

## Appendix A Anglo American Community and Stakeholder Engagement Framework



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**Woodsmith Project**

Document Title:

**COMMUNITY AND STAKEHOLDER ENGAGEMENT FRAMEWORK**

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# Community and Stakeholder Engagement Framework

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# Community and Stakeholder Engagement Framework

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## Community and Stakeholder Engagement Framework

### 1 Purpose and Scope

#### 1.1 Background

The Company takes its responsibility to the local area very seriously and is committed to taking an active and positive role in the local community. This means minimising the potential adverse impacts on people living and working in the area, making a meaningful contribution to the social and economic well-being of the area, keeping the community informed as the project develops and responding quickly to questions and concerns.

There is widespread interest in the Company's Woodsmith Project (the Project) at local, regional and national levels. This is demonstrated by the ongoing media and stakeholder enquiries, as well as the levels of participation during the planning consultations and at Company events.

Anglo American (the Company) successfully engaged the community and other key stakeholders during the planning period and has continued to do so beyond, gaining widespread support for the Project. This has helped to provide the Company with a social license to operate. Maintaining this throughout the construction period is important to the successful delivery of the Project and is a key objective of the Company's board and management team.

#### 1.2 Purpose

This Community and Stakeholder Engagement Framework (CSEF or the Framework) aims to set out a clear communications approach during the construction period which, when implemented correctly, can help to maintain the Project's social license to operate.

#### 1.3 Scope

The Framework sets out an approach to community and stakeholder communications during the construction period. It outlines the overall strategy, identifies the main stakeholder groups and details the engagement objectives and activities. Stakeholders have been identified as those groups in the local area who have the potential to be impacted by construction, and as such does not include wider corporate stakeholders such as investors or customers.

The Framework sets out the roles and responsibilities of the Company and the principle construction contractors for implementing and managing its delivery.

#### 1.4 Standards and compliance

The Framework is in compliance with planning obligations relating to community and stakeholder engagement including: producing a communications plan; the establishment of the Liaison Group Forum and Traffic Management Liaison Group; notification to neighbours of construction activities, particularly in relation to noise; dealing with complaints and initiatives to promote local benefits.

It is not within the scope of this plan to include engagement with the planning authorities and other statutory bodies in relation to the compliance with planning obligations and further environmental requirements, other than those specifically regarding community engagement.

## 1.5 Document review

The Company is committed to regularly reviewing its approach. This is the third time this document has been updated since the off-site highways improvement works were undertaken on the main transport route and construction started at Woodsmith, Lockwood Beck and Wilton. The principles of the Framework therefore remain unchanged, with the addition of the good practice learnt over the last eighteen months.

The Framework will be reviewed on annual basis by the General Manager External Affairs and External Affairs Director, in consultation with the land, environment and planning team, and updated as necessary. It will be distributed to the list shown in section 1.6. Lessons learnt will be adopted into the working practices of the community relations team under the direction of the External Affairs Director.

## 1.6 Distribution list

- North York Moors National Park Authority
- North Yorkshire County Council
- Principle contractors

# 2 Engagement Strategy

## 2.1 Rationale

The strategy is based on the principle that the local community and key stakeholders should be kept informed of developments and in advance of them occurring. The failure to communicate often leads to a communications vacuum and this in turn leads to misinformation and rumours which is unhelpful for all stakeholders.

Similarly, providing channels for feedback to the Company in the first instance, including direct contact with the community relations team, allows local people or spokespeople to be engaged in matters that might affect them. Since construction started on the off-site highways works almost three years ago, the vast majority of questions or concerns about the Project have come directly to the Company. This demonstrates the importance of developing and maintaining relationships 'on the ground'.

Keeping people informed is not just about notification of physical activities during the construction period, but is also about allowing a channel for feedback that might raise an issue or local knowledge that the Company or its contractor teams were not aware of. It also enables a channel to promote the benefits of the Project as well as engaging in other positive public relations activities.

Any materials that are prepared for public consumption to explain parts of the construction work are designed and drafted in a manner that promotes the understanding of works or issues in as clear and straightforward manner as possible.

## 2.2 Approach

### 1. Conduct pre-briefings for key events or activities

Providing clear information before each phase of works commences at the Project sites detailing what construction will involve, when it will take place and the measures to limit impacts. Since

construction started this has included newsletters, mailouts, direct face-to-face meetings, drop-in events, public meetings, press releases and notices in the local media.

## **2. Have effective ongoing management of local communications**

Providing ongoing updates about construction progress and establish mechanisms that enable concerns to be raised and acted upon. This includes participation in the various liaison groups and clear processes to manage incoming queries or complaints. These have worked well since construction started. The Company also operates a 24-hour community helpline.

## **3. Community benefit initiatives**

Undertaking and promoting regular initiatives that deliver community benefits such as education schemes and employment and business opportunity information sessions. These have been ongoing since construction started and have been well received by the community.

Further details on the methodology for pre-briefings, ongoing management and community benefits initiatives are available in sections 4.2 – 4.4.

# **3 Stakeholder Identification**

Stakeholder groups have been identified and engaged as the Project has developed and can be broadly categorised as follows:

## **1. Site neighbours**

Residential neighbours and/or landowners, businesses and organisations close to the individual construction sites. This also includes those directly affected in other areas such as those living close to key transport corridors or junctions. Approximately 60 households have been identified as 'site neighbours' to the Woodsmith and Lockwood sites and regular contact has been maintained since construction commenced. In addition, links with the neighbourhood of Dormantown have been established since construction commenced at the Wilton site.

## **2. Community representatives**

This group includes elected representatives of the community including parish and town councils, local authority officers and councillors, and local MPs.

## **3. Interest groups**

Business networks, environmental bodies, other local clubs and groups.

## **4. Education Institutions**

This includes local schools, colleges, universities and other training providers.

## **5. Media**

A wide range of online, print and broadcast outlets and journalists are considered key stakeholders.

## **6. General public**

The wider public as accessed through media channels, the website, social media or site signage etc.

A register has been developed for each Project site for of these broad groups, which is reviewed and updated. Stakeholder engagement takes into account the needs of vulnerable and disadvantaged groups, making sure that information about the Project is accessible and people are able to contact the

Company and receive a prompt response. This is ensured by utilising a broad range of engagement channels, as set out in section 4, and holding public events in accessible venues.

## 4 Engagement Methodology

This section sets out how community and stakeholder communications will be handled.

### 4.1 Identify stakeholders

The broad stakeholder groups have been identified, together with specific stakeholders relevant to each of the construction sites that are most likely to be impacted by the works. This includes landowners and local residents in close proximity to the sites.

### 4.2 Pre-briefings for key events

Before each phase of construction starts, or before a specific construction activity that has the potential to impact stakeholders, it is important to provide information to the local community. For the purpose of this Framework these stages are defined as “construction events” (these are listed in Appendix 1). Each construction event triggers the requirement for pre-briefing activities. The level of pre-briefing activity will vary, taking into account the extent of the local impact anticipated.

The pre-briefing information will include details about what construction will involve and how people can contact the Company if they have questions or concerns. Reassurance will be given that measures will be taken to limit adverse impacts to an acceptable level and that planning conditions and other requirements are in place to ensure that this happens. As a minimum, the pre-briefing activities will include:

- Letters – Letters and or emails should be sent to those that are likely to be immediately affected. This might include neighbouring residents or households and businesses on access routes. As a courtesy, the same information will be sent to the local Parish Council, borough and county councillors covering those areas.
- Visits and phone calls – In addition to letters, affected households and businesses will be visited, or at the very least receive a telephone call.

For construction activities that are more significant, in terms of their potential for stakeholders to be affected, the Company will use the following pre-briefing methods. The precise details and extent of pre-briefing will be a matter of judgement and as a result of discussions between the contractor and the Company and, where appropriate, the planning authorities. Activities may include:

- Newsletter / Leaflet – A short summary newsletter or leaflet about the works will be made distributed, including local noticeboards and community facilities.
- Exhibitions / Open days – In the case of certain key events, such as the main shaft sinking, it will be appropriate to inform local residents and the wider general public through open days prior to works starting. This includes further information on exhibition boards and will be attended by key personnel from the Company and contractors, who are be able to respond to queries and provide reassurance on potential concerns. Ten of these sessions have taken place since construction started.



- Press release – If appropriate (often where a wider audience is potentially affected or interested in the works planned) then a press release will be prepared detailing the key facts. Any press release needs to be signed off by the Company in a timeframe that makes sure newspaper deadlines are met. Where possible, coverage should always appear in the week prior to the proposed activities beginning. The local media has been particularly useful in instances where the community beyond the immediate site neighbours could be affected, such as public highways disruption.
- Website updates – Details of key events are uploaded to the Company website. Some works may also require more detailed information and documents to be uploaded.
- Social media updates – The Company will control its social media accounts. As above, the contractor will be expected to provide the relevant details to the Company in a timely fashion so the relevant information can be released through its social media channels.
- Stakeholder briefings – In some circumstances specific stakeholders will be individually briefed to inform them of key events. This may include elected representatives, local authority officers or interest groups. The Company will take the lead on such matters and will involve contractors where appropriate.

### 4.3 Ongoing management

Local residents and stakeholders will continue to be engaged throughout construction (i.e. general updates in addition to those covered under 'key events' in appendix 1). This will enable the Company to provide regular updates of the Project's progress, and that it is being delivered in accordance with planning consents and any other Company commitments. Alternatively, if the Project is not progressing as expected it is important that stakeholders are provided with an explanation and reassurance that corrective measures will be implemented.

In addition, on-going engagement will include a range of communication channels that enable stakeholders to raise issues and ask questions and for the Company to respond to these.

#### 4.3.1 Liaison Group Forum

The Liaison Group Forum (LGF) was established prior to the commencement of construction and has met quarterly. There have been seven meetings to date and the LGF will continue to meet throughout the construction period. It is chaired by the Company and its membership includes representatives from the National Park Authority, parish and town councils and wider community stakeholder representation as appropriate. The meetings take place in community venues, such as village halls, close to the Woodsmith site and are open to the general public to attend and to ask questions.

The purpose of the group is to facilitate liaison between local stakeholders about construction, providing updates about progress, and to enable issues and concerns to be raised and resolved.

#### 4.3.2 Industrial Business Group

The Industrial Business Group (IBG) was established to facilitate liaison between the businesses based at Wilton International and residents from the neighbourhoods in close proximity of the site.

Meetings are held bi-monthly and attended by the major businesses on the site, local councillors and residents. Sirius joined the group once construction started on the Wilton site.

### 4.3.3 Traffic Management Liaison Group

The purpose of this group is to facilitate liaison between local authorities and other interested stakeholders in regard to construction traffic. The group, which meets quarterly, oversees the management and monitoring of the Construction Traffic Management Plan (CTMP) and is chaired by the Company. The meetings take place after the LGF meetings, on the same day and venue, with traffic issues raised by the LGF addressed by the group.

