

Cannon Hill Park

The park was created from land gifted to the City by wealthy heiress and benefactor, Louisa Ryland. It opened in 1873, and has now become one of the most popular public spaces in the West Midlands. The boulder at Locality 1 (*see front cover photo*) was discovered during the lake excavations and has barely moved since it was placed by the lakeside at the time. It has all the hallmarks of Arenig ash erratics: it is smoothed by ice action and is pock-marked with holes where volcanic rock fragments have eroded away.

This boulder was one of the first to be unearthed in the early days of glaciology, once the true origins of the erratics had become widely understood. Hence it was protected, and became the yardstick for comparison of weight and size with later erratic finds in the area (*see photo below*). The early photo (*see overleaf*) shows its significance in Edwardian times. Other boulders near the Russell Road entrance, sometimes mistaken for erratics, are made of limestone and were brought into the park for ornamental effect.



Bournville boulders, 18 & 19

18 was referenced as smaller than the Cannon Hill boulder in 1910

We aim to raise the profile of this remaining iconic 'heritage' boulder. New signage is planned with modern interpretation, but also reflecting its historical importance.

Rowheath Park, Pavilion and Playing Fields

Opening in 1924, the Rowheath complex was created to provide recreational facilities for the expanding workforce at the Cadbury chocolate factory. Initially managed by the Bournville Village Trust, it is now run by Rowheath Pavilion Church. During excavations in 1923, a huge Arenig ash boulder was unearthed and reported in the Bournville Works Magazine in April 1923. Its measurements are described as 8ft 6in x 5ft x 3ft (*see photo right*). It is missing, and its fate is a mystery. Through this project, we hope to find out what happened to it. Can you help?



Large erratic boulder found on Rowheath in 1923

The Sunken Lanes of Merritts Hill and Bell Holloway

These sunken lanes are rare survivors from medieval times. They have been worn down from centuries of use, giving us a glimpse at the geology below the surface. Along Merritts Hill, there are geological exposures of gravels in tilted layers.



Tilted breccias along Merritts Hill

These are of breccias whose angular pebbles were deposited in the Permian Period about 280 million years ago. There may be ice age deposits on top, but this is unclear. In Bell Holloway, the soft sides of the lane contain pebbles of well-rounded pink-grey quartzite originally deposited in the Triassic Period around 250 million years ago from major rivers, but which have been reworked into glacial deposits. In this Northfield area, many erratic boulders were recorded in the 19th century forming an arc that may have been a moraine marking the local shape of the ice front. Pebbles collected from Bell Holloway show a wide range of rock types, including many locally derived from the Coal Measures, in contrast to the dominance of far-travelled volcanic ash in the boulders.

More information at: erraticsproject.org

1923 photo courtesy of Cadbury Archive, Mondelēz International

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Birmingham's Erratic Boulders Heritage of the Ice Age

Glacial Boulder Trail 7 Boulders by Bike A Cycle Tour Around South West Birmingham



Take a trip back into deep time to discover relics from the Great Ice Age half a million years ago. Thread your way past glacial erratic boulders, mostly from the mountains of Wales and brought here by the power of ice. This trail links these little-known bastions of our prehistoric heritage.





Arenig Fawr

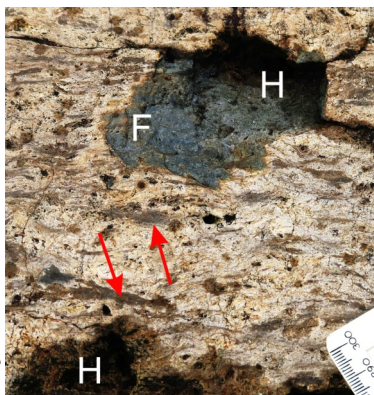
What are glacial erratic boulders?

These are boulders moved by a glacier to a different place and left there when the ice melts. The boulders can often be matched with their source, allowing the flow of the glacier to be reconstructed. The photo shows the eroded east face of Arenig Fawr, the source of most local erratics.

