

Safety Alert

Installation Monitoring

23 October 2025

Background Information

Incident Date: 09 July 2025

Location: M5 Northbound, North of Junction 12 at Marker Post 91/9 (Gloucester Services)

On 9 July 2025, a Geotechnical Engineer from SW Operations was conducting inclinometer monitoring at the above location. Upon removing the access cover, the engineer discovered the flush-mounted installation chamber was filled with water. Wearing standard issue PPE gloves, the engineer proceeded with the monitoring task.

On 11 July, the engineer began experiencing swelling in their hand. By 12 July, the condition had worsened, prompting a visit to a local Minor Injuries Unit. The engineer was immediately admitted to hospital and diagnosed with Cellulitis and Lymphangitis, requiring a three-day stay and intravenous antibiotics. A follow-up appointment was attended on 16 July.

Incident Review

- The engineer had sustained a minor friction graze on their right hand prior to the task (non-work related but during work hours).
- A colleague provided a plaster from the site first aid kit to cover the graze.
- The engineer followed the Safe System of Work (SSoW) and wore the issued PPE: fabric-backed gloves with plastic-dipped palms.



The monitoring task involved:

- Removing the access cover (one bolt was missing).
- Reaching into the chamber to remove the protective bung.
- Conducting the monitoring and replacing the bung and cover.
- Due to the missing bolt, the water seal was compromised, allowing surface water ingress.
- The engineer's hand was submerged in the water during the task.

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Findings

The engineer adhered to procedures and wore the correct PPE.

While the exact cause of the infection cannot be definitively linked to the water exposure, it is considered the most likely source.

Lessons Learned & Recommendations

1. PPE Suitability

- The gloves used were not waterproof.
- Waterproof gloves were not available via the PPE booking portal.
- Nitrile gloves found in the pool vehicle emergency kit were previously used as a workaround but were prone to tearing and not compliant with SSoW.

Recommendation: Review and update PPE provisions to include waterproof gloves suitable for tasks involving potential water exposure.

2. Installation Design

- The installation met ICE Specification for Ground Investigation (3rd Edition).
- (see diagram on page3).
- However, the absence of a drainage feature means any breach in the seal results in water accumulation.

Recommendation: Consider design revisions to include drainage solutions in future installations

3. Access Cover Integrity

- The missing bolt compromised the water seal. Cause of bolt loss is unknown but may be due to traffic vibration.

Recommendation:

- Equip monitoring kits with spare bolts.
- Investigate use of anti-vibration washers or thread-lock bolts to prevent loosening.

4. Access Cover Aperture

- Engineers reported difficulty accessing some installations due to small apertures.

Recommendation:

- Review design specifications to ensure access covers accommodate a range of hand sizes.
- Consider standardising access cover types to improve usability and safety.

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**home
safe
and well**

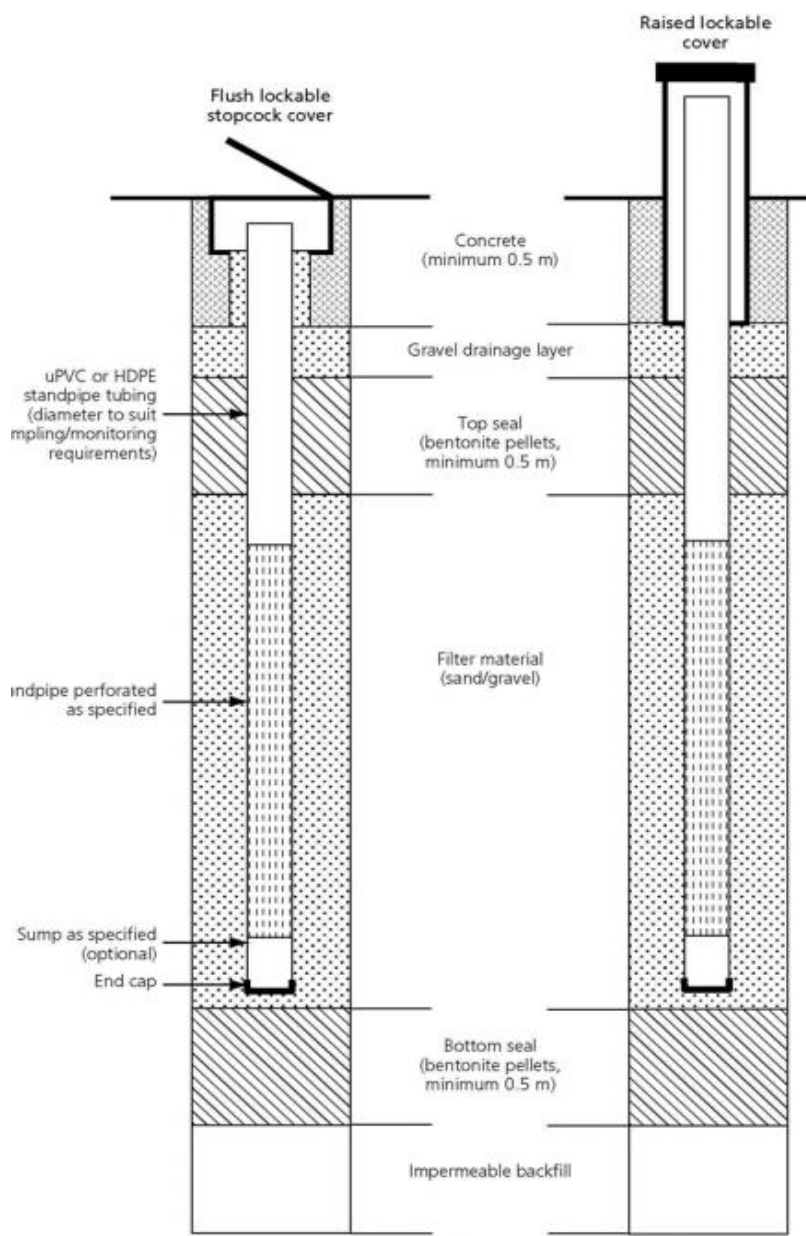


Figure 11.1. Schematic drawing of observation well installations, UK Specification for Ground Investigation, 3rd edition.