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Consultation on the Use of Narrow Trenching in Scotland's Roads

October 2018

Foreword From Cabinet Secretary for Transport, Infrastructure and Connectivity, Michael Matheson MSP

We are all reliant, to some extent, on the range of services provided by the telecoms, electricity, gas and water industries. I'm sure that it won't have escaped your attention that a lot of work is being undertaken to ensure that every home and business has access to superfast broadband. The Scottish Government is committed to ensuring this happens by the end of 2021.

Utility companies operate in a competitive market. They are continually looking for ways to improve efficiency and reduce costs to keep ahead of their competitors. This includes looking at new methods to improve the rollout of services. One of these is narrow trenching. While this technique can offer many advantages over traditional methods, a consistent approach is required to ensure that there are sufficient safeguards in place to protect the existing road network as an asset.

The Scottish Government is launching this consultation to seek your views on which technical parameters should be applied to "narrow trenching" to help ensure this method is carried out consistently across all of Scotland's 33 road authorities for the benefit of our road network, the other utility apparatus already placed under our roads and pavements, and ultimately for the benefit of the people of Scotland either as road users or service users.

I invite responses, particularly technical views on the necessary provisions to be applied to narrow trenching techniques.



Michael Matheson
Cabinet Secretary for Transport, Infrastructure and Connectivity

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1 Responding to this consultation

About this consultation

1.1 Consultation is an essential part of the Scottish Government's policy making process. It gives us the opportunity to seek your opinions. This consultation sets out the issues under consideration and asks you questions about what we are proposing. After the consultation is closed we will publish responses where we have been given permission to do so.

1.2 Responses are analysed and used as part of the policy making process, along with a range of other available information and evidence. Responses to this consultation will help to shape the proposed revisions to the "Specification for the Reinstatement of Openings in Roads 2015 ("SROR") which is a ministerial code of Practice, hereafter referred to as ("the code")

Deadline

1.3 The consultation closes at midnight on 7 December 2018.

How to respond

1.4 To encourage wide participation, the Scottish Government has created a number of ways for you to engage in the consultation. You can respond online, by email or by post.

1.5 The consultation will also be available in alternative formats on request, including large print, Braille and easy read.

Respond online

1.6 To respond online please use the Scottish Government's Consultation Hub, [Citizen Space](#). You can save and return to your response at any time while the consultation is open. But please ensure that your response is submitted before the consultation closes at midnight on 7 December 2018.

1.7 You will automatically be emailed a copy of your response after you submit it. If you choose this method you will be directed to complete the Respondent Information Form. The Respondent Information Form lets us know how you wish your response to be handled, and in particular whether you are happy for your response to be made public.

1.8 You can also complete the response form at Annex B, and either scan this and send it by email, or send it by post to the address given below.

Table of response methods

| | |
|--------|--|
| Online | You can use the response form on the Scottish Government's Consultation Hub, Citizen Space . |
| Email | Send us your response in by email Please include the Respondent Information Form. |
| Post | Send your response in English to: Utility Road Works Policy Team Transport Scotland Area 2F-North Victoria Quay Edinburgh EH6 6QQ Please include the Respondent Information Form. |

1.9 With each of these methods you need to include your Respondent Information Form because this lets us know how you wish your response to be handled, and in particular whether you are happy for your response to be made public.

1.10 You can find this in Annex B below.

Next steps

1.11 After the consultation has closed we will analyse all the responses received and use your feedback to help shape changes to the code. Where permission has been given, we will make all responses available to the public on [Citizen Space](#). The responses to the consultation and analysis will be published in due course.

Need assistance?

1.12 If you need support in answering this consultation or alternatively have a query about the consultation process, or a complaint about how this consultation has been conducted, you can send your query:

- by [email](#)
- or by writing to:

Road Works Policy Team
 Transport Scotland
 Area 2F-North
 Victoria Quay
 Edinburgh EH6 6QQ

Narrow trenching guidance within the current code

1.13 This consultation seeks opinion on a proposed revision to the code which is made under Section 130 of the New Road and Street Works Act 1991("NRSWA"). The Scottish Government believe a revision to the code is now necessary to take into account the increasing use of narrow trenching as a method of installing new apparatus – particularly broadband apparatus throughout Scotland.

1.14 At present the code allows for narrow trenching in the carriageway, footway or verge, and defines it as "all trenches of 300mm surface width or less, with a surface area greater than two square metres". Despite this, narrow trenching has remained a relatively little-used excavation technique with traditional trench methods still being employed in most cases. With the development of more compact fibre cables for the delivery of broadband services, the telecoms sector in particular has revisited narrow trenching with new innovative methods to install fibre networks using thinner 'narrow trenches', reducing the level of excavation required and therefore increasing the speed of delivery.

1.15 While this technique can be used under the existing code, no single section directly deals with this method. This leaves the prescribed requirements difficult to assess and open to different interpretations. Introducing a new section which pulls together all of the necessary requirements will provide much needed clarity on the subject.