What is distinctive about the Arenig rocks?

The volcanic rocks from Arenig in North Wales display features showing they formed as pyroclastic flows which are very hot, ground-hugging flows of rock debris and gas such as those which buried the Roman city of Pompeii. The photo (right) shows a clear example of a cleaned rock.

The weathered surface of the rock is cream-coloured, but where the surface has chipped away (F) the dark green colour of the fresh rock is seen. Larger rock fragments in the deposit often weather out as holes (H). Elongated black fragments (indicated by the red arrows), were originally



blocks of pumice (volcanic glass full of gas holes) which became flattened by the weight of overlying deposits whilst they were still hot. Geologists call this a welded tuff.

What is special about the Birmingham boulders?

The boulders on the trails originated not in the last ice age, but in a more severe, older one, probably 450,000 years ago. Most of these erratics are volcanic rocks from the Arenig area of North Wales - around 80 miles (130km) to the west of Birmingham, but a few are basalts and sandstones from the Midlands. The rocks are exceptionally tough, resulting in unusually large erratics up to three metres across. The photo (top right) shows one of the largest in the area, which is on private land.



What have these boulders meant to local people?

In ancient times the size of the boulders was an obstacle to movement, so many were used to mark district or property boundaries just where they were left by the ice, or moved short distances. But where had they come from? They were unlike the local sandstone, which was relatively easy to work for building stones. Theories abounded: were they brought with the Biblical Flood? by giants? or were they meteorites?

Through the 19th century scientists began to unravel the real story of their glacial origins. As more were unearthed during building works from the late 19th centuries, they became celebrated as curiosities to be preserved.

The photo below shows a large boulder in Cannon Hill Park which is the starting point for this cycling trail. It was taken at the turn of the 20th century and shows protective railings and a smaller boulder which are no longer there. (See overleaf for more on Cannon Hill Park and its boulder.)



Photo by W.J. Harrison. British Geological Survey, P236744

The walking and cycling trails in this series show some of the ways in which these boulders have captured the interest and imagination of scientists, historians and local people.

Trail 7 Route Details

This is a circular cycling trail from the Cannon Hill Park boulder to the University of Birmingham's Edgbaston campus, then along the Bourn Brook Walkway to Woodgate Valley Country Park, and back to Cannon Hill Park via Northfield, Bournville and the Rea Valley.

13 boulders (in red) are visited in 6 localities (in black) as indicated on the map and described in this leaflet. Other erratics are shown on the map (in blue) to allow you to construct your own diversions. Clusters of boulders not far from Trail 7 in Northfield, Cotteridge Park and Kings Norton are described in walking trail leaflets 1, 2 and 3. These are available in print and from the project website.



Trail length and navigation: 13.7 miles (22 km) with 130m of climbing. Where possible the route follows dedicated cycle/footpaths; otherwise it follows suburban roads. Main road crossings have lights. It is recommended to use a cycle-mounted GPS device with the .gpx file of the route, downloadable from: erraticsproject.org/trail-7/. The file should be used with this leaflet for boulder numbers. A zoomable map with photos and boulder numbers is here: erraticsproject.org/where-to-find-the-erratic/.

Accessibility: The route as a whole is only accessible for competent cyclists. Off-road sections are mostly well-surfaced, with some narrow and rougher sections in the Bourn Brook valley. The section in Woodgate Valley Country Park is designed to be accessible for all users. Please slow down and ring your bell as you approach pedestrians from behind, ride at a considerate speed and take extra care passing more vulnerable users.

Facilities: Cannon Hill Park, University of Birmingham campus, Woodgate Valley (pending re-opening of the VC), Northfield Shopping Centre, Rowheath Park Pavilion.

