

## Carlton-on-Trent Parish Council [REDACTED]

Carlton-on-Trent has long been vulnerable to flooding, but recent events—particularly Storms Babet and Henk—have highlighted a shift from fluvial flooding caused by the River Trent to pluvial flooding arising from sudden, intense rainfall. During these storms, water rapidly accumulated, overwhelming the village's drainage systems and forcing the evacuation of properties, some of which remained uninhabitable for nearly a year. The southern part of the village was particularly hard hit: around one-third of homes were affected, with twenty suffering internal flooding and others experiencing significant damp in the months that followed. All local businesses were directly or indirectly affected through inundation or access disruption.

The topography of the surrounding area exacerbates flooding. Water runs off the nearby hills into the Trent valley, and when the river and tributaries are already at capacity, overflow spreads across former flood meadows and low-lying plains. This contributes to flooding not only in the village but also along the A1 and potentially the East Coast Main Line. Carlton-on-Trent is further burdened by receiving pumped water from nine upstream villages, including Sutton-on-Trent. When heavy rainfall overloads the main pump at Cromwell, water backs up with nowhere else to go. Because soil in the region is heavy clay, water movement accelerates when the surface becomes compacted, worsening the rate at which runoff enters the village's streams and drainage network.

Concerns centre on the proposed large-scale solar development by Elements Green. Government policy typically encourages permeable surfaces to improve natural absorption, but solar panels—like concrete—shed water quickly, increasing runoff. The assumption that rainfall will infiltrate beneath the panels is challenged: panels create rain shadows that reduce the area available for absorption, concentrating runoff into rivulets that carve channels down slopes. These rivulets form because water tends to fall from the lowest panel corner, creating persistent driplines that compact the soil further. This issue is magnified on clay soils, such as those at Carlton-on-Trent, where compaction significantly increases runoff.

Fields identified for the solar arrays slope toward Ossington Road and down into the village. Several streams that run through or near the village are already prone to overtopping during winter, and residents note that these watercourses were overwhelmed during Storm Babet. Sections of these streams are missing from the applicant's maps, and consultations with railway authorities—relevant because watercourses pass under the East Coast Main Line—appear absent. Other fields in the proposed area, known locally as Low Moor, frequently hold winter standing water. During major storms, flooding here has reached the A1, causing significant national disruption.

Construction of the solar farm would require heavy machinery that compacts clay soils, reducing fertility and inhibiting water absorption. Although grazing sheep is proposed beneath panels, livestock also compact soil, historically used for this purpose when creating ponds. Because clay land in this region must often be “moled” or ploughed to maintain drainage, a long-term installation risks sustained degradation of soil structure.

Evidence from similar solar proposals supports these concerns. A planning inspector in a comparable case at Glebe Farm, Taunton concluded that water would run off panels in concentrated flows, increasing runoff rather than promoting infiltration. The Carlton-on-Trent

scheme risks receiving runoff not just from the proposed site but also cumulatively from other nearby solar farms at Eakring, Maplebeck, Caunton, and Norwell.

Despite assurances that flood zones were carefully considered, residents note inconsistencies: land known to flood was included, while other flood-prone areas were selectively removed when revised national flood maps were issued. Residents contend that Elements Green ignored local knowledge and that the revised flood zone classifications do not accurately reflect the true behaviour of the land.

Beyond flooding, residents emphasise the loss of Best and Most Versatile (BMV) agricultural land. All the fields proposed for development have long produced high-yield cereal crops, often exceeding 3.5 tonnes of wheat per acre—values consistent with Grade 2 or Grade 3a soils, which the government has pledged to protect from solar development. They argue that soil quality appears not to have been properly assessed and that land selection was opportunistic, relying on unsolicited offers to landowners rather than strategic planning. Concerns also extend to long-term soil health; excluding land from natural cycles of weathering, growth, and decomposition for forty years may permanently diminish fertility.

Environmental impacts on wildlife raise further alarm. Studies commissioned by the developer are viewed as inaccurate, notably by failing to record known barn owls, tawny owls, red kites, and buzzards in the area. The parish fears profound habitat fragmentation, particularly if the developer uses large enclosed fenced areas that sever wildlife corridors—contrary to national and local nature recovery strategies. These corridors are vital for the movement of animals, dispersal of seeds, genetic exchange, and ecological resilience. Without them, populations risk isolation, reduced genetic diversity, and potential local extinctions.

The solar project's scale is seen as overwhelming. Carlton-on-Trent would be surrounded by solar arrays on three sides, with the river forming the fourth. Residents, already enclosed by existing turbines to the west, argue that their countryside would effectively be industrialised. Cumulative visual impacts have not been fully assessed, and the developer's stated “story-telling approach” to visualisation is viewed as inadequate.

Concerns extend to glint and glare from panels, with potential hazards for road users, especially on the A1 and B1164, for boaters on the River Trent, and for train drivers on the East Coast Main Line—whose new, higher-cab electric trains will increase visibility of panels. Migratory birds, particularly geese following the Trent valley, may mistake the panels for water, risking fatal collisions. Aviation safety concerns arise due to the use of local airspace by military and civilian aircraft.

Residents also highlight risks to human health from glare exposure, anxiety over unknown future mitigation, and the general psychological toll of living within an industrial landscape. Further loss of historic landscape features, disruption of footpaths and bridleways, increased traffic, and the destruction of rural tranquillity contribute to the community's opposition.

In summary, residents argue that the proposed solar development poses profound risks: worsening pluvial flooding, permanent damage to high-quality agricultural land, severe ecological disruption, safety hazards for transport networks, significant visual and psychological impacts on communities, and long-term environmental degradation. They maintain that land selection was poorly executed, environmental assessments contain

inaccuracies, and local knowledge has not been adequately incorporated. The conclusion presented is that the development is unsound, unsafe, and unsuitable for Carlton-on-Trent and its surrounding parishes.