

Croydon Astronomical Society

Risk Assessment and Guidance to Visiting Groups

Thank you for your interest in visiting Croydon Astronomical Society's (CAS's) astronomical observatory. We set out below some general guidance for visiting groups.

The limited size of the site means that we need to limit group visits to a maximum of 26 attendees (including leaders).

We charge £3 per visitor but we don't charge for leaders. We charge for a minimum of 10 visitors (£30) and this will usually be taken at the time of booking. If sufficient notice is given, we will try to reschedule a visit, or refund payment, **but we will not refund the deposit if the group cancels the visit later than 48 hours before the start.** Payment can be made via bank transfer to 51-50-02 65432819 (Croydon Astronomical Society), in cash or by cheque (payable to Croydon Astronomical Society).

We don't recommend visits for children much younger than 10 years old (see below). The observatory is unsuitable for people with limited mobility.

There must be at least two responsible adults accompanying each group visit.

1. What to Expect on a Visit

On arrival groups would typically be split into two smaller groups with the following activities:

- One group will visit the clubhouse and receive a presentation on the sort of observations we have made, followed by a Q & A session.
- The other group will visit the observatory and, should it be clear, use the society's telescope to observe some astronomical objects. Note that the nature of British weather means that clear nights are quite rare.
- After about 30 minutes the two groups will change over.
- We can often tailor the presentation to the requirements of the group visiting so long as we have enough notice.
- Notes about the presentation can usually be provided so that children can explain to parents what they have seen.
- If the skies are clear we may not show the presentation at all but would take the "clubhouse group" outside and show the skies as they can be seen without a telescope.
- Please note that what can be seen in the sky depends on what is 'up' above the horizon at the time of your visit. For instance:-
 - The Plough constellation is north of Earth and visible at night at the latitude of Croydon throughout the year (it is a 'circumpolar' constellation as it appears to revolve around the North star.)
 - The constellation of Orion is further south than the Plough and will be below the horizon at night in the summer months.

- Mercury and Venus are difficult targets as they are much closer to the sun than the Earth and would only be visible under certain conditions just after sunset – they are often too close to the sun for safe viewing.
- Planets beyond Earth are broadly only visible if they are on the opposite side of the Earth from the Sun. Jupiter and Saturn, for example, are easily visible if they are in the sky in the early evening. But at times they can only be seen in the morning skies.
- The moon is well worth looking at and is best seen when it is about half full (first quarter).
- The full moon occurs if it is broadly on the opposite side of the Earth from the Sun and, being so bright, it tends to make seeing other astronomical objects difficult.
- Under ideal conditions, it may be possible to show some “Deep Sky” objects – nebula or galaxies, but these will only ever appear as faint grey smudges.
- Don’t expect the view through the telescope to be as detailed and colourful as the photographs you may have seen from Hubble or the James Webb Space Telescope (JWST). Hubble and JWST use long photographic exposures, false colours and image processing to produce the finished result. At low light levels the ‘cone’ colour receptors in our eyes do not function, and so much of what you see will be monochrome black-and-white from the ‘rod’ receptors in your eyes.

Please note that there is some skill needed to observe through a telescope. Your eye has to be in just the right place, and you may need to be up a step ladder to reach. The telescope must not be touched so the only handhold is the ladder itself. For this reason we believe that observing is not suitable for children younger than about 10 years old.

Please note that the Group Visit will go ahead even when the skies are overcast or if it is raining. However, CAS may decide to cancel on safety grounds if lightning, high winds or snow/ice is expected, if CAS volunteers are not available, or urgent observatory maintenance is required.

It is the responsibility of the group leader to comply with the relevant rules/regulations in respect of the number of adults required to safely manage their group.

Members of CAS should not be expected to be left in charge of members of the visiting group. Although our regular presenters have DBS clearance, not all of our members do. Further, CAS is unlikely to have anyone on site with first aid certification. A basic first-aid kit is located in the clubhouse.

2. Observatory Location

The observatory is located within the boundary of the historic Kenley airfield - the most intact airfield from WW2 – which is somewhat larger than the present Kenley airfield.