There is representation from the National Park Authority, highways authorities, local authorities, the police and other stakeholders as invited. There have been seven meetings since construction started and traffic issues raised by the LGF are addressed.

### 4.3.4 24-hour community helpline

To ensure that there are accessible points of contact for the local community and wider stakeholders a 24-hour community helpline has been established, which is delivered by a specialist contractor. In addition there is a community email address, which is managed by the Company.

### 4.3.5 Regular briefings and updates

Key individuals and organisations are regularly briefed and updated. Similarly to pre-briefings for key events, updates are communicated through the following channels:

- Public meetings and presentations – Parish council and town council meetings are regularly attended, together with presentations to local interest groups.
- Site visits and meetings – visits to the Project sites for key stakeholders have been an effective way to communicate site activity and progress. In addition, drone footage of the project sites is regularly used to show progress and is used in Project presentations and on the Company's website.
- Press releases – the print and broadcast media are utilised extensively to communicate with the wider community and at a regional and national level.
- Newsletters, website and social media – regular updates produced throughout construction via the website, leaflets, newsletters, social media and publications relating to specific issues, such as careers. Videos, including footage of the sites and interviews with key Project personnel have also been an effective tool.

## 4.4 Community benefit initiatives

The Company has made a number of commitments to benefit the local area during construction such as providing employment and supply chain opportunities, training schemes, school outreach programmes and funding community projects. It is important that these are implemented and widely promoted so that the community and stakeholders are aware that the Company's commitments are being delivered. The activities and initiatives, some of which are planning obligations in the S106 agreements, are outlined below:

- Funding to Scarborough Borough Council and Redcar and Cleveland Council to identify and prepare local people for employment opportunities.

- Funding to raise awareness of science, technology, engineering and maths (STEM) related careers in schools in North Yorkshire and Redcar and Cleveland.
- Targets specified in the S106 agreement - take on 50 apprentices, recruit 15 local students on the Company's Undergraduate Programme and train 300 adults.
- Quarterly employment opportunity sessions to promote job opportunities to local people and meet the buyer events for local businesses.
- Education outreach initiatives, careers events and presentations.
- Funding community projects through the Sirius Minerals Foundation.

#### 4.5 Dealing with complaints

The Company aims to respond promptly to complaints and concerns, ensuring that issues are investigated and resolved as quickly as possible. The Company's approach is detailed in its Complaints Procedure – see Appendix C.

## 5 Roles and Responsibilities

This section provides a framework that identifies responsibilities for the delivery and management of community and stakeholder engagement, focusing on roles of the Company and the principle construction contractors. The Company will be responsible for all community and stakeholder engagement during construction, supported by each construction contractor as required.

### 5.1 Anglo American

The Company will be responsible for:

- Identifying key stakeholders likely to be impacted by the works.
- Undertaking pre-briefing activities before construction starts such as:
  - Open Days / exhibitions as appropriate.
  - Producing information outlining what is involved, impacts and mitigation, contact information, etc.
  - Direct correspondence with neighbours and landowners about construction events
- Liaison with the planning authorities and community representatives, including chairing the Liaison Group Forum and Traffic Management Liaison Group.
- Media relations.
- Manage the complaints procedure.
- Producing project newsletters, social media and updating the website.

- Direct engagement and briefings with key stakeholders including local residents, community representatives and interest groups.

### 5.1.1 Community relations team

The Company's community relations team is responsible for implementing the Framework in liaison with others in the Company as appropriate.

The Company's External Affairs Director has overall responsibility for all company communications and external relations. The External Affairs Director chairs the Liaison Group Forum.

The General Manager External Affairs, reporting to the External Affairs Director, manages the implementation of the approach detailed in the Framework. The Local Liaison Officer and Education Outreach Officer report to the GM External Affairs, and are further supported by the PA to the External Affairs Director.

The community relations team work closely with other departments in the Company in the implementation of the Framework, particularly the land, environment and planning team as well as the project development team. They assist in providing relevant information, investigating and resolving complaints, and attending Company events and public meetings as required. The Company's Logistics Manager chairs the Traffic Management Liaison Group.

## 5.2 Construction Contractors

Having developed and maintained positive relationships with key local stakeholders since the Project was launched in 2011, Anglo American takes the lead role in all community and stakeholder engagement. Each of the construction contractors will be required to support the Company's stakeholder engagement approach as follows:

- Provide expected durations of phases or work, their potential impact on the local community and mitigation measures where required.
- Provide details of any expected public transport diversions, delays, planned road closures, impacts on highways, interrupted access for residents/ businesses, or other expected community disruption.
- Participate in employment opportunity sessions, meet the buyer events, and education outreach events as required.
- Cooperate with Anglo American in media events and provide information to the Company for publications, the website, newsletters, etc.
- Adherence to Anglo American's communications protocols and guidelines.
- Attend the liaison groups, parish/town council meetings and assisting Anglo American as required.
- Ensure that all sub-contractors comply with stakeholder and community relations requirements.

## Appendix A – Construction Events

The following provides a list of construction events which trigger the requirement for pre-briefing activities, as outlined in section 4.2. The list is not exhaustive and there may be other events or activities not listed here that could be classified as construction events as a result of discussions between the Company and its contractors.

The construction events for the purposes of this Framework are:

- Any significant geotechnical investigation or drilling works
- Main Woodsmith Mine shaft sink
- Main Lockwood Beck shaft sinking
- MHF construction
- Harbour construction
- Other construction activities with the potential to affect stakeholders including site neighbours or road users in regard to noise, light, disruption to the public highway, etc. Examples include an abnormal load arriving to site or a short period of piling.

## Appendix B – Engagement Activities Summary

The table below provides an ‘at a glance’ overview of the main community and stakeholder engagement activities, together with the respective roles of Anglo American and contractors.

	Pre-briefing activities	Ongoing management	Community benefit initiatives
<b>Anglo American</b>	<ul style="list-style-type: none"> <li>Establish Liaison Group Forum and Traffic Management Liaison Group</li> <li>Project update newsletter</li> <li>Media, website update, social media</li> <li>Briefings with site neighbours, landowners, community representatives and other key stakeholders as identified</li> <li>Produce leaflet detailing upcoming construction activities</li> <li>Send letters to stakeholders likely to be immediately affected</li> <li>Hold public open days / exhibitions</li> </ul>	<ul style="list-style-type: none"> <li>Chair Liaison Group Forum and Traffic Management Liaison Group</li> <li>Attend the Industrial Business Group</li> <li>Manage 24-hour community helpline and <a href="mailto:cropnutrients.info@angloamerica.com">cropnutrients.info@angloamerica.com</a></li> <li>Attend parish and town council meetings quarterly</li> <li>Regular updates to site neighbours, landowners, community representatives and interest groups</li> <li>Site visits</li> <li>Media, website update, social media</li> <li>Manage complaints procedure</li> </ul>	<ul style="list-style-type: none"> <li>Training targets and promotion of initiatives funded by the S106</li> <li>Promote activities of the Sirius Minerals Foundation</li> <li>Organise meet the buyer events</li> <li>Organise regular employment opportunity sessions</li> <li>Deliver education outreach programmes</li> </ul>
<b>Construction Contractor</b>	<ul style="list-style-type: none"> <li>Provide information to Anglo American to be used in leaflets, letters, web content, etc., as required</li> <li>Attend public open days/exhibitions and meetings with stakeholders as required</li> </ul>	<ul style="list-style-type: none"> <li>Attend liaison groups, parish council and other meetings as required</li> <li>Provide information to support ongoing community and stakeholder relations</li> <li>Participate in media events as required</li> <li>Adherence to complaints procedure, media protocol and crisis response procedure</li> </ul>	<ul style="list-style-type: none"> <li>Involvement in community benefit initiatives as required</li> </ul>

Community engagement is tracked across these three elements. Activities and complaints are reported in the Company’s annual Responsible Business Report. Minutes of the Liaison Group Forum, which includes community engagement as a standing agenda item, are published on the Company’s website.

By being proactive in building and maintaining relationships in the community, the Company is always receiving feedback about its performance. This helps to inform the Company on what it could be doing better, enables it to respond quickly to concerns and pre-empt them in the future and is an important part of annual review of the Framework.

## Appendix C – Complaints Procedure

This procedure outlines the Company's standards in handling complaints and the process of managing complaints from receipt through to resolution. The procedure has been updated to take into account the lessons learnt during the first two years of construction.

### 1 Standards for Handling Complaints

- All complaints will be treated seriously, fairly and with courtesy;
- Complaints will be responded to quickly – we will acknowledge a receipt of a complaint straight away wherever possible;
- We will investigate and aim to resolve complaints within a maximum of three days, making sure that initial feedback is provided within one day; and
- We publish information about complaints, with the identity of the complainant kept confidential, to the Liaison Group Forum and in the Company's annual Responsible Business Report.

### 2 Stages of the Complaints Procedure

#### 2.1 Receipt of complaint

The vast majority of complaints are received directly by the Anglo American community relations team through a variety of channels, e.g. directly to a team member, via the general [cropnutrients.info@angloamerican.com](mailto:cropnutrients.info@angloamerican.com) email, social media, parish council meetings or the 24-hour community helpline. Relationships with the regulatory authorities are well established and complaints received by them are forwarded to the Company's community relations team to investigate.

The team aim to acknowledge a complaint straight away and ascertain the relevant details as soon as possible.

Occasionally a complaint is made directly to a Project site. In this instance the community relations team will be informed and further communication with the complainant managed by them.

#### 2.2 Investigation

In all cases the community relations team will notify the Anglo American site manager, the environment team and the logistics team (where complaints are related to traffic). The site manager will lead the investigation, delegating where appropriate and liaise with the relevant contractor. All relevant personnel will be kept updated.

If remedial action is required this will be implemented as quickly as possible in consultation with the environment and planning team, community relations team and others as appropriate.

#### 2.3 Feedback

The community relations team will feedback to the complainant within a maximum of three days, with initial feedback given within one day. Further details will be sought from the complainant if required.

The complainant will be given the details of any remedial action taken and have the opportunity to discuss the outcome of the investigation with the community relations team, who will involve others as appropriate. If further relevant information comes to light, the complaint will be investigated again.

## **2.4 Log and Review**

Complaints are logged and reported to the next Liaison Group Forum (LGF) meeting. The minutes of LGF meetings are published on the Company's website.

Complaints are reviewed to establish whether action can be taken to reduce the likelihood of similar complaints in the future, and whether the way in which the complaint was dealt with could be improved.