Locality 3 - Woodgate Valley Country Park

Nearly all the boulders in this area are made of volcanic ash from the Arenigs, which is very hard and siliceous. You can look for signs of layering where ash built up by debris falling around a volcano. Pebbles (or holes where they have weathered out) are also common. The 4 boulders included (in red) have been cleaned and moved close to the track from nearby, to make them easily accessible (*see front cover photo, boulder 75*). All show the characteristics of ash erratics. These are seen to best advantage in the spectacular final boulder at this locality (55), which also shows flattened pumice fragments. (*See photo overleaf where arrows point out this feature.*) Boulders in blue are not included in this route but are covered in Trail 4 with a larger scale map.

Turn left at boulder 75 away from Bourn Brook to boulder 55. Continue uphill past the Visitor Centre to Clapgate Lane, turn right and cross using the mid-road refuge. Turn right then left and right to continue along a service road to a garage. Turn left onto Woodgate Lane, then left at a roundabout onto Adams Hill.

© OpenStreetMap contributors

Locality 3

Woodgate Valley Country Park

Locality 3 - onward directions continued

For an off-route adventure turn immediately left onto the road called Bartley Woods and seek out the large quartz boulder (57) in Broadhidley Wood.

Continue along Adams Hill which becomes Genners Lane at a junction. Continue on Genners Lane alongside Bartley Reservoir and on to the junction with Merritts Hill. Turn left at Merritts Hill. Continue as the road becomes a narrow sunken lane descending to Merritts Brook, then rising onwards as Bell Holloway. (*For more on the sunken lanes, see overleaf.*) At the top of the lane, cross Saxon Wood Close to reach the lights. Cross Bell Hill then follow the cycle/footpath beside the A38 towards the City Centre. At the 2nd set of lights, cross, turn right and take a small unsigned path to the left of the ramp up to the multistorey car park. Continue across Victoria Common, to an oblique crossing of paths.

At this point a diversion could be made with a right turn, to include the cluster of boulders around Great Stone Inn (*in blue on the map, and described in Trail 1*) followed by another fine array of large boulders in Masefield Square (*described in Trail 3*).

To continue Trail 7, bear left (signed Bournville Village), cross the road at the end of the common and follow another cycle/footpath just to the right of St. Joseph's Avenue. Go ahead through woodland to Garland Way. Just before a left fork, stop to look at the large boulder amongst bushes by the pond (locality 4, boulder 83).

Locality 4 - Nos. 83, 32 & 84 Garland Way and Hole Lane

Standing 1.7m high, boulder 83 is the tallest of any on these trails. Probably dug up in this valley, it is made of hard Arenig ash. At the bridge look downstream to a cluster of boulders. These are mostly Arenig erratics, grouped as 126 (in blue) along with others downstream. Over the bridge, stop to inspect boulder 32 which is neatly displayed and shows the usual Arenig features and many small merged pebbles. **Continue to Hole Lane and turn right. Look out for a small boulder (84) on the verge between two properties.**

Boulder 84 is unusual in that it contains many millimetre-sized white crystals of feldspar, seen on its top surface. These formed as magma cooled underground and were then ejected in a volcanic eruption along with molten rock and ash that cooled quickly to give fine-grained deposits. **Continue along Hole Lane and bear left uphill on the service road. Turn left onto Heath Road and go straight on to Rowheath Pavilion. Turn right into the Pavilion grounds, then left to a cycle rack. A cluster of rocks lies behind a tree near the children's play ground (*see photo overleaf*).**

Locality 5 - Rowheath Park and Pavilion

Here there is a small erratic made of the usual Arenig ash, also known as 'lithic tuff'. It stands out from the rocks nearby for its grey colour, smoothed texture, and numerous holes where rock fragments have weathered out. The other rocks are mostly local red sandstone with a rough texture and clearly visible sand grains. In 1923 a huge Arenig boulder was found in this park, but its fate is unknown. (*For more on Rowheath Park, see overleaf.*) The Pavilion is a pleasant place for refreshments.