1.16 Without sufficiently clear safeguards there is a potential for damage to the road surface as an asset. Although there are clear benefits to narrow trenching in terms of speed of delivery and therefore cost to the organisation, it is recognised that this cannot be at the expense of the road as a maintainable asset.

1.17 Both 'Slot cutting' and 'Micro trenching' are entirely precluded by the code. These terms have seen an increase in use in the rest of the UK without an agreed definition. This has led to the terms being used as both an alternate term for narrow trenching and as separate excavation techniques which lie outside of the SROR

1.18 Without specific clarification, the unchecked use of these separate terms on an inconsistent basis could lead to confusion when discussing road works in Scotland.

1.19 Alternate arrangements for the prescription of excavation techniques exist elsewhere in the UK.



Figure 1 - Operative standing on a traditional pavement, beside a 100 mm narrow trench



Figure 2 - Traditional trench methods showing a large exposed area

2 Objectives of the revision

2.1 The key objectives for the revision include:

- Bringing greater focus to the existing requirements for narrow trenching, helping to safeguard the road as an asset
- Make the current provisions clearer and less subjective
- provide certainty to utility companies and road authorities

Avoid the need for additional trials and protracted voluntary agreement procedures.

2.2 The road works community in Scotland has a history of jointly agreeing best practice and coming together to devise and agree new prescriptions for partnership working on Scotland's roads. Where this involves a change to a statutory code of practice, formal Scottish Government processes are engaged requiring a level of public consultation

2.3 Informal agreements can often be made quickly with individual road authorities, however the lack of specific formal guidance can lead to additional ad-hoc arrangements made at site level. This can lead to inconsistency on the approach taken Scotland wide.

Proposals at a glance

What changes are proposed?

Scottish Government proposes that the code should have a new section as part of the wider document which provides the required clarity and guidance on the use of narrow trenching. This would include making specific reference to the tolerances and requirements already existing within the code, as well as tightening the definition of narrow trenching to include reference dimensions.

The consultation will help inform the final revisions to the code with regard to methodology, material use and any essential safeguards or limitations on use or scope of narrow trenching where this is necessary.

The following technical requirements are discussed:

- Minimum width
- Intervention limits
- Minimum depth of cover
- Base/binder material
- Evidence of correct depth
- Restrictions on placement
- Presumption in favour of mole-ploughing
- Ground conditions
- Signing, lighting, and guarding
- Encounters with rock

Transport Scotland Policy
July 2018

Annex A

Background to narrow trenching as a technique

- 2.4 Narrow trenching is not currently precluded by the SROR, however its use is not prescribed in detail. At present the SROR deals with narrow trenching as a special case of traditional trenching with specific caveats with regards testing and tolerances for different road types.
- 2.5 Given the increased proclivity of narrow trenching as a technique, additional restrictions have been agreed nationally via the Roads Authorities and Utilities Committee (Scotland) ('RAUC(S)'). This was largely in response to a proposed wide scale rollout of the technique by a telecoms operator as part of an earlier large scale infrastructure project¹
- 2.6 RAUC(S), at a national level, provides practical co-ordination advice, technical guidance and allows for the face to face co-ordination of works. RAUC(S) provides an overview of activities carried out on roads under the 'Street Works' element of the New Roads & Street Works Act 1991 (NRSWA) as amended by the Transport (Scotland) Act 2005. Although not formally constituted, it is attended by key stakeholders of the road works community including representatives of the Roads Authorities (including Transport Scotland) and of the Scottish Joint Utility Group (SJUG) along with representation from other organisations such as the oSRWC (office of the Scottish Road Works Commissioner) and Network Rail. This group represents the interests of the overall road works community in Scotland.
- 2.7 RAUC(S) terms of reference were updated to include supporting the Scottish Road Works Commissioner after the post was established in 2005. RAUC(S) agree to "provide support and advice to the Scottish Road Works Commissioner (SRWC), with a view to improving the planning, co-ordination and quality of road works in Scotland". The SRWC may choose to endorse any RAUC(S) advice notes or non-statutory codes of practice as best practice.
- 2.8 RAUC(S) members agreed to the wider use of narrow trenching in 2016, subject to the certain mutually agreed conditions:²³
- Laid at a normal depth of cover of 450mm in Type 3 and 4 roads
 - Traditional trench methods used in Type 1 and Type 2 roads

¹<http://www.virginmedia.com/corporate/about-us/our-key-projects.html>

²<https://webarchive.nrscotland.gov.uk/20170401011025/http://www.roadworksscotland.gov.uk/nmsrun/time/saveasdialog.aspx?IID=1793&SID=29>

³<https://webarchive.nrscotland.gov.uk/20170401011025/http://www.roadworksscotland.gov.uk/nmsrun/time/saveasdialog.aspx?IID=1811&SID=29>

- A modified compactor used achieving twice the compactive effort of the unmodified version
 - The reinstatement is carried out using foamed concrete to the existing standard specification
 - Cut back will be used where required. Conventional granular fill can be used
 - A metallic ribbon is laid above the ducts so that it can be located by others prior to their excavation
 - Narrow trenching defined as 75mm – 100mm width
 - A twin saw head is used to cut the surface with conventional excavation used to remove the material to a depth of 250/260mm
- 2.9 Following these voluntary stipulations, the use of narrow trenching was deployed as part of the roll out of the earlier infrastructure project across Scotland. In order to formalise these stipulations, a change is required to the SROR

Annex B

Consultation responses

Part one - Respondent Information Form

PLEASE NOTE THIS FORM MUST BE RETURNED WITH YOUR RESPONSE.