The airfield is located on an elevated flat plateau, and this ensures that the observatory has a wide sky horizon and avoids the night-time mists that may accumulate in the nearby valleys.

It is quite a dark site, considering its location in a populous London borough within easy reach by car from central Croydon. There is extremely limited access by public transport.

The observatory site comprises two principal buildings - the steel and brick-built 'Norman Fisher Observatory' building with a fibreglass dome, and the flat roofed wooden Clubhouse. Additionally, there is the small 'Alan Treayes dome'. The grounds of the observatory site are also quite uneven with some trip hazards, and the facilities are rather basic. **There are no toilets or running water.**

The observatory is found just off a farm track leading off Waterhouse Lane, a narrow road off Hayes Lane, Kenley.

- The observatory doesn't have a postcode but use CR8 5EP to get you close (make sure you approach from Hayes Lane). The What3Words location is ///take.flows.demand and the NGR is TQ321579.
- Please note that Google Maps incorrectly labels the farm track as being part of Waterhouse Lane.

For a map see <https://www.croydonastro.org.uk/observatory>

There is no parking at the observatory, and so please do not drive down Waterhouse Lane onto the farm track. We do not own any land around the observatory buildings. Further, your headlights will likely dazzle people at the Observatory. Please speak to us in advance if you need disabled access.

On-road parking is available on Hayes Lane near the RAF Kenley Tribute approximately 200 metres south-east of the junction of Hayes Lane with Waterhouse Lane.

Stout footwear and torches are required but please always keep the torch beam facing down away from eyes (both people and horses) and buildings. Red torches are preferable.

The observatory is reached by walking along Waterhouse Lane (a narrow, unadopted road) for around 100 metres. At this point follow the road which turns to the right, leading through a (usually open) field gate to Cornwall Farm – a horse stabling business. If the gate is shut there is pedestrian access to its right. There may be horses loose in the fields either side of the farm track – please do not feed or pet them.

The observatory is in a fenced off area a further 100 metres along the farm track on the right-hand side. The observatory site will usually be lit by low wattage red lights located on the outside of the buildings. Please do not walk further than the observatory buildings along the farm track as this is private and leads to the stable buildings.

The entrance to the observatory site is a wide opening on the right-hand side of the fencing (viewed as you walk down the farm track). We would expect that one of our members will meet you by this point.

- As you approach the observatory site you may see that there is a footpath sign with an arrow pointing towards the entrance to the observatory site – this relates to the London Loop which is a long-distance public footpath which runs along the eastern boundary fence of the observatory site and continues northwards through a stile.

3. Access

We set out below some considerations:

a. Observatory Building

There is one entrance and exit point to the observatory building - an outside opening door with hinges on the left. You step up from the ground through the door into the small 'Control Room' which houses assorted computer and photographic equipment and a radio meteor detector.

A white light will be turned on in the Control Room – although occasionally we may use a red light

The Dome/observing platform is reached by ascending eight narrow steps leading up from the right-hand side of the Control Room.

A red light will be turned on in the Dome/observing platform whilst the group arrives. This light will be turned off if the telescope is being used for observation. The fire exit down the narrow steps is marked using a fluorescent sign.

The Group will be asked to assemble around the outside edge of the observing floor. The telescope sits on a computerised 'go-to' motorised mount on a pillar in the centre of the dome.

If we can use the telescope for observation:

- The CAS volunteer will open and secure the dome doors and will then ask for help from other adults to manually rotate the dome. It's very heavy, and fingers should be kept well away from the mechanism!
- The CAS volunteer will let the group know when the telescope is about to slew to a new target. Sometimes, after slewing, the telescope does not quite point in the right direction, and it is necessary to make small adjustments. Note that the telescope will continue to move slowly when on target to compensate for the rotation of the Earth.
- When viewing through the telescope eyepiece, please do not touch the telescope as this may affect its alignment. We may be using a high magnification (and so a narrow field of view), which would mean that even a small jolt would result in the telescope moving, the target being out of view and time required to re-align the telescope.
- A set of steps has been provided to allow shorter viewers to look through the telescope eyepiece. We ask leaders to help children use these steps if needed.

b. Clubhouse

The clubhouse is accessed through an outside opening door with hinges on the left.