Continue along Heath Road (becoming Mary Vale Road) and continue to Linden Road. Cross at the lights to the right. Continue on Mary Vale Road to the junction with Franklin Road where a diversion can be made with a right turn to visit the numerous erratics in Cotteridge Park (in blue on the map, and described in Trail 2). To continue Trail 7, carry on along Mary Vale Road and turn first left (just before a car park) down Franklin Way. Then turn right along Bournville Lane to reach boulders 18-20 (locality 6) near Bournville Station.

Victoria Common

Northfield

Great Stone Inn

106 31 108
107 110

Locality 2 - University of Birmingham

This imposing fine-grained black boulder is the only genuine local glacial erratic on the campus. It was unearthed in 1909, and is now known as 'The Aston Webb Boulder'. It has never been described, but our research shows it to contain basalt from an igneous intrusion at Rowley Regis in the Black Country, although most of it consists of baked Carboniferous sediments. During the Ice Age, Rowley Regis and the boulder's nearby resting place were on the route of the ice flow from the Arenigs in Wales. The boulder's surface is smoothed by glacial transport, and striations (grooves) in different directions can also be seen. *(See Trail 1 for more on the University and the boulder.)*

Return to the mini roundabout and turn left then right onto Terrace Road. Turn left at cross roads and continue around the sports pitches to the A38. Turn right along the cycle/footpath then bear right at the roundabout and continue to the lights to cross New Fosse Way. Turn left, then right along a gravel path which follows the Bourn Brook to Harborne Lane, passing two inscribed boulders installed as an art project. Cross Harborne Lane at the lights, turn left then immediately right and continue along the Bourn Brook Walkway to Northfield Road. Cross at the lights, turn left, crossing Wentworth Way then right to resume the Bourn Brook route to West Boulevard. Cross at the lights and follow the Bourn Brook into Woodgate Valley Country Park where many erratics have been found (locality 3).