Project Title / Facility Name:

## Woodsmith Project

Document Title:

## PHASE 16 - NOISE AND VIBRATION MANAGEMENT PLAN

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# REPORT

## **Phase 16 - Woodsmith Mine Noise and Vibration Management Plan**

### **Woodsmith Mine Phase 16 - NVMP**

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## Appendices

Appendix A Acoustic Terminology

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Appendix C Predicted Construction Noise Levels

## 1 INTRODUCTION

### 1.1 Purpose of this Report

- 1.1.1 In 2014 a planning application (reference NYM/2014/0676/MEIA) was submitted to North York Moors National Park Authority (NYMNPA) for permission to develop a polyhalite mine and underground Mineral Transport System (MTS). Planning permission was subsequently granted in 2015 subject to conditions, as varied in February 2018 by NYM/2017/0505/MEIA.
- 1.1.2 This document has been prepared on behalf of Anglo American Woodsmith Ltd (Anglo American) and details the requirements with respect to noise and vibration management for the Phase 16 Works (see Paragraph 1.1.6 below) at Woodsmith Mine.
- 1.1.3 This document is required to partially satisfy the requirements of Condition 18 of the NYMNPA planning permission. This planning condition states that:

Table 1-1: Condition NYMNPA-18 Noise and Vibration Management Plan

NYMNPA 18	Compliance with Condition NYMNPA-18
Prior to the commencement of each Phase of Construction at Dove's Nest Farm or Lady Cross Plantation, a Noise and Vibration Management Plan (NVMP) for the control, mitigation and monitoring of noise and vibration for both construction and operational phases at the two sites shall be submitted to and approved in writing by the MPA in consultation with the SBC EHO. The scheme shall set out the following:	This document addresses Phase 16 Works at Woodsmith Mine. Works at Lady Cross Plantation are not addressed in this Plan.
Noise-sensitive receptors for which predictions shall be made and at which the noise and vibration limits shall apply and which shall include recreational receptors.	Section 3.1
Predicted noise levels at the noise-sensitive receptors from noise and vibration generated at the DNF and LCP sites for the key construction phases during the forthcoming year including any periods in which the higher daytime limit of 70 dB L <sub>Aeq</sub> shall apply (permitted 56 days for temporary works to create noise-reducing bunds and/or barriers as per Conditions 20 and 22).	Section 3, and Appendix C
The best practicable means which will be used to control noise and vibration levels on site including such measures proposed in the Environmental Statement (September 2014 as updated by the Supplementary Environmental Statement dated February 2015) and the Supplementary Environmental Statement dated July 2017 (updated by further information dated October and November 2017) as relevant. Such measures shall include, but are not limited to: the use of the quietest available plant, equipment and techniques; the regular maintenance and inspection of such plant and equipment; the use of cladding, attenuators and barriers to reduce noise levels from noisy plant and operations; the specification of appropriate reversing alarms to minimise annoyance; and, measures to reduce vibration and air overpressure during blasting.	Section 5
Details of the noise and vibration monitoring system to be installed around the DNF and LCP sites to continuously log noise levels during construction and operation. The system shall include at least six noise monitors installed around the boundary of the Dove's Nest site and at least four monitors at key residential receptors near the Dove's Nest site and at least four noise monitors around the Lady Cross Plantation Site and at least three monitors at key residential receptors near the Lady Cross Plantation site.	Section 4

NYMNPA 18	Compliance with Condition NYMNPA-18
The precise number and location of noise monitors shall be set out in the NVMP. The developer shall use reasonable endeavours to obtain access to the residential receptor properties for the installation of noise monitors and only if access cannot be obtained the number or location of noise monitors may be reduced. The MPA and the SBC EHO and/or their advisers shall be granted access to inspect the noise and vibration data whenever required, records of the data should be kept for a reasonable period and these records should be accessible by the public.	Section 3, Section 4 and Figure B.1
Details of the procedure to be followed in the event that the noise predictions detailed in the NVMP or the noise limits detailed in conditions 20 to 23 are exceeded. Such procedures shall require the investigation of the reasons for the breach of the limits and the cessation of the activity causing the breach until such a time as additional mitigation can be provided.	Section 5.4
Details of how the residents will be informed and consulted about the site operations and progress, particularly in regard to blasting and especially noisy operations including details of complaints logging and management procedures and a 24-hour telephone incident hotline. Details of the procedure for investigating complaints and informing complainants of the results of such investigations and of any actions resulting from them.	Section 5.4 and Scheme for the Prior Notification of Blasting (40-SMP-WS-1000-PA-PL-00001)
The NVMP shall be adhered to at all times unless agreed previously in writing by the MPA.	
The NVMP shall be updated and agreed whenever appropriate to reflect changes in the programme during construction and operation and at intervals not less than 6 months after the initial start on site and thereafter annually.	Section 1

- 1.1.4 This NVMP relates to the Phase 16 Works at Woodsmith Mine and does not include any activities at Ladycross Plantation.
- 1.1.5 Phases 9 to 15 activities will continue past the start date of Phase 16. Phase 8 activities included the construction of permanent buildings and are subject to separate, higher noise limits, as specified in condition NYMNPA-20. Phase 8 activities are therefore subject to a separate NVMP (40-RHD-WS-70-EN-PL-0034) and are not considered in this document.
- 1.1.6 This NVMP therefore supersedes all previous NVMPs (except that for Phase 8) upon the commencement of Phase 16 and considers processes and controls with respect to all activities on site throughout Phase 16. Specific activities required for Phase 16 comprise the following:
- Extension to the materials handling area
  - Installation of workshop, office and Control of Substances Hazardous to Health (COSHH) store at the grout plant
  - Revised warehouse building
  - Revised segregated materials store (handling bunker)
  - Addition of loading bay to Non-domestic Wastewater Treatment Plant (NDWWTP)
  - Installation of CCTV lattice mast
  - Construction of northern section of Bund F
  - Revised layout to bus drop-off and pick-up area
  - Workshop extension.

1.1.7 Appendix A provides an explanation of the acoustic terminology used in this NVMP.

## 1.2 Planning Conditions

1.2.1 In addition to Condition NYMNPA-18, two further conditions NYMNPA-20 and NYMNPA-21 establish noise limits relating to the Woodsmith Mine site as shown in Table 1-2 and Table 1-3.

Table 1-2: Condition NYMNPA 20 Noise and Vibration Management Plan

NYMNPA 20	Compliance with Condition NYMNPA-20
<p>Day-time (07.00 hrs to 19.00 hrs) noise levels <math>L_{Aeq,1hr}</math> from mine construction at the Dove's Nest site, excluding blasting operations, shall not exceed 55 dB <math>L_{Aeq,1hr}</math> and for short-term, construction activities solely relating to the demolition of existing buildings and erection of new structures excluding earth mound and bunds shall not exceed 65dB <math>L_{Aeq,1hr}</math>.</p> <p>An upper limit of 70 dB <math>L_{Aeq,1hr}</math> for the purposes of temporary noisy operations to provide noise-reducing earth bunds and / or barriers may be permitted for up to 56 days in any calendar year provided such temporary operations are specified and agreed in the NVMP described in Condition 18. Each calendar day when the higher temporary noise level is exceeded shall be counted as one day.</p> <p>Noise levels shall be measured in accordance with BS 4142:2014 and the limits apply at the curtilage boundary of residential properties and at the following recreational receptors: Falling Foss tea room, Lound House Camp/Caravan site, Sneaton Foss Lane Caravan site and at any location on the Wainwright Coast to Coast walk footpath as illustrated in drawing number PB1110-P2-7-002 which is Figure 7.2 of Part 2 of the York Potash Project Mine, MTS and MHF Environmental Statement dated September 2014.</p>	Section 3 and Appendix C

Table 1-3: Condition NYMNPA 21 Noise and Vibration Management Plan

NYMNPA 21	Compliance with Condition NYMNPA-21
<p>Evening (19.00 hrs to 22.00 hrs) and night-time (22.00 to 07.00 hrs) noise levels <math>L_{Aeq,1hr}</math> from mine construction at the Dove's Nest site, excluding blasting operations, shall not exceed 42 dB <math>L_{Aeq,1hr}</math> Noise levels shall be measured in accordance with BS 4142: 2014 and the limits apply at the curtilage boundary of residential properties and at the following recreational receptors: Lound House Camp/Caravan site and Sneaton Caravan site.</p>	Section 3 and Appendix C

1.2.2 Conditions NYMNPA-24, 27, 28 and 29 relate to vibration arising from blasting activities during underground chamber construction or shaft sinking activities involving blasting. Planning condition detail is provided in Table 1-4 to Table 1-7.



Table 1-4: Condition NYMNPA-24 Noise and Vibration Management Plan

NYMNPA 24	Compliance with Condition NYMNPA-24
Noise levels (air overpressure) from blasting shall not exceed 115dB (linear peak) as measured at any residential properties. No blasting shall take place outside the period 0700 until 2200 unless agreed in advance in writing by the MPA and it can be demonstrated that there will be no significant adverse noise effect on residents.	Section 2 and Section 5

Table 1-5: Condition NYMNPA-27 Noise and Vibration Management Plan

NYMNPA 27	Compliance with Condition NYMNPA-27
Day time (07.00 hrs to 19.00 hrs) ground vibration as a result of underground chamber construction or blasting operations involved in shaft sinking shall not exceed a peak particle velocity of 6 mm/sec in 95% of all blasts measured over any period of 6 months and no individual blast shall exceed a peak particle velocity of 10 mm/s as measured at vibration sensitive buildings. Evening (19.00 to 22.00 hrs) ground vibration as a result of underground chamber construction or blasting operations involved in shaft sinking shall not exceed a peak particle velocity of 4.5 mm/sec in 95% of all blasts measured over any period of 6 months and no individual blast shall exceed a peak particle velocity of 6 mm/s as measured at Vibration Sensitive Buildings and Infrastructure.	Section 2 and Section 5

Table 1-6: Condition NYMNPA-28 Noise and Vibration Management Plan

NYMNPA 28	Compliance with Condition NYMNPA-28
Night time (22:00 hrs to 07.00 hrs) ground vibration from construction/blasting shall not exceed a peak particle velocity of 2 mm/s in 95% of blasts at residential properties and no individual blast shall exceed a peak particle velocity of 3 mm/s as measured at Vibration Sensitive Buildings and Infrastructure.	Section 2 and Section 5

Table 1-7: Condition NYMNPA 29 Noise and Vibration Management Plan

NYMNPA 29	Compliance with Condition NYMNPA-29
Prior to the commencement of any blasting operations associated with shaft sinking or chamber construction, a scheme for the monitoring of blasting vibration within 1 kilometre of the site shall be submitted to the MPA for approval. Blast monitoring shall take place in accordance with the approved scheme and the results forwarded to the MPA on a quarterly basis until the completion of those blasting operations.	Section 1 and Section 5

- 1.2.3 In this document, the term “*construction*” includes all physical and related engineering and construction activities associated with the Phase 16 Works, as described above. Updates to this plan will be prepared and submitted to the NYMNPA for approval in advance of subsequent construction phases and following any material design or method change.

