

## 1. Objective

- 1.1. This document is designed to provide a formal process for both Highway Authorities (HAs) and Statutory Undertakers (SUs) to follow when undertaking any core sampling, associated analysis and reporting in the Anglian HAUC area.
- 1.2. The information and details contained in this policy document do not override any requirements of the New Roads and Street Works Act 1991, Traffic Management Act 2004, Health and Safety legislation and any associated procedures.

## 2. Scope

- 2.1. The purpose of carrying out a coring programme by either a SU or a HA on SU street works reinstatements is to ensure that the Specification for the Reinstatement of Openings in Highways is being adhered to. Where failures are identified appropriate corrective action should be taken to rectify the situation and improve future standards.
- 2.2. Where an SU carries out a coring programme, the results of that programme should be presented to the HA; similarly if a HA carries out coring, the results should be presented to the SU.

## 3. Sample Selection

- 3.1. The selected number of sites shall give a representative sample for each HA area.
- 3.2. The number of sites shall be between 2% and 5% of openings after final reinstatement.
- 3.3. The minimum annual sample size should be 10 cores per SU in each HA area, if appropriate.
- 3.4. Sites shall be selected from a random sample of reinstatements within the life of the works and the guarantee period. A truly random sample should provide a representative distribution of road reinstatement categories and locations in the highway.
- 3.5. Either the SU or HA may carry out other investigatory works outside the random sample if specific concerns or disputes arise.

#### **4. Identification**

- 4.1. Those reinstatements selected for coring must be clearly identified using the SU NRSWA reference number. The promoting body may further identify the selection by one or more of the following options:
- a) By a circle approximately 75mm in diameter painted on each reinstatement.
  - b) By a photograph taken showing the circle painted on the reinstatement in relationship to its surroundings.
  - c) By a plan indicating the position of the reinstatement in the street.
  - d) By GPS location.

#### **5. Notification**

- 5.1. Coring works will be classed as minor works without excavation and not attract sample inspection fees.
- 5.2. However, coring to be undertaken on Traffic Sensitive locations requires noticing under the normal process described in the CoP for the Coordination of Street Works and Works For Road Purposes and Related Matters.
- 5.3. HAs and SUs will exchange nominated, named, client contact details to ensure regular advance liaison is available for inspection of coring in progress if required.

#### **6. Testing / Core Report Details**

- 6.1. Coring and testing will be carried out by a UKAS accredited coring provider.
- 6.2. An alternative coring company that are not UKAS accredited can be used only if agreed formally by the relevant authority and Undertaker.
- 6.3. The Promoting Body shall carry out the works in accordance with HS (G) 47
- 6.4. Reinstatements must comply with Specification. In general the following points may be checked and reported:-
- a) Overall bitumen layer thickness
  - b) Individual bitumen layer thickness
  - c) Material used
  - d) Sub –base / backfill compliance
  - e) Edge compliance

- 6.5. It is important to note that for identified cold lay materials the manufacturers recommendations should be followed as regards any time lag between laying of the material and any subsequent coring. The HA should contact the SU for manufacturers details if required
- 6.6. Cores of either 100mm or 50mm diameter size will be drilled to the full depth of bituminous material layers.
- 6.7. Core positions must be totally within the excavation and not in any part of the cutbacks or close to frames, where a full reinstatement depth core may be impossible.
- 6.8. Cores will not be taken where an obvious defect already exists.
- 6.9. Any other failures identified at a laboratory should be discussed separately and excluded from the results.
- 6.10. The following additional information will normally be provided
- a) SU NRSWA reference number and site number where appropriate as per Appendix E
  - b) Location address.
  - c) Date core taken.
  - d) Location details - carriageway, footway or cycle track.
  - e) Existing reinstatement category
  - f) Coring result.
  - g) Reason for failure.
  - h) Remedial action required
- 6.11. All sampling and testing shall be carried out by a laboratory holding current UKAS accreditation covering the specified method of testing and analysis. SROH S2.7.1
- 6.12. Reinstatement of core holes will be in accordance with SROH S11.5 Test Holes
- 7. Result Advice, Consultation and Reporting.**
- 7.1. All core samples shall be assessed against the SROH
- 7.2. SUs and HAs shall establish procedures for sharing detailed coring results on a regular basis.
- 7.3. The HA should notify the SU of coring results via ETON (passes and failures)

- 7.4. The core information results will be distributed to each HA or SU as appropriate. Core results and any relevant inspection / defect notice should be served relatively simultaneously.
- 7.5. When undertaking AHAUC Performance Reporting, the data held within this currently only refers to bound layers. However information relating to sub-base, backfill or edge compliance may be added at a later date should this be agreed by AHAUC.
- 7.6. All Cores taken must be individually bagged and identified (with an option to inspect).
- 7.7. Failed Cores will be retained for 4 weeks (unless otherwise requested) from the notification of results.
- 7.8. In instances where the HA has carried out coring and identified a failure, the information shall be forwarded to the SU with a covering letter detailing all cored sites and their results. Together with copies of the laboratory results etc.
- 7.9. Where road reinstatement categories have changed by agreement between relevant HA and SU, like for like can be adopted.

