

**Coal Mining Risk Assessment – Proposed Stabling****Sources of information:**

Coal Authority Mining Report Ref: John Kelly

En-Plan

Published British Geological Survey geological mapping – 100020315

Coal Authority Datasets available under the Open Government Licence v3.

| Issue                                                                                           | Hazard                                                                                                                                                                                                                                                                                                                 | Site Affected<br>(Yes/No)<br>(Detail – where appropriate) | Consequences<br>(where appropriate)                                                                                                                | Recommended Mitigation Measures<br>(where appropriate)                                                                                                                                                      |
|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Are there any recorded coal mine entries within the site or within 20m of the site boundary? | <ul style="list-style-type: none"> <li>Catastrophic collapse of mine entry leading to ground instability or voids at the ground surface.</li> <li>Settlement of the ground surface above/adjacent to the mine entry.</li> <li>Generation of crown holes at the ground surface.</li> <li>Mines gas emissions</li> </ul> | Yes - Shaft 327353-072 327541 353230                      | <p>None as the shaft has been shown on the Coal Authority mapping system to have a diameter of nul.</p> <p>Please refer to Coal Mining 1 image</p> | All development is sited away from any recorded coal working on site although the accuracy of the mapping is called into question as the depth and diameter as stated as nul on the Coal Authority website. |

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Coal Authority Mining Report 51003356712001

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| Issue                                                                                                                                           | Hazard                                                                                                                                       | Site Affected<br>(Yes/No)<br>(Detail – where appropriate)                                       | Consequences<br>(where appropriate)                                                                                                                                                                                     | Recommended Mitigation Measures<br>(where appropriate)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                 |                                                                                                                                              |                                                                                                 |                                                                                                                                                                                                                         | <p>entry and to afford an appropriate scheme of stabilisation works, in order to facilitate secure development. It would be prudent for the physical investigation to also seek to confirm the level of treatment afforded to mine entries -119, -126, -127, -128 and -131.</p> <p>A review of the draft land use plan (attached) shows that the eastern extent of the site (where the recorded mine entries are most prevalent) there is a mix of development including a public realm (including a Primary School), Residential and Retail.</p> <p>It is anticipated that the presence of the mine entries will significantly impact the proposed site layout in the eastern area (east of Phoenix Drive).</p> |
| 2. Is the proposed development in the likely zone of influence of past deep underground mining?                                                 | <ul style="list-style-type: none"> <li>Ground subsidence.</li> <li>Ground instability.</li> </ul>                                            | No.                                                                                             | N/A                                                                                                                                                                                                                     | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 3. Is the proposed development in the likely zone of influence of any present underground mine workings?                                        | <ul style="list-style-type: none"> <li>Ground subsidence.</li> <li>Ground instability, loss of ground, generation of crown holes.</li> </ul> | No.                                                                                             | N/A                                                                                                                                                                                                                     | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 4. Is the proposed development within the likely zone of influence of recorded underground workings at shallow depth (depths of less than 30m)? | <ul style="list-style-type: none"> <li>Ground subsidence.</li> <li>Ground instability, loss of ground, generation of crown holes.</li> </ul> | <b>Yes:</b> The CA report the presence of abandoned shallow mine workings at the site boundary. | Ground subsidence associated with past shallow underground mining can result in severe localised ground instability and damage to the environment, harm to human health, injury or death of site users, site employees, | Based upon published geological mapping and the available CA data there is little risk to the area where the proposed stables will be sited.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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| Issue                                                                              | Hazard                                                                                                                                                                                                                                                                                                                                                          | Site Affected<br>(Yes/No)<br>(Detail – where appropriate)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Consequences<br>(where appropriate)                                   | Recommended Mitigation Measures<br>(where appropriate)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                    |                                                                                                                                                                                                                                                                                                                                                                 | <p>The BGS Mapping shows that the following coal seams are inferred to subcrop within the site; Smiths, Drowsell, Powell, Hollin, Crank and Quaker. Therefore it is possible that shallow unrecorded workings may be present at influencing depths within the site within these seams.</p> <p>The generalised vertical section (GVS) on the geological mapping also shows that the Main coal seam, recorded to be of a 3m thickness, sits between the Blackbed and Crown coal seams. Therefore it is possible that this seam has potentially been worked in the past and is present at influencing depths beneath the site.</p> | <p>maintenance operatives or construction workers using the site.</p> | <p>The geological mapping identifies that there are a further 6 seams which are inferred to subcrop within the boundaries of the site and are likely to be present at shallow depths.</p> <p>A large scale reclamation scheme was undertaken in 2003-2005, resulting in the partial removal of some of the coal seams present at shallow depth beneath the site. This process identified the presence of remnant abandoned mine workings in these excavations.</p> <p>It is recommended to undertake a comprehensive scheme of further investigation as part of the development, to confirm the coal seams present and to confirm the coal seams present and consider further the risk of shallow mine workings presenting possible areas of instability to future development. In the event that the proposed further investigations prove potential areas of instability then a scheme of stabilisation, usually by a programme of drilling and grouting, would need to be undertaken.</p> <p>It would also be beneficial to obtain the opencast completion plans for the site to determine if any of the identified coal seams have been removed as part of the opencast operations. The opencast completion plans could also be used to further inform future site investigation work.</p> |
| 5. Is there a possibility of unrecorded shallow mine workings and/or mine entries? | <ul style="list-style-type: none"> <li>Ground subsidence.</li> <li>Ground instability, loss of ground, generation of crown holes.</li> <li>Catastrophic collapse of mine entry leading to ground instability or voids at the ground surface.</li> <li>Settlement of the ground surface above/adjacent to the mine entry.</li> <li>Mine gas emissions</li> </ul> | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | N/A                                                                   | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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| Issue                                                                                                                                                 | Hazard                                                                                                                                                                                                                                                                                                      | Site Affected<br>(Yes/No)<br>(Detail – where appropriate) | Consequences<br>(where appropriate) | Recommended Mitigation Measures<br>(where appropriate) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------|--------------------------------------------------------|
|                                                                                                                                                       |                                                                                                                                                                                                                                                                                                             |                                                           |                                     |                                                        |
| 6. Is there a record of mine gas emissions within the site boundary?                                                                                  | <ul style="list-style-type: none"> <li>Mixtures of noxious or explosive gases reaching the ground surface via superficial deposits, faulted/broken strata or poorly filled mine entries and entering structures, confined spaces etc, when an explosive or asphyxiating hazard may be generated.</li> </ul> | No.                                                       | N/A                                 | N/A                                                    |
| 7. Is the proposed development in an area for which the Coal Authority is determining or has granted a licence to remove coal by underground methods? | <ul style="list-style-type: none"> <li>Ground subsidence.</li> <li>Ground instability.</li> </ul>                                                                                                                                                                                                           | No                                                        | N/A                                 | N/A                                                    |
| 8. Are there known faults or other lines of weakness (eg. fissures) due to mining at the site?                                                        | <ul style="list-style-type: none"> <li>Ground subsidence.</li> <li>Mixtures of noxious or explosive gases reaching the ground surface via faulted/broken strata and entering buildings, structures, confined spaces etc, when an explosive or asphyxiating hazard may be generated.</li> </ul>              | No                                                        | N/A                                 | N/A                                                    |