## 2 GUIDANCE

### 2.1 Legislation and British Standards

2.1.1 Wherever practicable, construction will be carried out in accordance with:

- Planning Practice Guidance for Minerals (PPGM), 2014<sup>1</sup>; and
- BS 5228:2009+A1:2014 *Code of Practice for noise and vibration control on construction and open sites*<sup>2</sup>.

### 2.2 Construction Limits

2.2.1 Established construction noise limits (as measured at the identified receptors) remain as:

- 55 dB L<sub>Aeq,1hr</sub> for daytime (07:00 – 19:00);
- 65 dB L<sub>Aeq,1hr</sub> for the demolition of buildings and erection of new structures;
- Up to 70 dB L<sub>Aeq,1hr</sub> for temporary noisy operations to provide noise-reducing earth bunds and / or barriers; and
- 42 dB L<sub>Aeq,1hr</sub> for evening and night-time (19:00 – 07:00).

2.2.2 Established blasting vibration limits (peak particle velocity, PPV, as measured at the identified receptors) are:

- 6 mm/s in 95% of all blasts, 10 mm/s in individual blasts for blasting during daytime (07:00 to 19:00).
- 4.5 mm/s in 95% of all blasts, 6 mm/s in individual blasts for blasting during the evening (19:00 to 22:00); and
- 2 mm/s in 95% of all blasts, 3 mm/s in individual blasts for blasting during the night (22:00 to 07:00).

2.2.3 Established limits for air overpressure noise levels (from blasting), as measured at any residential properties:

- shall not exceed 115dB (linear peak).
- no blasting shall take place outside the period 0700 until 2200 unless agreed in advance in writing by the MPA.

<sup>1</sup> *Planning Practice Guidance for Minerals (PPGM), 2014 Department for Levelling Up, Housing and Communities (/government/organisation/department-for-levelling-up-housing-and-communities) and Ministry of Housing, Communities & Local Government (/government/organisations/ministry-of-housing-communities-and-local-government. (URL: <https://www.gov.uk/guidance/minerals>, accessed 03 February 2022)*

<sup>2</sup> *British Standards Institute (2014). BS 5228:2009+A1:2014 Code of Practice for noise and vibration control on construction and open sites*

### 3 PREDICTED CONSTRUCTION NOISE AND VIBRATION LEVELS

#### 3.1 Baseline Receptor Locations

3.1.1 Residential and recreational receptors for this NVMP remain as identified in the Environmental Statement (ES) which accompanied the planning application, in previous iterations of the NVMP (e.g. Phase 4 NVMP; document reference 40-RHD-WS-70-EN-PL-0017), and as shown in **Appendix B, Figure B1**. Whilst monitoring is not ongoing at Soulsgrave Farm it is still considered a receptor for the purposes of this NVMP.

#### 3.2 Construction Method

3.2.1 Contractors responsible for implementing these Phase 16 Works (see Construction Environmental Management Plan (CEMP), reference 40-RHD-WS-70-EN-PL-0055) have provided details of the construction plan, number and type of plant items to be used and location/duration of construction activities within the site. Further detail is provided in the Phase 16 Construction Method Statement (CMS) (reference 40-SMP-WS-7100-PA-MS-00015).

3.2.2 For the borehole remediation works (continuing from Phase 15), the project geologists considered two drill rigs could be in operation at the same time. The main drilling rig, referred to as Rig 15 (MI-45 Massenza Drilling Rig (Truck Mounted) and F800 Mud Pump (Cummings KTA 38 G3 V12)) would be supplemented by a smaller workover rig (referred to as Rig 19 - Enerflow ESR-550 Mobile Service Rig). Rig 19 will be located over a pre-drilled borehole to undertake hydrogeological testing.

3.2.3 **Appendix C** details the plant items used within the model, their sound power level and location on site. Predictions of noise levels based upon these details are assessed within this NVMP.

#### 3.3 Predicted Noise Levels

3.3.1 Noise modelling has been undertaken to predict construction noise levels throughout the Phase. **Tables C.1 and C.2 in Appendix C** outline the construction noise assessment predictions for the Phase 16 Works cumulative with continuing Phases 9 to 15 Works.

3.3.2 Noise levels due to construction activities in the Phase 16 Works were not predicted to exceed the conditioned construction noise limits at any of the identified noise-sensitive receptors during the daytime, evening or night-time, following the application of suitable measures, including activity timing and physical mitigation. The prediction methodology is conservative and exceedances of the noise limits during normal operations are therefore not anticipated.

3.3.3 Since construction started in 2017, visits have been made to the various receptors to undertake manned noise monitoring and maintain unmanned noise monitoring equipment. At those receptors to the south and west of the site (Moorside, Thornhill and the Wainwright Coast to Coast Path) site noise was generally inaudible.

#### 3.4 Vibration

3.4.1 In relation to all construction works, excluding blasting, ground borne vibration was considered according to the conservative approach outlined in previous NVMPs (e.g. Phase 4 document

reference 40-RHD-WS-70-EN-PL-0017; see Table C.7, Appendix C for minimum set-back distances for vibration levels of reportable significance).

- 3.4.2 All identified sensitive receptors are at least 180m from the nearest site boundary, and the minimum distance between the primary haul route and any of the surrounding receptors is over 400m. Therefore ground borne vibration levels due to construction works, excluding blasting, will be below levels considered to be *“just about perceptible in residential environments”*<sup>3</sup>.

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<sup>3</sup> Planning Policy Guidance Note 24 (PPG24, 1994), Department for Communities and Local Government

## 4 NOISE MONITORING PROGRAMME

### 4.1 Noise Monitoring

- 4.1.1 Continuous noise monitoring, as required by condition NYMNPA-18, is being undertaken during construction at three key residential receptor locations and seven boundary locations as described in previous NVMP (e.g. Phase 4 document reference 40-RHD-WS-70-EN-PL-0017) and shown in **Appendix B, Figure B1**. The Sound Level Meters (SLMs) are recording  $L_{Aeq}$ ,  $L_{Amax}$ ,  $L_{A90}$ , and  $L_{A10}$  data with a “fast” time constant (see **Appendix A** for descriptions of these terms). Weather condition monitoring is carried out simultaneously.
- 4.1.2 A system of real time alerts enables remote monitoring of noise levels and appropriate action by contractors.

## 5 BLASTING VIBRATION MONITORING PROGRAMME

- 5.1.1 Condition NYMNPA-29 requires a scheme for monitoring of blasting vibration within 1 kilometre of the site to be submitted to the MPA for approval. Blasting operations, approved under Phase 11, will continue to occur on only the MTS shaft during Phase 16, and the agreed monitoring programme is set out below.
- 5.1.2 As required by condition NYMNPA-29, and subject to approval from the MPA, continuous vibration monitoring is being undertaken during blasting operations at one key residential receptor location (Parkdown Bungalow, NM1) and one on site location (boundary location BML1).
- 5.1.3 Monitoring is undertaken using a Datum Instante! CombiMate system to measure Peak Particle Velocity (PPV) and air over-pressure.
- 5.1.4 PPV at the receptors is difficult to predict as the propagation of vibration through the ground depends upon many factors including geological conditions between the blast location and receptor and maximum instantaneous charge weight per delay.
- 5.1.5 For this reason, a series of test blasts will be carried out to ascertain the blast design (including number of delays, powder velocity, charge weight etc.) that will ensure blasting vibration limits at the receptors is not exceeded.
- 5.1.6 Monitoring during test blasting will be undertaken concurrently at six additional locations including locations NM2 and NM3. The results from these monitoring locations will be used to optimise the blast design using regression line analysis.
- 5.1.7 The continuous monitoring and monitoring during test blasting will be undertaken in accordance with BS 7385:1990 Evaluation and measurement for vibration in buildings, Part 1 Guide for measurement of vibrations and evaluation of their effects on buildings.
- 5.1.8 The results from the blasting vibration monitoring will be forwarded to the NYMNPA on a quarterly basis.

## 6 MITIGATION MEASURES

### 6.1 Purpose of the Section

- 6.1.1 This section outlines measures to be taken by the contractors to limit, and manage the impact of, noise and vibration. These measures comprise Best Practicable Means, specific mitigation actions to be adopted and communication procedures.

### 6.2 Best Practicable Means

- 6.2.1 The Control of Pollution Act (1974) and BS 5228:2009+A1:2014 define working methods and mitigation measures referred to as Best Practicable Means (BPM). Appropriate BPM set out in previous NVMPs (e.g. Phase 4, reference 40-RHD-WS-70-EN-PL-0017), will continue to be applied to the Phase 16 Works.

#### **Management Structure and Responsibilities**

- 6.2.2 While overall responsibility for compliance with environmental and approvals requirements will remain with Anglo American, all contractors working on site are accountable for undertaking the construction activities in accordance with the requirements of this NVMP.
- 6.2.3 The CEMP (reference 40-RHD-WS-70-EN-PL-0055) provides details of the lines of responsibility for environmental management (including relating to robust implementation of noise management and mitigation measures) during the Phase 16 Works.

#### **Maintenance**

- 6.2.4 Maintenance of plant will be carried out routinely and in accordance with the manufacturers' guidance. Daily inspections will be undertaken as described in previous NVMPs (e.g. Phase 4, reference 40-RHD-WS-70-EN-PL-0017).

#### **Training**

- 6.2.5 The site induction programme and site rules will include good working practice instructions for site staff, managers, visitors and contractors to help minimise noise, as set out in previous NVMPs (e.g. Phase 4, reference 40-RHD-WS-70-EN-PL-0017).

### 6.3 Specific Mitigation

- 6.3.1 Crushing of extracted material (Phase 11 works) within the materials handling area will not be undertaken between 19:00 and 07:00, unless it can be demonstrated that no exceedance of the noise limits would occur.
- 6.3.2 To comply with the night-time noise level limit in condition NYMNPA-20, placement of extracted material onto the bund F tipping area will not be undertaken, between 19:00 and 07:00, until the berm is constructed to its final height. The berm will be graded during the daytime (07:00 to 19:00)

only, to ensure adequate attenuation from on-site works to the closest receptor (Parkdown Bungalow), before night-time tipping activity commences.

6.3.3 During the use of Rig 19, it will be necessary to erect a temporary absorptive barrier of sufficient height, either fully enclosing the equipment or to at least 3 sides around the engine area. This barrier will be installed whenever this equipment is operational during the Phase 16 works.

6.3.4 All individual operations will be kept under review and relevant mitigation will be applied.

## **6.4 Communications**

### **Procedure for complaints or exceedance of limits**

6.4.1 The procedures to be followed in the event of a complaint or an exceedance of permitted noise limits will remain as set out in previous NVMPs (e.g. Phase 4, reference 40-RHD-WS-70-EN-PL-0017).



