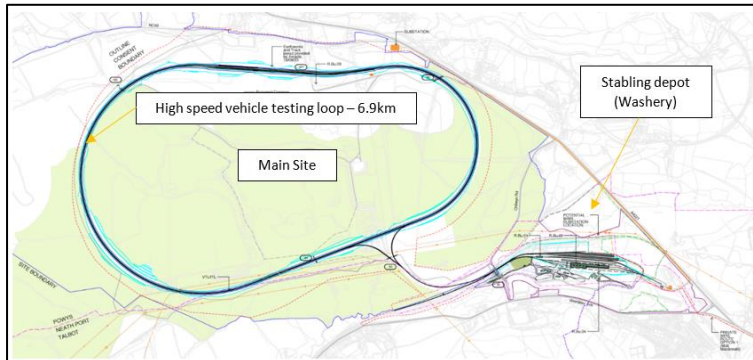


AtkinsRéalis UK Limited (AtkinsRéalis) are engaged as design partner to Walters Group (Walters) for the design of earthworks and assessment of mining risk to these earthworks for the proposed Global Centre of Rail Excellence (GCRE) project.



The GCRE project, which is being promoted by GCRE Ltd. comprises a high-speed rail loop, a new sidings area (the Washery) and connecting track (Delta Junction).

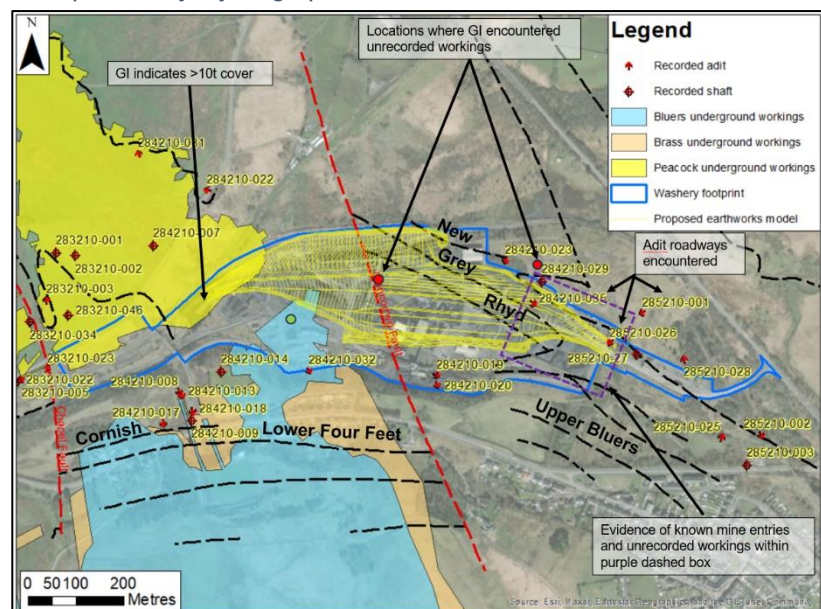
It is proposed to develop the scheme in stages with the Washery representing the first area to be developed. The Washery is presently being advanced through planning application.

The Washery lies within the former Nant Helen opencast colliery. To support the planning application, an assessment - comprising desk studies and intrusive investigations of legacy mining activities has been undertaken. Published records indicate legacy sub-surface mineral workings to underlie the site.

Such legacy workings and entries have the potential to collapse and present as subsidence/voiding at surface, damaging infrastructure, and potentially injuring operators.

To quantify this risk, phased Ground Investigations (GI), comprising rotary boreholes to profile geological and mineral conditions and rotary probe holes to delineate mine entries have been undertaken.

The potential for shallow workings and the mapped locations of five mine entries (four adits and one shaft) was investigated. The GI confirmed the presence of historical sub-surface coal workings, the GI typically shows risk to be present at the east of the Washery with less than 10t competent rock cover. To the west, recorded workings in the Peacock seam are considered to have sufficient rock cover to prevent void migration to the surface.



One adit entry (284210-035) was located and traced along alignment, voiding was encountered along the projected alignment of two further entries (285210-001 and 285210-026). Another adit entry (284210-023) was investigated by probe drilling on a spiral and across the adit azimuth, the mine shaft (284210-029) was investigated by drilling on a spiral, the other two entries were confirmed to be absent from the mapped locations.

Taking cognisance that the use of the Washery is for the storage of trains operating at low speeds, a design and operations strategy to mitigate the potential risk posed by sub-surface legacy mineral activities has been developed in collaboration with GCRE Ltd.

The proposed solution comprises a visual monitoring and operations plan which, implemented by GCRE Ltd. will comprise a 'react and treat' approach to any potential collapse failure. This solution is considered to represent a balanced economical and sustainable solution to the risk of potential collapse of the rail sidings.

Mine entries are considered to present a higher magnitude of risk and therefore require a different remediation strategy. To date, one shaft and four adits, as recorded by the Coal Authority have been investigated within the Washery 1A area.

No evidence of adit (284210-023) or shaft (284210-029) were found by completed investigations. It is considered that the entries have either been incorrectly mapped (i.e. are in a location outside of the development area) or have been removed during operation or have collapsed, thus not presenting a risk to the scheme. Considering the limited sensitivity of assets/low speed nature no further investigations are proposed.

The suspected roadways for adits 284210-035, 285210-001 and 285210-026 were encountered, the portals were not located and are assumed to have already been backfilled, collapsed or incorrectly mapped. The portal for 285210-001 is mapped approximately 100m north-east of the site and is not considered to pose a risk.

Mine shaft 285210-027 has not yet been investigated as it previously sat outside the earthworks boundary. Further investigation for mine shafts is proposed ahead of construction, where required a treatment plan is to be developed. This will comprise either capping or bulk infill remediation.

To supplement the remediation plan for workings and entries, inspections during excavation of earthworks shall also be completed to provide further information on the presence or absence of mine entries and workings. Should significant change be observed the remediation strategy may be revisited.

It is highlighted that the Washery development plan is likely to change in the future. A review of further investigation requirements and subsequent remediation strategy shall be as development proposals are understood.