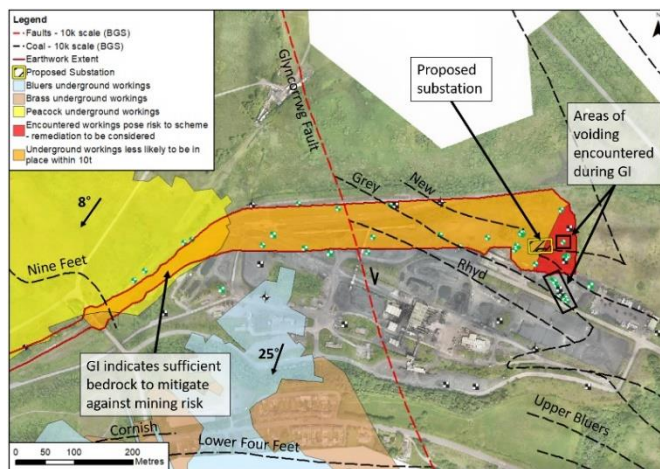
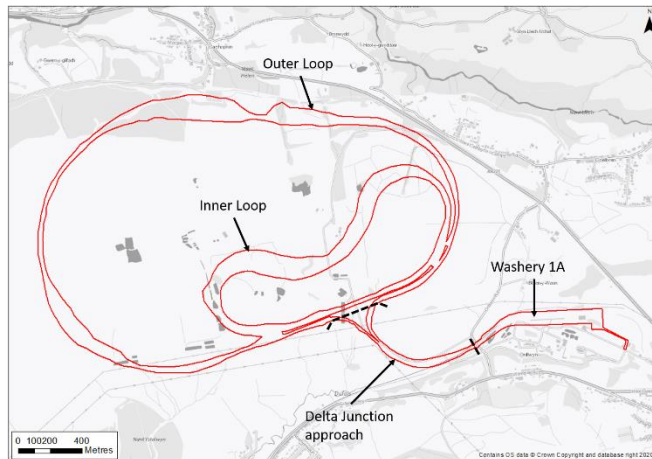


Atkins Limited (Atkins) are engaged as design partner to Walters Group (Walters) for the design of earthworks and assessment of mining risk for the proposed Global Centre of Rail Excellence (GCRE) project.

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

It is proposed to develop the scheme in stages with the Washery Phase 1A representing the first area to be developed. The Washery Phase 1A is presently being advanced through planning application.



The Washery Phase 1A 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 GI has confirmed the presence of historical sub-surface coal workings and associated adit entries within the Washery Area. The GI typically shows risk to be present at the east of the Washery with less than 10t competent rock cover and an adit proven through investigation. To the west, recorded workings in the Peacock seam are considered to have sufficient rock cover to prevent void migration to the surface.

Taking cognisance that the use of the Washery Phase 1A 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.

The exception to this approach is at the proposed substation which is considered to be more sensitive to ground movements. Further GI is proposed in this area to confirm conditions. Bulk infill, (Drill and Grout) treatment will be required if mine workings are uncovered within 10t beneath the proposed substation.

Mine entries are considered to present a higher magnitude of risk and therefore require a different remediation strategy. To date, one shaft and two 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) 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.

Adit 284210-035 however was encountered by the GI and 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 area is likely to expand in the future. A review of further investigation requirements and subsequent remediation strategy shall be as development proposals are understood.