### **Public relations**

- 6.4.2 Good public relations with local residents will be maintained.
- 6.4.3 A Community and Stakeholder Engagement Plan is provided in Appendix A to the Phase 16 CEMP (40-RHD-WS-70-EN-PL-0055). It remains valid for Phase 16 Works, and details actions to be taken by Anglo American and the Contractors.
- 6.4.4 An updated Scheme for the Prior Notification of Blasting (40-SMP-WS-1000-PA-PL-00001) was approved as part of the Phase 14 Works at Woodsmith Mine and contains details of the procedures adopted for informing local residents of blasting operations.

## Appendix A Acoustic Terminology

Term	Definition
Noise sensitive receptors	People, property or designated sites for nature conservation that may be at risk from exposure to noise and vibration that could potentially arise as a result of the proposed development/project
Noise and Vibration study area	The area assessed for noise and vibration impacts during this assessment
Baseline scenario	Scenarios with the proposed development/project not in operation
Decibel (dB)	A unit of noise level derived from the logarithm of the ratio between the value of a quantity and a reference value. It is used to describe the level of many different quantities. For sound pressure level the reference quantity is 20 $\mu$ Pa, the threshold of normal hearing is 0dB, and 140dB is the threshold of pain. A change of 1dB is only perceptible under controlled conditions. Under normal conditions a change in noise level of 3dB(A) is the smallest perceptible change.
dB(A)	Decibels measured on a sound level meter incorporating a frequency weighting (A weighting) which differentiates between sounds of different frequency (pitch) in a similar way to the human ear. Measurements in dB(A) broadly agree with people's assessment of loudness. A change of 3 dB(A) is the minimum perceptible under normal conditions, and a change of 10 dB(A) corresponds roughly to halving or doubling the loudness of a sound. The background noise level in a living room may be about 30 dB(A); normal conversation about 60 dB(A) at 1 metre; heavy road traffic about 80 dB(A) at 10 metres; the level near a pneumatic drill about 100 dB(A).
$L_{Aeq,T}$	The A-weighted equivalent continuous sound level – the sound level of a notionally steady sound having the same energy as a fluctuating sound over a specified measurement period (T). $L_{Aeq,T}$ is used to describe many types of noise and can be measured directly with an integrating sound level meter.
$L_{A10,T}$	The A-weighted noise level exceeded for 10% of the specified measurement period (T). $L_{A10}$ is the index generally adopted to assess traffic noise
$L_{A90,T}$	The A-weighted noise level exceeded for 90% of the specified measurement period (T). In BS 4142:2014 it is used to define the 'background' noise level.
$L_{Amax}$	The maximum A-weighted sound pressure level recorded during a measurement.
PPV	Instantaneous maximum velocity reached by a vibrating element as it oscillates about its rest position.
'A' weighting	A frequency weighting to compensate for the varying sensitivity of the human ear to sound at different frequencies. Application of the A-weighting is indicated by the "A" shown in the measurement parameter.
Fast time constant	Sound level meters have two conventional time weightings, F = Fast and S = Slow with time constants of 125 ms and 1000 ms respectively. Fast time constant relates to the response time of the meter which allows rapid variations in noise level to be registered.

## Appendix B Figures



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Legend:

- Land Ownership Boundary
- Site Boundary Monitoring Locations**
- BML1 - Parkdown Bungalow
- BML2 - Thornhill
- BML3 - Moorside Farm
- BML4 - Soulsgrave Farm/Mainwright Coast to Coast Walk
- BML6 - Sneaton Foss/Falling Foss
- BML7 - Between shaft sinking area and BML4

- Receptor Monitoring Locations**
- ▲ NM1 - Parkdown Bungalow
- ▲ NM2 - Thornhill
- ▲ NM3 - Moorside Farm

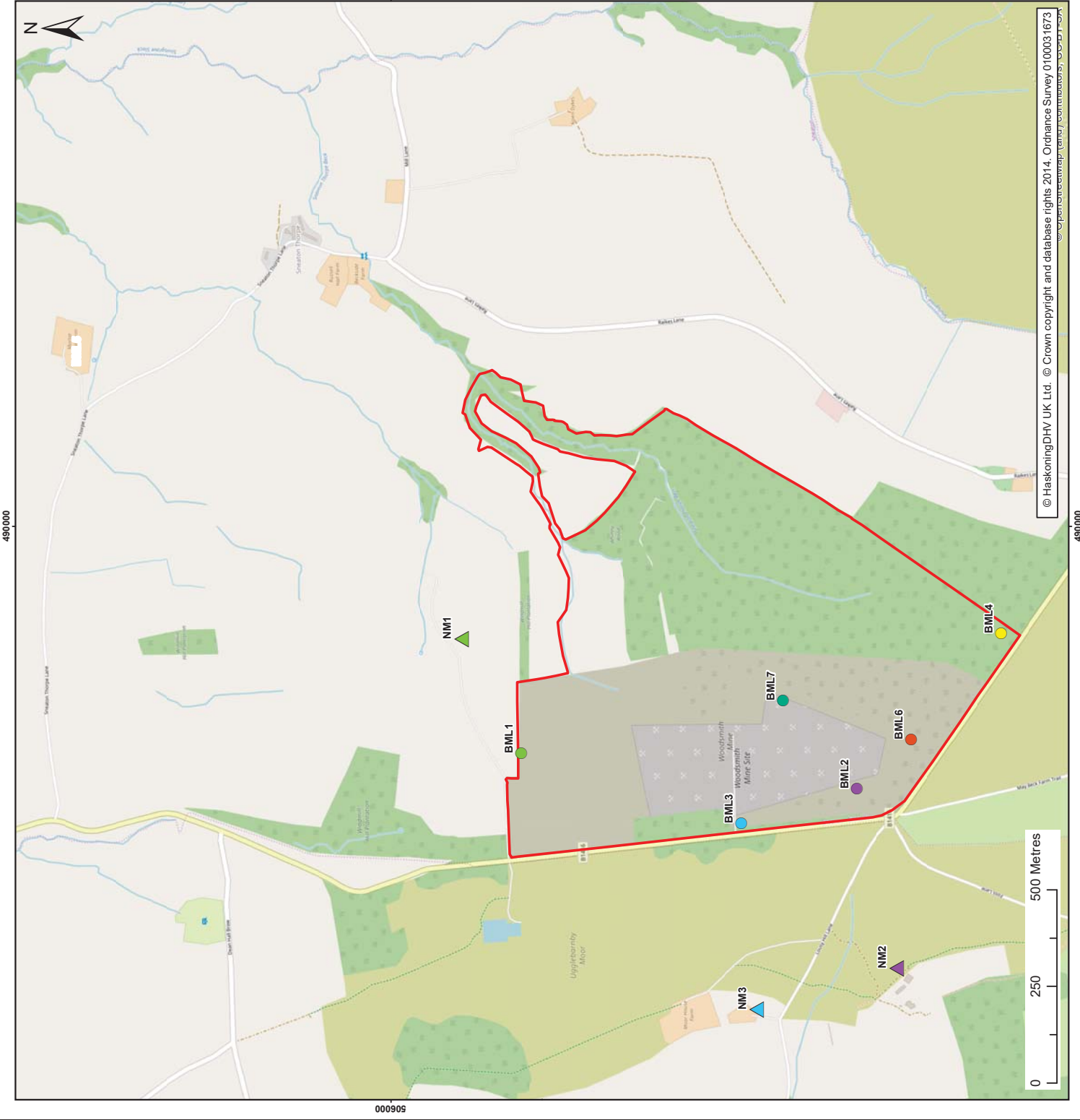
Client: Anglo American  
Project: Woodsmith Project

Title: Residential Receptor and Boundary Noise Monitoring Locations

Appendix: B	Figure: B.1	Drawing No: 40-RHD-WS-70-EN-PL-0016-D001
Rev: B	Date: 16/10/2018	Drawn: JT
A	23/05/2017	GC
		Checked: AB
		Size: A3
		Scale: 1:10,000
		AB
		A3
		1:10,000

Co-ordinate system: British National Grid

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## Appendix C Predicted Construction Noise Levels

The predicted noise levels detailed within the tables below are considered to represent the most conservative scenario.

**Table C.1 Calculated highest noise levels during Phase 15 – Daytime**

Receptor Location	Daytime (07:00–19:00)	
	Limit $L_{Aeq,1hr}$ dB	Maximum Predicted $L_{Aeq,1hr}$ dB
Parkdown Bungalow	55	54
Moor House Farm	55	48
Moorside Farm	55	41
Thornhill	55	41
Soulsgrave	55	40
Wainwright Coast to Coast Path	55	45
Sneaton Foss Caravan Park	55	45
Falling Foss Tearooms	55	29
Lound House Caravan Park	55	34

**Table C.2 Calculated highest noise levels during Phase 15 – Evening and night time**

Receptor Location	Evening and Night-time (19:00–07:00)	
	Limit $L_{Aeq,1hr}$ dB	Maximum Predicted $L_{Aeq,1hr}$ dB
Parkdown Bungalow	42	42
Moor House Farm	42	41
Moorside Farm	42	34
Thornhill	42	36
Soulsgrave	42	36
Wainwright Coast to Coast Path	42	39
Sneaton Foss Caravan Park	42	38
Falling Foss Tearooms	42	21
Lound House Caravan Park	42	30

### Modelling Assumptions

The modelled results for Phase 16 cumulative with other overlapping phases are detailed in Tables C.1 and C.2.

The works at the site are considered to comprise mineral extraction and the conditioned noise limits are in accordance with the Planning Practice Guidance for Minerals (PPGM). The PPGM does not specify the method to be used to predict noise propagation; therefore, in line with acoustics industry best practice, noise propagation from the site was calculated using the ISO 9613-2 methodology.

Noise modelling considered the following works in Phase 16 to be carried out concurrently:

- Extension to the materials handling area
- Installation of workshop, office and Control of Substances Hazardous to Health (COSHH) store at the Grout Plant
- Revised warehouse building
- Revised segregated materials store (handling bunker)
- Addition of loading bay to Non-domestic Wastewater Treatment Plant (NDWWTP)

- Installation of CCTV lattice mast
- Construction of northern section of Bund F
- Revised layout to bus drop-off and pick-up area
- Workshop extension

Overall, the model setup and assumptions made on the number of plant and their location within the site were conservative, and therefore the predicted impacts are considered to be worst-case.

