

EXECUTIVE SUMMARY – FORMER ORGILL INFANT SCHOOL, EGREMONT

Introduction	Sirius Geotechnical Ltd (Sirius) were requested by Gleeson Regeneration Ltd. (Gleeson), to undertake a preliminary investigation of land at the former Orgill Infant School, Croadalla Avenue, Egremont, Cumbria (“the site”). In providing the following comments, Sirius has obtained and reviewed information contained in a Landmark Information Group (LIG) Envirocheck. Aerial photographs, British Geological Survey (BGS) data, and Environment Agency (EA) data. Publicly available online data covering the site and surrounding area have also been reviewed. A site walkover was undertaken on 20th March 2018. This summary is intended to provide a concise account of immediately available data, in advance of a detailed Phase II Geoenvironmental Appraisal, and is not intended to fully enable detailed design or discharge of regulatory conditions.
Site Details	The site is located approximately 700m north west of Egremont town centre, south of Smithfield Road and west of Croadalla Avenue. The site is an irregularly shaped area of land, with major dimensions of approximately 110m by 60m and an area of c. 0.65 hectares. Approximately 35% of the site is covered with hard surfacing of asphalt and concrete, comprising paved areas and floor slabs associated with previous development. Remaining areas are generally grassed. Mature trees are present in/ near the north-east and south-east, with immature trees and hedge along the northern boundary. A raised area with a covering of brambles and scrub is present in the north east corner of the site. The site is generally flat lying, with the exception of a raised area in the north west corner, with levels in the area generally sloping down gently to the south-east. A short section of the site boundary adjacent to the site entrance in the north, is currently demarked by a retaining wall of approximately 1.5m height. Surrounding land to the west, south and east is developed with residential properties. Open fields are present to the north and north-west. To the north of the site, Skirting Beck, flowing north to south, enters a culvert on the northern side of Smithfield Road. A new access chamber to the culvert is present off the south eastern corner of the site. The intervening course of this culvert has not been identified although based on historical mapping (as discussed below), the presence of manholes within and close to the site boundary, the existence of other services within the adjacent footpaths, and lack of evidence of relatively recent ground disturbance suggests that the culvert is within the site boundaries.
Site History	The site remained as open fields, with a stream (Skirting Beck) flowing north to south along the western site boundary, turning to flow east along the southern site boundary, until the 1960s. By the early 1960s, Skirting Beck is shown to ‘sink’ to the north of the site, and ‘issue’ approximately 190m to the south-east of the site. By the late 1960s, the site is shown to be developed with Orgill Infants School, with buildings in the centre and north-east of the site. The school buildings are shown to have remained until the late 1900s, with the site cleared by 2000. Surrounding land remained as open land, with roads immediately north and east of the site, until the late 1900s, by which time small structures and earthworks including spoil heaps are recorded approximately 50m north-east of the site, labelled as ‘Pit No. 4’. A railway siding is recorded immediately to the north of the buildings. By the 1920s the railway line was extended to the south-west, passing on embankment close to the north-western corner of the site. By the 1950s, the railway was dismantled and buildings to the north-east had been cleared and the area no longer labelled as a ‘Pit’. From the 1950s until mid to late 1960s, land to the east, south and west respectively was developed with residential properties. The former area of Pit No. 4 is labelled as a Caravan site from the late 1960s, with this area now occupied by static caravans.
Anticipated Ground	BGS mapping does not record any made ground within the site. A veneer of made ground, including reworked topsoil and subsoil is anticipated across the site, associated with the former school development. Additionally, relict structures including foundations

Conditions	are expected locally, and the presence of a basement cannot be fully discounted. Thicker made ground, associated with the former course and possible culverting of Skirting Beck within the site is expected along the western and southern boundaries. Superficial deposits comprising alluvium are recorded in the centre, north and east of the site, Glacio-fluvial deposits, possibly comprising sand and gravel are indicated in the west and south. Rockhead is expected to comprise Triassic Brockram Breccia and, based on historical borehole data, is anticipated at a depth of 4m to 6m below ground level.
Mining & Quarrying	The risk of surface instability resulting from past underground ironstone and coal workings is considered to be low. The area is historically associated with ironstone (haematite) mining, and coal mining is prevalent within carboniferous deposits to the west. Historical records show several ironstone mines in close proximity to the site, with the closest, Pit No. 4, (also named Gillfoot) approximately 50m to the north-east of the site. BGS mapping suggests a small area of the north-east of the site falls within an 'area of subsurface haematite mining', presumably associated with workings from Pit No. 4. Sirius understands that the boundaries of such mining, as recorded by the BGS, are derived from mine survey plans. A record for No. 4 Pit Gillfoot Shaft has been obtained from the BGS. This indicates the presence of 'ore joints' within limestone below a depth of circa 61m below ground level. 'Iron Ore' is recorded at depths from 174m to 178.5m. Considering these depths, it is anticipated that haematite workings will be at substantial depth and unlikely to influence surface stability. Approximately the western half of the site is within a coal mining reporting area, however coal bearing strata are not expected at shallow depth beneath the site and consequently the risk of instability due to coal mining has been assessed as low. No evidence of quarrying within the site boundary has been identified.
Landfill	No landfill is recorded within 500m of the site.
Foundations	A Phase II intrusive ground investigation will be required to confirm ground conditions prior to preparation of detailed design of foundations. Traditional shallow strip and trench fill spread foundations are likely to be suitable across the majority of the site, increasing in depth locally where relict structures, including possible basements, associated with the former school are encountered. However, with cognisance to the recorded presence of alluvial soils across the majority of the site, it is possible that variable and/ or low strength soils may be present, requiring an element of reinforcement or widening of foundations. Cognisance should also be taken of the anticipated culvert carrying Skirting Beck beneath the site. It is anticipated that this culvert may follow the former surface course of the beck, along the western and southern boundaries, however this should be confirmed, together with any applied easements, which may preclude development over some areas of the site.
Contamination	At this stage, the worst case likelihood of a pollutant linkage is perceived as low to moderate. This worst case likelihood relates to the construction, occupancy and demolition of a former school within the site. Contamination issues are unlikely to prohibit development of the site and remedial measures are likely to be no more than localised excavation and disposal and/or encapsulation/ capping of made ground if present. Limited fly tipping is evident, including suspected asbestos cement tiles, on hard surfaced areas within the centre of the north of the site.
Gas Risk	There is a limited potential for generation of carbon dioxide and/ or methane within organic soils associated with alluvium and the former course of Skirting Beck. This should be further assessed via monitoring of wells installed during ground investigation. At this stage, it is perceived that this site may be classified as CS2 as a worst case, and allowance should be made for gas protection measures commensurate with this

	classification at this stage. No radon protection measures are required.
Flooding	The EA record the western and southern half of the site as being at risk from flooding from rivers or the sea (Zone 3). The north and east of the site is recorded by the EA to be at risk from extreme flooding from rivers (Zone 2). BGS data suggests that the site has limited potential for groundwater flooding. A flood risk assessment may be required under the National Planning Policy Framework (NPPF) due to the size of the site (>1 ha), and in light of the above comments, is recommended for this site irrespective of planning requirements.
Soakaways	At this stage, soakaways discharging into granular alluvium and/ or possible glacio-fluvial deposits may be viable. However, the site falls within Zone 3 (total catchment) of a groundwater Source Protection Zone (SPZ). The site is also recorded to be underlain by a Principal Aquifer. Consequently, the EA should be consulted at an early stage, to ascertain any concerns or constraints regarding discharges into the ground at this location.