## **8. Failure action and associated actions**

- 8.1. The HA shall advise the SU that the reinstatement does not comply with the SROH. Where a core is identified as a failure but is found to be close to compliance, remedial action may be deferred to the end of the guarantee period or no remedial action required at the choice of the HA. However individual core costs may be charged for these failures, plus collated towards performance ratings.
- 8.2. The report on the coring results should contain the following information, along with all relevant references to the SROH to avoid 'misrepresented' failures.
- a) SU's NRSWA reference number for the reinstatement
  - b) Location
  - c) Road Type
  - d) Specification
  - e) Reason for Failure
- 8.3. It is recommended that the reporting procedures should include: -

- a) The number of cores taken indicated against the total number of notifications used to identify the sites. Including number of sites where coring not possible or abortive visit due to inaccurate registration details.
- b) The time period covering the permanent guarantee dates for the reinstatement cored.
- c) Details of the Company/Laboratory that undertook the coring together with details of the Company/Laboratory carrying out testing, together with confirmation of their UKAS Accreditation and approval.

8.4. A quarterly summary of the coring results shall be sent to the AHAUC Performance Reporting Officer in accordance with the AHAUC Performance Information document timescales.

## **9. Remedial Action**

9.1. Where the HA has carried out the coring then any failed cores will trigger the defect procedure and the normal follow-up regime and relevant charges will be applicable

9.2. Where a failed reinstatement is identified by a SU coring programme, the defect procedure will not be triggered by the HA. However, if remedial works are not carried within 3 months of analysis then the HA may if they so wish issue a defective reinstatement notice.

9.3. Normal notification procedures will apply for remedial works as specified within the Code of Practice for Co-ordination of Street Works and Works for Road Purposes and Related Matters.

## **10. Scope of Remedial Works and Resolution Process**

10.1. Where the core failure is on notified reinstatements 2 square metres or under, then the whole area is to be rectified.

10.2. Where the core failure is on notified reinstatements above 2 square metres, the SU can request from the HA permission to carry out additional cores to determine the scope of remedial works. Additional coring shall be undertaken using the '10% rule' detailed overleaf.

**10% rule example:**

A trench reinstatement 'x' metres in length has a single core (shown on diagram as core 1) taken at the trench mid-point, that is 0.5 of 'x'.

If core 1 fails, the SU can core 10% of the total length of the trench (10% of 'x') either side of core 1. These additional cores are shown on the diagram below as cores 2 and 3.

If both additional cores 2 and 3 fail then the whole reinstatement is deemed to have failed.

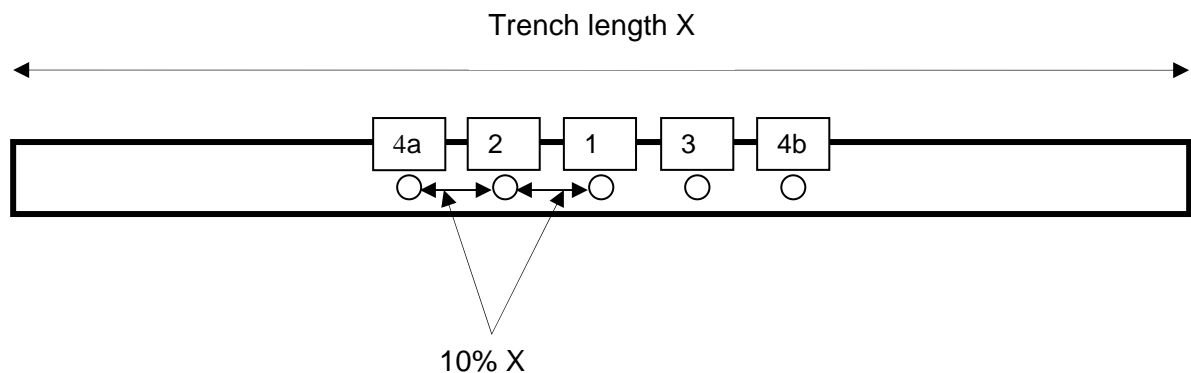
If both cores 2 and 3 pass, then the scope of remedial works is deemed to be the length between cores 2 and 3.

If core 2 fails, then a core, shown on the diagram as core 4a should be taken by the SU a further 10% of 'x' from the failed core 2. If core 3 fails, then a core, shown on the diagram as core 4b should be taken by the SU a further 10% of 'x' from the failed core 3.

Where core 2 has failed and core 4a has failed, or core 3 has failed and core 4b has failed then the whole reinstatement will be deemed to have failed.

If core 4a passes, then the scope of remedial works is the length between the two passed cores, which is 30% of 'x' or core 3 to core 4a.

If core 4b passes, then the scope of remedial works is the length between the two passed cores, which is 30% of 'x' or core 2 to core 4b.



- 10.3. Additional cores will be undertaken by the SU, but the HA may undertake the additional coring at the SU's request and expense.
- 10.4. Additional cores are to be undertaken by the agreed coring provider and analysed accordingly.
- 10.5. In order to agree the scope of remedial works, the HA may wish to be present to witness these additional cores and the SU should give ample advance notification. This attendance will be within accordance of a Defect (2) Joint Site Inspection.
- 10.6. Should the core pass then the reinstatement between both passed cores is to be rectified

## **11. Financial Arrangements**

- 11.1. In the case of reinstatements that do not comply with the Specification the Highway Authority will invoice their costs in accordance with those permitted under the New Roads and Street Works Act 1991 / Street Works (Recovery of Costs) (England) Regulations 2002

## **12. Options for trial holes**

- 12.1. Where, for example, compaction is considered to be unsatisfactory from a purely visual inspection, then trial holes or any other agreed method can be considered as an option.
- 12.2. If the HA or SU consider this as an alternative then the notification process at 5. above must be adhered to.