The following Phase 16 equipment, associated sound power levels and conservative assumptions regarding plant 'on-times' were included within the SoundPLAN noise model:

#### **Construction Operations at the Service Shaft Building**

1 x Concrete Truck Discharging, 25% on time, 24hrs,  $L_{WA}$  112 dB

1 x Concrete Truck to Concrete Batch Plant based on 1 trip per hour, 24 hrs,  $L_{WA}$  107 dB

#### **Construction Operations at the Production Shaft Building**

1 x Concrete Truck Discharging, 25% on time, 24hrs,  $L_{WA}$  112 dB

1 x Concrete Truck to Concrete Batch Plant based on 1 trip per hour, 24 hrs,  $L_{WA}$  107 dB

#### **Construction Operations at the MTS Shaft**

1 x Concrete Truck Discharging, 25% on time, 24hrs,  $L_{WA}$  112 dB

1 x Concrete Truck to Concrete Batch Plant based on 1 trip per hour, 24 hrs,  $L_{WA}$  107 dB

#### **Extension to Offsite Materials Bunker**

1 x 25t Excavator moving rubble, 50% on-time, daytime only,  $L_{WA}$  114 dB

1 x Concrete Pump, 50% on-time, daytime only,  $L_{WA}$  112 dB

1 x Dump Truck, 25% on-time, daytime only,  $L_{WA}$  115 dB

1 x Mobile Crane 50% on-time, daytime only,  $L_{WA}$  110 dB

2 x Poker Vibrator, 50% on-time, daytime only,  $L_{WA}$  106 dB

1 x Telehandler, 50% on-time, daytime only,  $L_{WA}$  99 dB

2 x Torque Gun, 50% on-time, daytime only,  $L_{WA}$  104 dB

Plant associated with other on-going cumulative works and phases was also included in the noise model:

#### **General sitewide works**

10 x Telehandlers (3 at night), 50% on time each,  $L_{WA}$  99 dB

7 x MEWP, 50% on time each, daytime only,  $L_{WA}$  108 dB

1 x Tractor, 50% on time, daytime only,  $L_{WA}$  112 dB

1 x Road Sweeper, 50% on time, daytime only,  $L_{WA}$  104 dB

16 x Tower Light, 100% on time, night only,  $L_{WA}$  85 dB

#### **Regular HGV movements**

NDWWTP Delivery, one per hour, daytime only,  $L_{WA}$  104 dB

Warehouse Delivery, one per hour, daytime only,  $L_{WA}$  108 dB

Skip Replacement, one per hours, daytime only,  $L_{WA}$  106 dB

Coaches to main welfare, 4 per hour, 24 hrs,  $L_{WA}$  108 dB

#### **Borehole Remediation and Exploratory Works – Main Rig**

1 x Rig 50 Marriott HH-220 Drilling Rig comprising of point sources:

1 x Top Drive (Enclosed), 100% on-time, 24hrs,  $L_{WA}$  97 dB

- 1 x Centrifuge, 100% on-time, 24hrs,  $L_{WA}$  87 dB
- 3 x Mud Plant Pumps (Enclosed), 100% on-time, 24hrs,  $L_{WA}$  98 dB each
- 2 x Shale Shakers, 100% on-time, 24hrs,  $L_{WA}$  95 dB each
- 1 x Main Platform Area Source, 100% on-time, 24hrs,  $L_{WA}$  92 dB
- 1 x Rig Above Trailer (including pipe storage area) Area Source, 100% on-time, 24hrs,  $L_{WA}$  90 dB
- 1 x Degasser, 100% on-time, 24hrs,  $L_{WA}$  59 dB
- 1 x Accumulator/Hydraulic Power Unit, 100% on-time, 24hrs,  $L_{WA}$  90 dB
- 2 x MTU Generators (Enclosed), each comprising of:
  - 1 x Containerised Engine, 100% on-time, 24hrs,  $L_{WA}$  95 dB
  - 1 x Exhaust, 100% on-time, 24hrs,  $L_{WA}$  99 dB

### **Boreholes Remediation and Exploratory Works – Ancillary Plant**

- 1 x Grout Truck, 100% on-time, 24hrs,  $L_{WA}$  108 dB
- 1 x Merlo Forklift on Drill Pad, 25% on-time loading, 25% on-time mobile between Drill Pad and Drilling Contractor Compound areas, 24hrs,  $L_{WA}$  99 dB
- 4 x Tower Lights, 100% on-time, 24hrs,  $L_{WA}$  85 dB

### **Boreholes Remediation and Exploratory Works – Drilling Contractor Compound**

- 1 x Tower Light, 100% on-time, 24hrs,  $L_{WA}$  85 dB
- 1 x Generator for Canteen, 100% on-time, 24hrs,  $L_{WA}$  85 dB

### **Hydro Boreholes at Production Shaft and Service Shaft**

- 1 x Rig 15 MI-45 Massenza Drilling Rig (Truck Mounted), 100% on-time, 24hrs,  $L_{WA}$  101 dB
- 1 x F800 Mud Pump (Cummins KTA 38 G3 V12), 100% on-time, 24hrs,  $L_{WA}$  97.6 dB
- 1 x Rig 19 Enerflow ESR-550 Mobile Service Rig, 100% on-time, 24hrs,  $L_{WA}$  109.8 dB

### **Extension to Warehouse Facility**

- 1 x 25t Excavator moving rubble, 50% on-time, daytime only,  $L_{WA}$  114 dB
- 1 x Concrete Pump, 50% on-time, daytime only,  $L_{WA}$  112 dB
- 1 x Dump Truck, 25% on-time, daytime only,  $L_{WA}$  115 dB
- 1 x Mobile Crane 50% on-time, daytime only,  $L_{WA}$  110 dB
- 2 x Poker Vibrator, 50% on-time, daytime only,  $L_{WA}$  106 dB
- 1 x Telehandler, 50% on-time, daytime only,  $L_{WA}$  99 dB
- 2 x Torque Gun, 50% on-time, daytime only,  $L_{WA}$  104 dB

### **Construction Operations within Service Shaft Building**

Internal reverberant noise level, 85 dB(A), 100% on-time, 24hrs

### **Construction Operations within Production Shaft Building**

Internal reverberant noise level, 85 dB(A), 100% on-time, 24hrs

### **Development of Mitigation Screening Bund F**

- 1 x Dozer, 75% on-time, daytime only,  $L_{WA}$  109 dB
- 1 x Front end loader, 33% on-time daytime and 17% on-time night at MTS,  $L_{WA}$  107dB
- 1 x Dump truck to Material Handling Platform based on 2 x trips per hour daytime and 1 trip per hour night-time,  $L_{WA}$  110 dB
- 1 x Dump Truck to Bund F tipping area, based on 2 x trips per hour daytime and 1 trip per hour night-time,  $L_{WA}$  110 dB
- 1 x Dump truck tipping, 25% on-time, daytime only,  $L_{WA}$  107 dB (measured on site)



1 x Dump truck tipping, 60 secs on-time daytime, 30 secs on-time night to Material Handling Platform,  $L_{WA}$  107 dB

1 x Mobile Crusher, 10% on-time, daytime only,  $L_{WA}$  109 dB

#### Grout shed and winches

1 x Grout Shed operations, internal reverberant noise level 80 dB(A), 50% on-time, 24hrs

1 x MTS Winch House, internal reverberant noise level 85 dB(A) 100% on-time, 24hrs

#### Service Shaft and Production Shaft Ventilation and Dust Silencer

1x Silencer, 100% on-time, 24hrs,  $L_{WA}$  88 dB(A)

1x Service Shaft Winch House, internal reverberant noise level 85 dB(A), 100% on-time, 24hrs

1x Production Shaft Winch House, internal reverberant level 85 dB(A), 100% on-time, 24hrs

1x PS ventilation, 100% on-time, 24hrs,  $L_{WA}$  93 dB

1x PS ventilation, 100% on-time, 24hrs,  $L_{WA}$  94 dB

1x SS ventilation, 100% on-time, 24hrs,  $L_{WA}$  93 dB

1x SS ventilation, 100% on-time, 24hrs,  $L_{WA}$  94 dB

#### Air Compressing Facility

Internal reverberant noise level 96 dB(A), 100% on-time, 24hrs

2x Condensate pumps, 100% on-time, 24hrs,  $L_{WA}$  81 dB

#### NDWWTP

1x Dissolved Air Flotation Unit, 80% on time, daytime only,  $L_{WA}$  93 dB

1x Shaft Head Shaker Unit at NDWWTP, 80% on time, daytime only,  $L_{WA}$  93 dB

1x Shaft Head Shaker Unit at minus 45m below ground level inside Production Shaft building, internal reverberant level 85 dB(A), 100% on-time, 24hrs

1x Shaft Head Shaker Unit at minus 45m below ground level inside Service Shaft building, internal reverberant level 85 dB(A), 100% on-time, 24hrs

#### Acoustic modelling input data

Data sources used for this modelling are shown in Table C-3.

Table C-3 Data sources

Data	Source file	Origin
Nearby building locations	Base Noise Model MAY22.geo	Ordnance Survey Vectormap
Site topography	CAD drawing entitled 'WS Drone Platform Model 211111 North Part' CADDXF 201202 WS DTM Contour CADDXF entitled 'Woodsmith Mine Planning Application for Borehole Remediation Location Plan', reference (DRG No. 40-ARI-WS-7100-CI-22-01092 Rev. 1, dated 10/03/22. ARUP	Anglo American ARUP
Wider area topography	NZ80NE, NZ80SE, NZ90NW, NZ90SW _DTM_2m.tif Ordnance Survey Vector Map	Defra LiDAR survey data (available at <a href="#">Defra Survey Data Download</a> ) Ordnance Survey
Site layout	CAD drawing entitled 'Woodsmith Mine Planning Application for Borehole Remediation Location Plan', reference (DRG No. 40-ARI-WS-7100-CI-22-01092 Rev. B, dated 10/03/22. ARUP	ARUP

	CAD drawing entitled 'Woodsmith Mine Planning Application for Borehole Remediation General Arrangement' reference (DRG No. 40-ARI-WS-7100-CI-22-01091 Rev. 1, dated 10/03/22. ARUP	
Drillmec HH-220 elevations and layout	CAD drawing entitled 'Woodsmith Mine Planning Application for Borehole Remediation Indicative General Arrangement', reference (DRG No. 40-ARI-WS-7100-CI-22-01091 Rev. A, dated 13/01/22. ARUP	ARUP

### Acoustic model settings

Acoustic modelling has been undertaken using the following model settings:

- Maximum search radius of 2500m.
- Maximum number of reflections: 3
- Noise predictions carried out at each floor level of sensitive receptors, ground floor level is 1.5m above ground, each storey is 2.5m high.
- Side diffraction enabled.
- Ground absorption has been set as:  
 Drill Pad, SS, PS, MTS platforms, warehouse storage areas, welfare, batch plant, NDWWTP areas and roads/haul routes within site set to G=0;  
 Acoustic landscaped bund areas within site red line boundary set to G=0.6 (representative of mixed ground);  
 Ground outside of site red line boundary set to G=1 (representing soft ground).