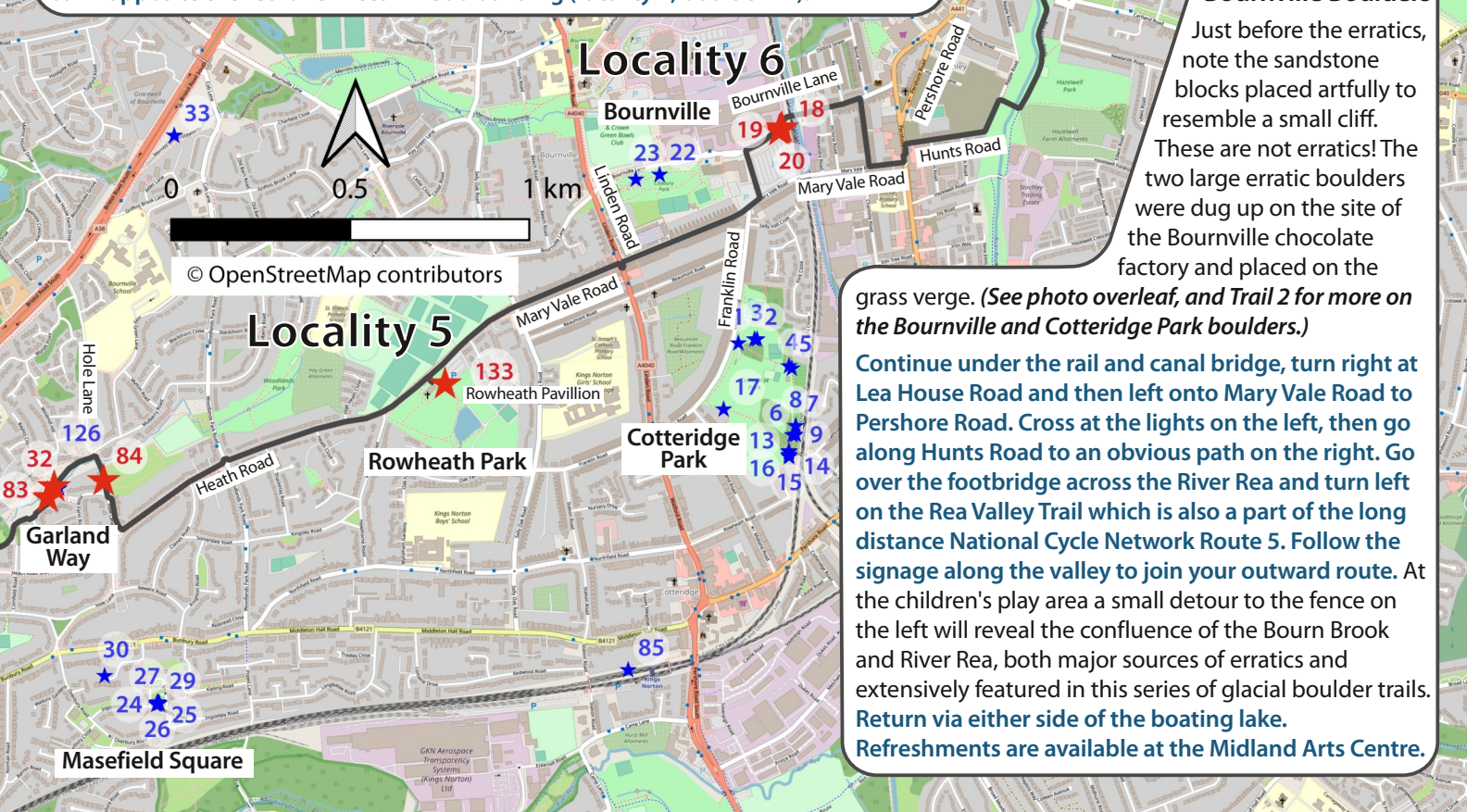


Locality 1 - Cannon Hill Park

Start at the large boulder on the east side of Cannon Hill Park's main lake (see front cover photo). This is locality 1, boulder 82.

This is made of volcanic ash from the Arenigs in Snowdonia and was dug from glacial deposits underlying the lake during excavations before the opening of the park in 1873. Although slightly polished by ice action when discovered, human contact has smoothed it much more since its discovery! *(See overleaf for more on Cannon Hill Park.)*

Go south beyond the lake and past a play area, where some fine boulders catch the eye. These are ornamental imports - not part of our natural heritage! Beyond the play area, turn right across the River Rea and continue to the Pershore Road, crossing at the lights. On the far side, turn left on the cycle/footpath. Turn right along Oakfield Road, crossing Eastern Road and bear right into Bournbrook Road. Go straight across the A38 at the lights and enter the University of Birmingham campus. Follow the road up then left on the Ring Road South. An ornamental stone is visible, one of many imported to the campus. Turn right at a mini roundabout and immediately right again at another. Proceed uphill and stop at the boulder mounted on a grassy bank opposite the red brick Aston Webb building (locality 2, boulder 21).



Locality 6 - The Bournville Boulders

Just before the erratics, note the sandstone blocks placed artfully to resemble a small cliff. These are not erratics! The two large erratic boulders were dug up on the site of the Bournville chocolate factory and placed on the grass verge. *(See photo overleaf, and Trail 2 for more on the Bournville and Cotteridge Park boulders.)*

Continue under the rail and canal bridge, turn right at Lea House Road and then left onto Mary Vale Road to Pershore Road. Cross at the lights on the left, then go along Hunts Road to an obvious path on the right. Go over the footbridge across the River Rea and turn left on the Rea Valley Trail which is also a part of the long distance National Cycle Network Route 5. Follow the signage along the valley to join your outward route. At the children's play area a small detour to the fence on the left will reveal the confluence of the Bourn Brook and River Rea, both major sources of erratics and extensively featured in this series of glacial boulder trails. Return via either side of the boating lake. Refreshments are available at the Midland Arts Centre.