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| Issue                                                                                                                                                           | Hazard                                                                                                                                      | Site Affected<br>(Yes/No)<br>(Detail – where appropriate) | Consequences<br>(where appropriate) | Recommended Mitigation Measures<br>(where appropriate) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------|--------------------------------------------------------|
|                                                                                                                                                                 |                                                                                                                                             |                                                           |                                     |                                                        |
| 9. Has the site been subject to remedial works by, or on behalf of, the Coal Authority under its surface hazard call out procedures?                            | <ul style="list-style-type: none"> <li>Indication of past and potential future subsidence issues on site.</li> </ul>                        | No.                                                       | N/A                                 | N/A                                                    |
| 10. Is the proposed development within the boundary of a surface mining/opencast site from which minerals have been removed by surface mining/opencast methods? | <ul style="list-style-type: none"> <li>Potential of a ground gas source and/or migration pathway. Potential settlement problems.</li> </ul> | No                                                        | N/A                                 | N/A                                                    |

| Coal Mining Risk Assessment – Proposed Stabling                                                                                                                                                                                           |                                                                                                                |                                                           |                                     |                                                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------|--------------------------------------------------------|
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| Issue                                                                                                                                                                                                                                     | Hazard                                                                                                         | Site Affected<br>(Yes/No)<br>(Detail – where appropriate) | Consequences<br>(where appropriate) | Recommended Mitigation Measures<br>(where appropriate) |
|                                                                                                                                                                                                                                           |                                                                                                                |                                                           |                                     |                                                        |
| 11. Is the proposed development within 200m of a surface mining/opencast site from which minerals are being removed?                                                                                                                      | <ul style="list-style-type: none"><li>Development constraints associated with environment/noise/dust</li></ul> | No.                                                       | N/A                                 | N/A                                                    |

| Coal Mining Risk Assessment – Proposed Stabling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |        |                     |                                     |                                                        |
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| Issue                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Hazard | Site Affected<br>No | Consequences<br>(where appropriate) | Recommended Mitigation Measures<br>(where appropriate) |
| <b>Assessment of Cumulative Impact of Mining Issues:</b><br><br>This risk assessment has identified that there is one mine entries located within, the boundary of the site, but the depth and diametre have been recorded as nil. The proposed built footprint is located well away from thsi supposd mine shaft and no impact is envisaged in this respect.<br><br>Parts of the western boundary is situated adjacent to the boundaries of former opencast sites, as shown on the accompanying plan attached to the CA report.<br>This presents no ground stability issues for a proposed stable use and <b>the stables will be ground mounted to ensure there are no issues.</b><br><br>The CA also report that there are no recorded underground workings within the site boundary. |        |                     |                                     |                                                        |

Prepared by *Simon Smith* 28.05.2024