Project Title / Facility Name:

**Woodsmith Project**

Document Title:

**CONSTRUCTION METHOD STATEMENT (NYMNP 94 - PHASE 16) (CMS)**

**Document Review Status**

1. Reviewed – Accepted – Work May Proceed
2. Reviewed – Accepted As Noted, Work May Proceed, Revise & Resubmit
3. Reviewed – Work May Not Proceed, Revise & Resubmit
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# Woodsmith Mine Phase 16 Construction Method Statement (CMS)

Document Number: 40-SMP-WS-7100-PA-MS-00015

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Revision	Date	Prepared by	Checked by	Approved by	Reason for Issue
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## Woodsmith Mine Phase 16 Construction Method Statement (CMS)

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## Woodsmith Mine Phase 16 Construction Method Statement (CMS)

### 1 Introduction

#### 1.1 The purpose of this document

This document details the Construction Method Statement (CMS) for Phase 16 Site Works at Woodsmith Mine. This CMS is required to partially discharge condition 94 of the North York Moors National Park Authority (NYMNPA) planning permission NYM/2014/0676/MEIA (as subsequently varied by NYM/2017/0505/MEIA) and has been prepared in accordance with good practice.

This CMS details the works to be undertaken during the Phase 16 Site Works at Woodsmith Mine only. Further construction method statements will be submitted to discharge condition NYMNPA 94 for subsequent Phases. The CMS will remain a live document, being reviewed, and updated as required.

#### 1.2 Compliance with Condition NYMNPA 94

The wording of planning condition 94, and where the necessary material has been provided within the report, is set out in Table 1.1.

**Table 1.1: Details of NYMNPA Planning Condition 94**

NYMNPA Condition 94	Compliance with Condition 94
Prior to the commencement of each Phase of the development at Dove's Nest Farm or Lady Cross Plantation in accordance with the approved Phasing Plan, a Construction Method Statement will be submitted for that Phase, and approved in writing by the MPA, in consultation with the appropriate Highways Authority. Each approved Statement will be adhered to throughout the construction period. The Statements will provide for:	This CMS is provided for Phase 16 Works at Woodsmith Mine only. Other Phases will have bespoke CMS documents.
(i) The parking of vehicles of site operatives and visitors clear of the highways;	Section 2.5
(ii) Loading and unloading of plant and materials;	Section 2.7
(iii) Storage of plant and materials used in constructing the development;	Section 2.8
(iv) Erection and maintenance of security fencing;	This work is not required in Phase 16.
(v) Wheel washing facilities;	Section 2.9
(vi) An outline construction method for sub-surface works including adherence to the 'rack and pillar' method of mining described in the SEI (14 <sup>th</sup> February 2015) and the SRK Subsidence Memorandum (15 <sup>th</sup> May 2013);	This work is not required in Phase 16.
(vii) Buildings and structures associated with the mine and tunnel shafts;	This work is not required in Phase 16.
(viii) Welfare/office building and security gatehouse;	Section 2.4
(ix) Screening bunds;	Section 3.7
(x) Hardstandings;	Section 3.1
(xi) Shuttle Bus terminal;	Section 3.8
(xii) Park-and-Ride layby;	Section 3.8

NYMNP Condition 94	Compliance with Condition 94
(xiii) Emergency helipad;	This work is not required in Phase 16.
(xiv) Lighting columns;	Section 2.11
(xv) Internal access and haul roads;	Section 2.10
(xvi) Domestic wastewater (foul sewage) treatment plant;	This work is not required in Phase 16.
(xvii) Non-domestic wastewater treatment plant and settlement tanks;	This work is not required in Phase 16.
(xviii) Surface water attenuation ponds, settlement ponds, swales and wetland areas;	This work is not required in Phase 16.
(xix) Temporary spoil and Polyhalite storage areas;	This work is not required in Phase 16.
(xx) Road widening and provision of right-hand turn areas;	This work is not required in Phase 16.
(xxi) Removal of any temporary structures; and	This work is not required in Phase 16.
(xxii) Formation spoil mounds and the establishment of vegetation on them	This work is not required in Phase 16.
The CMS will contain a construction timetable and order of works noting any construction dependencies, refer to any inherent mitigation measures required to address adverse impacts identified in the EIA and cross refer to the CEMP in relation to any additional avoidance or mitigation measures	The CMS relates to the Phase 16 Works at Woodsmith Mine only and all required mitigation has been included in a Construction Environmental Management Plan (CEMP), which is required to discharge condition 93.

## 2 Project Overview and Description of the Works

### 2.1 Project overview

Anglo American Woodsmith Limited (Anglo American) is developing a new mine surface development south of Whitby in North Yorkshire to access polyhalite mineral. The polyhalite is to be brought to surface at the Wilton International site, Teesside, where it will be processed into a granular fertiliser product and transferred to a Port Handling Facility for storage and export (the port facility is covered by a separate consenting regime). This CMS relates to the Phase 16 Works at Woodsmith Mine only. This document builds on the CMS documents produced for Phases 1-15 and further versions of this live CMS will be produced for subsequent Phases as outlined in Section 1.1.

### 2.2 CMS overview

The CMS provides an overview of the resource requirements and the plant and materials that are anticipated to be used during the Phase 16 Works. It includes the measures to be taken to ensure that the works are carried out safely and in accordance with the requirements of the planning permission and all relevant statutory obligations.

### 2.3 Description of the works

The Phase 16 works comprise:

- Extension to materials handling area;
- Installation of workshop, offices and Control of Substances Hazardous to Health (COSHH) store at Grout Plant;
- Revised warehouse building;
- Revised segregated materials store (handling bunker);
- Addition of loading bay to Non-Domestic Waste Water Treatment Plant (NDWWTP);

- Installation of CCTV lattice masts;
- Construction of northern section of Bund F;
- Revised layout to bus drop-off/pick-up area & main car park, and;
- Workshop extension.

These works are further detailed in Section 3.

## **2.4 Contractor's offices/compounds**

All contractors will continue to use the facilities already established in earlier Phases, namely the main site welfare facility established in Phase 3 and extended in Phase 6 and Phase 14, as well as the shaft welfare facilities approved in Phase 12. As part of this Phase, smaller self-contained facilities are required to be established adjacent to the grout plant area and in the new warehouse building. These are further detailed in sections 3.2 and 3.3 respectively.

## **2.5 Parking of cars**

Transport of workers to and from site, including onsite parking and use of Park and Ride facilities will be in accordance with the Phase 14 Construction Traffic Management Plan (Ref: 40-RHD-WS-70-EN-PL-0050). This will include any measures required to conform with the latest Government guidance in relation to COVID-19. A revised layout to the main car park is detailed in section 3.7.

## **2.6 Mobilisation**

All equipment, plant and materials will be delivered to site using the approved traffic routes as per the Phase 14 Construction Traffic Management Plan (Ref: 40-RHD-WS-70-EN-PL-0050).

All HGVs and abnormal loads will drive directly to site and will not stop / wait on the public highway.

Fewer than 10 abnormal loads per month are expected during this Phase.

## **2.7 Unloading and loading of materials**

The areas for storage have been planned to prevent excessive handling of material and to facilitate loading and unloading.

## **2.8 Storage of plant and materials**

Materials will be stored in accordance with the approach established for Phase 2 and implemented throughout all subsequent Phases.

Plant and materials will be stored in designated areas as close to the works as possible. All storage areas will be on hardstanding appropriate to the plant and materials and away from sensitive receptors.

To support the shaft sinking operations the new warehouse design has been revised from that stated in section 3.4 'Extension to warehouse facility' of the Phase 13 CMS (40-SMP-WS-7100-PA-MS-00012) to allow for additional safe storage on site of critical spares and consumables. This is further detailed in section 3.3.

## **2.9 Wheel wash**

Vehicles entering site will stay on hardstanding already installed in previous Phases. No plant will travel off site other than by specialised plant moving transport.



Vehicles exiting the site and on-site plant will use the wheel wash as described in the approved documents for Phase 3.

## 2.10 Internal access routes

Haul roads and internal access routes within the Phase 16 working area will be demarcated and separated from pedestrians as per previous Phases. Speed limits will be enforced as per the site limits.

Minor changes are proposed to the material handling platform extension and segregated material stores building with access / egress roads installed as shown on Woodsmith Mine Construction Phase 16 Masterplan (40-ARI-WS-7100-CI-22-01093).

The access road for the material handling platform extension will be built up of site won material and imported aggregate. The surface will be levelled with aggregate that will be cement bound.

Please also note the addition of a layby to be constructed adjacent to the non-domestic wastewater treatment plant (NDWWTP) as stated in section 3.5 and the changes to the bus drop-off/pick-up & main car park detailed in section 3.8.

## 2.11 Lighting columns

No permanent lighting columns will be installed as part of this phase.

It should be noted temporary lighting columns will be installed for safe access and egress to / from the segregated material store building and new warehouse. These will be sensor-controlled units, less than 4m in height, designed to cast zero upwards light. The colour temperature and lux levels will be kept to the minimum required for safe operations.

A temporary column light will also be installed at the entrance to the overflow car park to replace a mobile tower light required for safe operation of the site entrance area. This will match the above referenced design.



**Figure 1: Location of entrance temporary column light circled in red**

Temporary lighting will also be installed in the revised parking area. These will be sensor-controlled units, columns less than 4m in height and pathway bollards, designed to cast zero upwards light. The colour temperature and lux levels will be kept to the minimum required for safe operations. Further detail is provided in section 3.8.

Most aspects of the Phase 16 works will be undertaken between 07:00-19:00 Mon-Sat. In the event that temporary task lighting is required, this will be provided by moveable diesel tower lights, as already used on site. Use of lights will be kept to the minimum necessary for safe working and all lights will be switched off when not required. Lights will be kept to a maximum of 4m height, shielded and positioned so as not to point towards Whitby and the A171. Further information on lighting is provided in the CEMP.

### **3 Construction Method Statements**

#### **3.1 Extension to materials handling area**

The materials handling platform extension will be located adjacent to the existing material handling platform, detailed in Phase 11, as shown on Woodsmith Mine Construction Phase 16 Masterplan (40-ARI-WS-7100-CI-22-01093). The platform will be a mirror image of the existing, built up of site won material and imported aggregate. The surface will be levelled with aggregate that will be cement bound. An access link road to the existing platform will be constructed, as will a new access ramp to the south from the main haul road.

The surface water runoff will be captured in a drainage system that will incorporate an attenuation pond to allow for testing prior to drainage from site via the existing platform drainage system. If necessary, from testing, water can be retained by a penstock valve and pumped to the NDWW treatment plant for processing and disposal.

In operation, excavated material from the shaft will be loaded from the materials bunkers to the material handling platform for sorting by tracked excavator using Moxys.

The requirement for the extension is due to increased excavated material volumes anticipated by the scheduling of multiple shaft sinking activities concurrently.

#### **3.2 Installation of workshop, offices and Control of Substances Hazardous to Health (COSHH) store at Grout Plant**

To allow for safe operation of the grout plant area 24/7 an additional storage and a covered washdown / maintenance bay is required on the grout plant wash down area detailed in the Phase 14 CMS (40-SMP-WS-7100-PA-MS-00013).

The structure will be a PVC coated polyester fabric membrane industrial shelter type spanning 8m wide with a length of 9m and maximum height of 5.4m from ground level to the apex. The front shall be enclosed with a roller shutter door and the exterior colour will be RAL 6008 Brown Green. An indicative image of the proposed shelter canopy construction is shown in Figure 2.