There are two steep steps up from the ground to reach the opening into the Clubhouse meeting room.

Usually, white lights will be on in the meeting room – although occasionally we may use red lights. The fire exit is marked using a fluorescent sign.

Opposite the entrance door there is an opening which leads through to the back part of the Clubhouse. The Group should remain in the meeting room.

- The back part of the Clubhouse contains a 'camping' kitchen (i.e., no running water or sewage). There is a storeroom to the right (East) and an additional exit to the left (west) of the clubhouse. This additional exit is compromised, as it leads to a narrow passage to the side of the Clubhouse building.

There are no toilet facilities onsite.

A basic first aid box is located in the clubhouse.

c. Wheelchair Users

It would be possible for a wheelchair to come onto the site, as the route is quite flat, albeit muddy and with potholes. Unfortunately, the observatory buildings were not constructed with accessibility in mind.

4. Hazards

We see the following as the major hazards:

Darkness – The visit will usually take place during the hours of darkness. This carries the risk of slips, trips and falls and bumping into objects and people. We ask that all attendees carry a torch (a red light would be ideal), and that the torch beam is shone on the ground, and never in the eyes (people or horses) or towards buildings. Please note that only members of CAS may use laser pointers, as these are hazardous to those around and overflying aircraft.

Crossing Hayes Lane – Hayes Lane has no street lighting and has a speed limit of 40mph, although cars frequently travel faster than this. Hayes Lane has pavements either side of the road.

Walking along Waterhouse Lane and Farm Track – There may be the occasional slow-moving vehicle going along Waterhouse Lane and the farm track travelling to or from the nearby house or stables business - You may possibly meet those walking the London Loop at night (quite rare) - There are potholes (sometimes filled with water) and no street lighting.

The small section of the farm track just before the entrance to the observatory site by the field entrance on the right-hand side can be especially muddy! - Also, several people walk their dogs in the general area, so there is a risk of dog mess on Waterhouse Lane, the farm track and the observatory site. There is also the risk of horse mess. Stout shoes or boots are recommended.

Along the sides of the track, and elsewhere, there is barbed wire. Be careful not to walk into it, or slip onto it when the paths are icy.

Uneven Ground at the Observatory site - The ground is uneven, and so there is a risk of slips, trips and falls. There is a significant trip hazard where the paving stones are above the level of the gravelled surrounds.

No running is allowed anywhere on site. Not only would this add to the trip hazard, but members may also have their own telescopes set up outside the buildings. These will be delicate, and expensive, instruments.

Cold - The observatory site is elevated and exposed and can get **extremely** cold if there is a clear sky and or wind. Warm clothes are essential, even on warm nights. Also, a waterproof jacket if rain is forecast.

Electricity RCD Trip or Power Cut - There is a risk that the power may fail, or the RCD will trip plunging the site / buildings into darkness. This might cause panic. Visitors should be prepared for such an eventuality – turn on their torch and stay where they are until their eyes become accustomed to the lower lighting level.

Observatory Building - Steps up into the Observatory building - Narrow steps up to the observing floor - Possibility of trapped fingers when the dome is rotated (we ask that just adults assist with rotating the dome) - Movement of telescope when slewing - Standing on the steps to access the telescope eyepiece - Collision of spectacles with telescope eyepiece – risk of small shards of fibreglass in fingers from touching the inside of the dome – falling down the stairs which are not railed off at the top.

Clubhouse – Two steep steps up into clubhouse - Hazards associated with a hot kettle of water in the kitchen – electric heaters in the clubhouse may be hot.

Fire Extinguisher and Fire Assembly Point - There is no fire alarm system. However, the site is sufficiently small that it would be easy to hear someone shouting that there is a fire. The Fire Assembly point is on the farm track outside the entrance to the observatory site (we have not marked this, as we believe that it is obvious).

5. Public Liability Insurance

CAS is a member of the Federation of Astronomical Societies (FAS). The FAS have arranged £10 million Public Liability Insurance cover on a 'consortium basis' for around 180 participating member astronomical societies.