas within the CMR Application Site, but also the day and night-time views of the Proposed Development from immediately outside of the site.

The overall long-term landscape and visual impact on completion is likely to be of minor benefit to the local area, enclosing the site in views from the local landscape to the north. The development proposals have therefore considered and sought to mitigate, wherever possible, the various landscape and visual impacts that are likely to occur throughout the course of construction and operation.

## 14 Archaeology & Cultural Heritage

A desk-based archaeology and cultural heritage assessment was carried out for a Study Area of a 1 km radius around the Proposed Development. The assessment considered whether the Proposed Development might affect both known and potential cultural resources.

The assessment has determined that there will be two main impacts on the cultural heritage resource at AWE Burghfield; on the historic setting of the Application Site and its immediate environment; and, on potential buried archaeological remains. The majority of impacts are considered to arise from disturbance associated with the groundwork's for the Proposed Development.

Recent ground condition investigations demonstrate that approximately half of the Application Site has not been previously disturbed, and therefore has the potential for buried archaeology to survive. The context of the wider landscape indicates that the value of any archaeological remains that might be encountered during the Proposed Development is likely to be medium rather than high importance, so the need to preserve remains on the site is not anticipated.

A programme of trial trenching will be carried out prior to construction on those areas identified as having archaeological potential, followed by excavation of any archaeology discovered as a result. For the Construction Parking area, a

'watching brief' will be maintained on all intrusive ground works to identify and record any buried archaeological and structural remains that may be associated with the former Royal Ordnance Factory.

However, the Proposed Development will have a minor adverse residual impact on the cultural heritage resource, particularly in relation to potential buried remains and the historic setting.

## 15 Ecology

An assessment of the effects of the Proposed Development on ecological resources has been prepared with reference to baseline ecological studies and surveys including a desk study, Phase 1 habitat, a River Corridor Survey, and protected species surveys.

The Proposed Development in the short-term will result in the loss of habitats considered to be of some value in the context of the AWE Burghfield site, in particular for sheltering/foraging birds and reptiles. Appropriate measures have been proposed for the design, construction and operational phases which seek to avoid and minimise adverse impacts on biodiversity and to result in beneficial outcomes in particular in relation to the design of the proposed ponds which will form part of the SuDS scheme.

With the implementation of mitigation measures there will be no significant impacts on the ecological receptors in the local area. The SuDS scheme for

Issue Date: April 2008	UNCLASSIFIED DIRECTORATE MAJOR PROJECT	Issue No: 1
Environmental Appraisal Non-Technical Summary	Conventional Manufacturing Rationalisation Facility	Reference: LL32185909

the site has been designed with biodiversity in mind. This combined with other ecological improvements, such as native tree planting and native grass seed mixes will provide a minor positive impact in the medium to long term for the proposal.

## 16 Sustainability

As part of the Government Estate, AWE has a commitment to adopt the principles of sustainability in all new developments. These principles are adopted from Government policy on sustainability, with the aim of achieving sustainable development, i.e. "development which meets the needs of the present, without compromising the ability of future generations to meet their own needs".

A Sustainability Appraisal has been completed for this Proposed Development in accordance with the MoD Sustainability Handbook, the results of which have fed into the design of the Proposed Facility.

Sustainability is a core part of the Site Development Context Plan (SDCP). These strategies will guide the implementation of the Proposed Development, as detailed below:-

- Energy and water efficient building design and reduction of carbon dioxide (CO<sub>2</sub>) emissions through the AWE Energy Strategy;
- Minimising environmental impact and disruption to local residents during construction through the AWE CoCP;

- Reducing single occupancy car travel and encouraging sustainable transport modes through the AWE Travel Plan;
- Managing surface water runoff through the AWE Surface Water Drainage Strategy;
- Managing and minimising construction waste through the CoCP; and
- Delivering the SDCP and maintaining biodiversity.

A preliminary bespoke Building Research Establishment (BRE) Environmental Assessment Method (BREEAM) has been undertaken for the Proposed Facility and has achieved an excellent rating.

## 17 Cumulative Effects

An assessment of the potential effects of the Proposed Development in cumulation with other development has been undertaken. The cumulative impact assessment considered the incremental changes caused by reasonably foreseeable future developments together with the proposed scheme.

The cumulative scenario assessed comprises proposals detailed in the AWE SDCP08. Table 1 shows the schemes considered within the cumulative impact assessment. A review of major planning applications within the parish of Burghfield and adjacent parishes did not identify any schemes likely to affect the EIA or contribute to cumulative impacts.

*Table 1 Schemes Considered within the Cumulative Assessment (SDCP)*

Development Proposed	Maximum Floor Area
Manufacturing/production (including CMR)	26,500 m <sup>2</sup>
Testing/research	9,500 m <sup>2</sup>
Computing/communications	N/A floorspace
Office and business support accommodation	N/A floorspace
Environmental Proposals and Programmes	N/A floorspace
Total	36,000 m <sup>2</sup>

By addressing the cumulative impacts from the Proposed Development, it is considered that there will be temporary minor adverse impact interactions during the construction stage in relation to transport and air quality.

When addressing the combined effects of the CMR development the proposals contained within the SDCP08, it is considered that the provision of CMR facility, along with a significant amount of manufacturing space, and modern buildings in a landscaped setting will have positive impacts particularly in relation to Socio-Economics, as well as providing benefits for biodiversity and improved landscape character across the site. In addition,

Issue Date: April 2008	UNCLASSIFIED DIRECTORATE MAJOR PROJECT	Issue No: 1
Environmental Appraisal Non-Technical Summary	Conventional Manufacturing Rationalisation Facility	Reference: LL32185909

continued development will result in a clean up of any contamination on site within the development areas, leading to beneficial impact to ground conditions and groundwater.

## 18 Residual Impacts and Conclusion

Residual impacts are defined as those impacts that remain following the implementation of mitigation measures.

The Proposed Development will lead to a number of minor beneficial impacts, particularly in relation to its contribution to the provision of modern workshop and manufacturing space; the provision of increased temporary employment opportunities in the area; and building sustainability, and biodiversity enhancements. Ground remediation across the site will also improve ground and groundwater conditions.

The overall conclusion of the EIA is that the Proposed Development will be a positive step towards meeting a number of the strategic objectives of regional and local policy. The Proposed Development will help secure the long-term viability of AWE Burghfield for the local area and will provide a number of employment opportunities during the construction phase, and will safeguard existing employment during the operational phase.