**Figure 2: Additional storage and covered bay structure**

In addition, welfare facilities are required to support operations. These will comprise of double stacked 9.75m long container units, one a toilet and mess and one an office, located adjacent to the grout plant and MTS substation. The units will not exceed 5.4m in height and be RAL 6008 Brown Green in colour. All windows will be fitted with shutters, to be closed in the hours of darkness, and sensor-controlled perimeter lights on the inner (site facing) side to provide safe access / egress.

Finally, an enclosed and bunded COSHH store container will be installed on the concrete slab adjacent to the main grout plant unit. This measures 3m wide, 2.5m deep, 2.5m height and will store grouting products as detailed in Appendix A of the Phase 11 CMS (40-SMP-WS-7100-PA-MS-00009).

All of these units are shown on Woodsmith Mine Construction Phase 16 Masterplan (40-ARI-WS-7100-CI-22-01093).

### 3.3 Revised warehouse building

The new Warehouse design has been revised from that stated in section 3.4 'Extension to warehouse facility' of the Phase 13 CMS (40-SMP-WS-7100-PA-MS-00012) to the changes summarised as follows:

- Building footprint 30m x 35m
- Eaves height 7.465m
- Ridge height 9.121m
- 1 roller shutter door, 4 personnel access doors
- Internal office unit with two external windows (with shutters) and mezzanine floor above

The General Arrangement drawing for the building showing plan, section and elevations can be seen in **Appendix A**. All other details remain unchanged from the Phase 13 CMS.

### 3.4 Revised segregated materials store (handling bunker)

There have been a number of necessary changes to the segregated materials bunker, now known as segregated materials store, from the proposed design stated in section 3.3 of the Phase 12 CMS (40-SMP-WS-7100-PA-MS-00011). These changes are required to ensure the building is fit for purpose in line with Anglo American standards. The changes can be summarised as follows:

- Building footprint 36m x 42m
- Eaves height 8.375m
- Ridge height 10.690m
- Increase to 4 roller shutter doors to allow for highway and site traffic to be separated

The General Arrangement drawing for the building showing plan, section and elevations can be seen in **Appendix B**. The line of sight drawing from the B1416 can be seen in **Appendix C**. All other details remain unchanged from the Phase 12 CMS.

It should be noted this Phase of works will generate small volumes of topsoil and superficial soils from the Segregated Materials Store. This material will be stripped and stockpiled on site, in accordance with the Phase 11 Soil Management Plan (40-ARI-WS-7100-CI-PL-01000) for use within the site restoration. Swales will be created around any temporary storage mounds to aid drainage.

### 3.5 Addition of loading bay to Non-Domestic Waste Water Treatment Plant (NDWWTP)

A new loading bay will be constructed adjacent to the NDWWTP plant as shown on Woodsmith Mine Construction Phase 16 Masterplan (40-ARI-WS-7100-CI-22-01093). This will allow safe loading of tankers, off the main haul road.

The loading bay will be constructed of concrete paving and will tie into the adjacent existing road levels. Sensor controlled task lighting will be installed for safe operation of this facility.

### 3.6 Installation of CCTV lattice mast

CCTV lattice masts will be installed on the existing established platform area to allow for security monitoring of plant, equipment and materials. The masts will be a maximum of 4.5m in height.

### 3.7 Construction of northern section of Bund F

In Phase 16, more of Bund F will be constructed starting at the northern end to develop as shown on Woodsmith Mine Construction Phase 16 Masterplan (40-ARI-WS-7100-CI-22-01093). Placement of the rock materials within Bund F is to be undertaken as a compacted engineered fill. The sequence phasing of material placement within the bund will progress from north to south.

It should be noted temporary topsoil and subsoil stockpiles will be relocated or reused in restoration.

Site screening will be maintained by undertaking works in stages.

Bunds will be constructed in accordance with the Groundwater Activity Permit

### 3.8 Revised layout to bus drop-off/pick-up area & main car park

The bus drop-off/pick-up area & main car park area will be revised from that detailed in the Phase 13a to that shown on Woodsmith Mine Construction Phase 16 Masterplan (40-ARI-WS-7100-CI-22-01093). This is to allow for additional bus spaces and for the safe segregation of cars from bus vehicles.

The bus drop-off/pick-up area will be lit by existing lighting columns and bollards and the existing tarmac and concrete surface will be re-painted to define the new layout. There will be additional drop-off/pick-up bays on the east side with a footpath segregated by curbstones and a set of additional turnstiles added to access the main compound. Both walkways, west and east, will be covered with a canopy type structure as utilised between the main welfare blocks. The canopy will be footpath width, maximum 3m height and be RAL6008 in colour with translucent roof panels (as per the existing welfare canopy).



**Figure 3: Example of Covered Walkway**

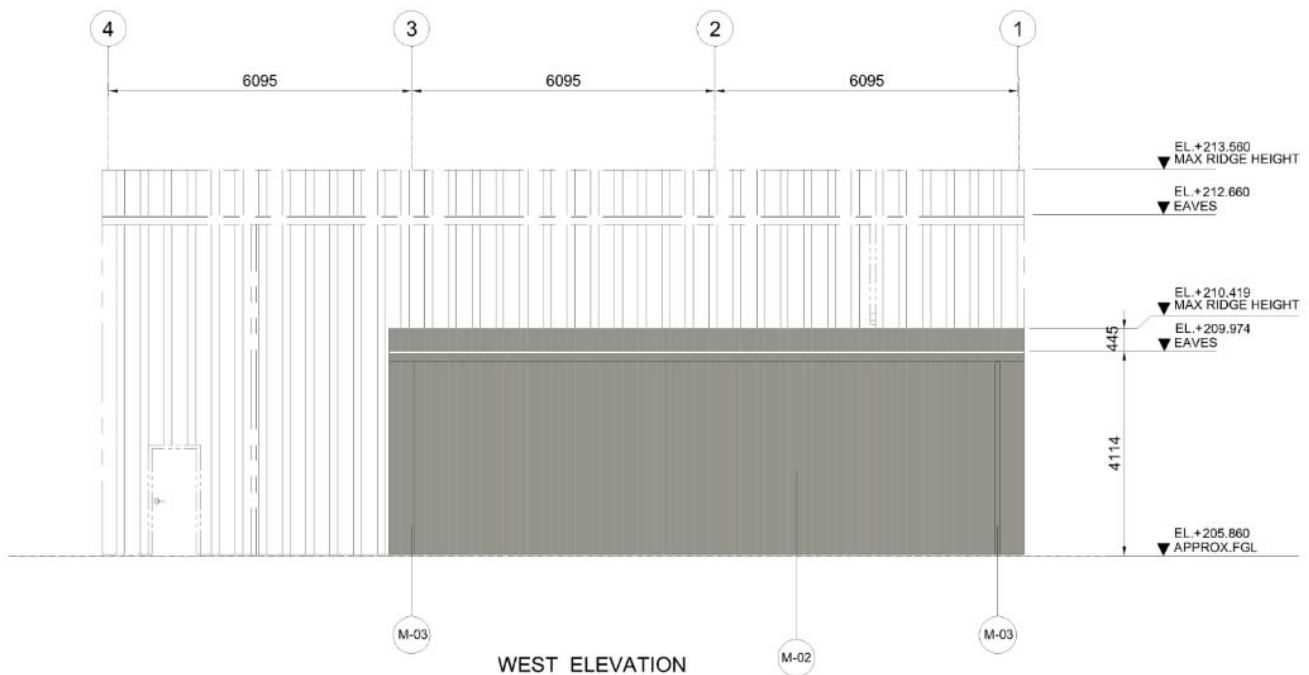
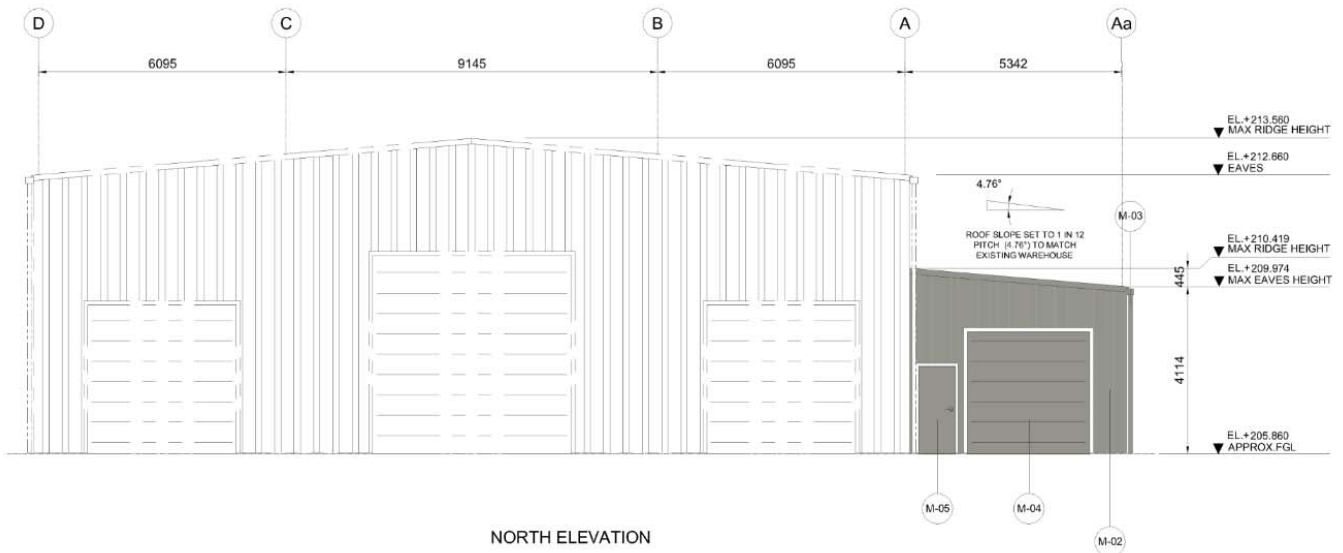
The main car park will be moved to the area originally identified as 'Woodsmith Shuttle Bus Drop-Off-Pick-Up Point' in Phase 13a. This area will be surfaced with tarmac, set out with white lines and have segregated footpaths for personnel access. Drainage will be directed to the surface water swales and lighting will be installed in the form of 4m column lights and pathway bollards.



**Figure 4: Pathway Lighting Bollard**

### 3.9 Workshop extension

The existing workshop building will be extended by way of a lean-to structure on the west elevation as depicted, highlighted in grey, in the drawing sections below:



The structure shall not exceed 5m in height and will be Juniper Green (RAL 120 20 10) in colour to match the existing building. A roller shutter door and personnel door will be fitted on the north elevation for access and egress. Low level, sensor controlled, downcast lighting will be fitted for safety.