

SCRUTINY MANAGEMENT BOARD

MEETING - MONDAY NOVEMBER 7 2011

Pothole Repairs and the Quality of Repairs

1. **Purpose**

- 1.1 Following the Scrutiny suggestions, questions and comments received, this paper aims to provide a background understanding on pothole repairs and to give an initial response to the comments raised. In turn, it is hoped that this paper will assist in determining any course of action which the Scrutiny Management Board may request.

2. **Background**

- 2.1 **What is a pothole?** Potholes happen when the road surface breaks up to expose the layers beneath. Traffic is one factor but the main cause is water freezing and thawing during the winter. Although road and footway surfaces are all porous, water builds up on the surface. This creates pressure and results in holes forming from below. Potholes can develop very quickly and it is often impossible to predict where they will appear, although there may be regular patterns on some road sections. Potholes do not mean there's a problem with the road construction.

- 2.2 **How to fix them permanently?** Wherever possible the Council will make permanent repairs to potholes. The teams will excavate a larger area around the pothole, fill in the hole with bitumen macadam and compact it or use our innovative Pothole Busting machine. The machine uses infra-red to heat up the material around the pothole it then adds bitumen macadam, re-levels and then compacts the whole patch.

When permanently reinstating in bound materials i.e. tar macadam, the sides of the opening should be vertical and not 'V' or 'A' shaped. However ideally a reinstatement should be 'stepped and overlapped' between layers, therefore the opening at the bottom of the reinstatement is smaller than that at the surface, basically a stepped 'V'.

- 2.3 **Why do we make a Temporary Fix?** On occasions, repairs are carried out when the road is scheduled for resurfacing or programmed patching work in the coming weeks and months.

They are also carried out when temporary road closures/diversions or substantial traffic management is required to provide a safe working environment for permanent repairs to be made. This takes time to arrange so a temporary repair removes the hazard in the interim period.

When undertaking temporary repairs, in order to remove a hazard quickly, it is acceptable for the sides of any reinstatement not to be vertical. In all cases however tack coat i.e. bitumen sealer should be applied to all surfaces against which the tar macadam is to be laid.

- 2.4 **How is a repair sealed?** Highway authorities and their contractors have to take care to ensure, that the seal between old and new surfacing does not create a hazard for cyclists and motorbike riders. Due to a number of well documented accidents that occurred throughout the country, through the lack of skid resistance of a bitumen sealant, the practice of over banding or surface sealing of the joint ceased. The reliance to ensure a good seal being placed upon the sides of the excavation as outlined above.

However, it has taken the industry a number of years to come up with suitable solutions, bitumen tape and resin sealant impregnated with fine stone aggregate, are just a couple of the treatments now available. All have to comply with DFT specifications before they can be widely used on the highway.

The council is currently trialling a process of cold applied resin containing graded aggregates and is also intending to trial heat applied tape containing graded aggregates. It must be noted that over banding products should not be used on bends or in braking areas of junctions etc, where the most grip from vehicle tyres are required, due to their relatively low skid resistance properties.

- 2.5 **Can Tarmac be laid hot or cold?** Tar macadam can be laid hot and cold, depending on circumstances and suitable materials. The council uses hot tar macadam for all permanent repairs and depending on the ambient air temperature and road surface temperature, care must be taken to ensure that the material is laid as quickly as possible, as a hot material can rapidly cool. The council only uses cold lay products on some of its temporary repairs, particularly when an urgent repair is required or on busy stretches of road when traffic management restrictions dictates the need for a temporary repair
- 2.6 **What should a quality job look like?** Due to the condition of the surrounding road surface, it is not always possible to achieve a straight or vertical joint, however in the majority of road surfaces this should be possible.

Depending on the depth of the reinstatement and road type, it is not always necessary to use unbound granular sub base materials as a base for tar macadam, but they are used when required and depths allow.

If potholes are identified as being sub standard by a Member, Parish or community, it would be difficult without knowing specific locations, how to respond to individual examples. Therefore if they reported, it is important to gather as much detail as possible on the location. It must also be noted that the methods used when reinstating an unclassified lane differ to those used when reinstating main carriageways and estate roads

- 2.7 **Are Pothole repairs inspected?** Not all are inspected but random checks are carried out by the council and any remedial works identified are rectified by the contractor at their own expense. In addition, all reports of sub standard reinstatement are investigated and those reinstatements found to be sub standard, are again rectified by the contractor at their own expense.

All repairs carried out by the councils contractor are covered by a 12 months maintenance period, subject to the failure be attributed to poor workmanship.