Are you responding as an individual or an organisation?

- Individual
 Organisation

Full name or organisation's name

Phone number

Address

Postcode

Email

The Scottish Government would like your permission to publish your consultation response. Please indicate your publishing preference:-

- Publish response with name
 Publish response only (anonymous)
 Do not publish response

We will share your response internally with other Scottish Government policy teams who may be addressing the issues you discuss. They may wish to contact you again in the future, but we require your permission to do so. Are you content for Scottish Government to contact you again in relation to this consultation exercise?

- Yes No

Part two – questions on options

Changes to the SROR

Should there be a minimum width for narrow trenching, and if so what should that dimension be?

We believe it may be necessary to provide a legal minimum width for narrow trenching so that any backfill is properly compacted and to provide the necessary protection for surrounding apparatus. We are minded to set this at no less than 75mm, but would welcome views on this.

Question 1

Do you agree there should be a minimum width for a narrow trench? Yes No

Please use the box below to provide details of your answer. If you answered yes, please specify a minimum width with a justification for your suggestion.

My comments:

What should the intervention limits for narrow trenching be?

Intervention limits are the technical tolerances which are applied to a reinstatement to judge whether it is within acceptable standards. These are normally visual assessments of the area to check items such as the level of settlement or how flush the new reinstatement is compared to the original road etc. The current intervention limits can be found in sections 2, 6, 7 and 8 of the code. Are these existing intervention limits in the code sufficient for narrow trenching? Or do we need additional intervention limits specific to this technique.

Question 2

Do you think that the existing intervention limits in the current code are sufficient for narrow trenching? Yes No

Please use the box below to provide details of your answer. If you answered no, please provide details of any additional intervention limits you believe should be included, with a justification for your suggestion.

My comments:

What should the minimum depth of cover for narrow trenching be?

The minimum depth at which apparatus is buried (measured from the surface of the road) is often referred to as the depth of cover. This is particularly important for others digging in the road so that they know at what depth they may encounter certain utility apparatus. While there is existing guidance on the depth of cover apparatus should have, this is not formalised within the existing code. Should the code, therefore, specify a minimum depth of cover for narrow trenching, and what should that be?

The material between the apparatus itself and the running surface of the road is made up of several layers and supports the imposed load from the traffic above. Should narrow trenches be bound to the current list of allowable materials for traditional trenches or should there be a preferred material type for any or all of the layers of the new reinstatement, and if so what should they be?

It may help provide greater protection for installed apparatus, and provide a degree of reassurance for roads authorities if utility companies had evidence that the apparatus had been installed with the appropriate depth of cover. We would welcome suggestions on what this evidence might entail. It could be as simple as a series of records/photographs showing the depth of the apparatus before any backfill, or there may be more advanced technological solutions to this.

Question 3(a)

Should the code specify a minimum depth of cover for narrow trenches? Yes No

Should the current informal guidance on depth of cover more generally be incorporated into the code? Yes No

Please describe any suggestions for a minimum depth of cover to be applied to a narrow trench. Please use the box below to provide details of your answers.

My comments:

Question 3(b)

Preferred material for some layers? Yes No

Preferred material for all layers? Yes No

Please use the box below to provide details of your answer, providing suggestions for preferred materials.

My comments:

Question 3(c)

Should the code specify a means of keeping/providing evidence that the apparatus has been installed at the required depth of cover?

Yes

No

Please use the box below to provide details of your answer, providing suggestions for any means of evidencing the installation of apparatus at the required depth of cover.

My comments:

Placement of narrow trenches?

Should the code specify where narrow trenching can be used?

For example, should narrow trenching only be permitted in virgin ground where there is little or no other apparatus. This might imply it could be a more useful technique in a rural setting, or in an urban setting there may be relevant considerations such as whether there should be a restriction on where in the carriageway any narrow trench can be placed either in relation to the centre-line or other apparatus, or should narrow trenching (in an urban setting) only be permitted to facilitate a necessary road-crossing (from one verge/footpath to another for example)?

Question 4

Should the code specify a means of keeping/providing evidence that the apparatus has been installed at the required depth of cover?

Yes

No

Please use the box below to provide details of your answer, providing suggestions for any means of evidencing the installation of apparatus at the required depth of cover.

My comments:

Should there be a presumption in favour of trenchless pipe laying where possible?

Should the code require tunnelling techniques such as mole-ploughing be the preferred method of installation in carriageway crossings? It might be beneficial for the code to require that where new apparatus is to be installed primarily in footpaths or verges, with narrow trenching used only to undertake road crossings rather than to lay new apparatus underneath the carriageway itself, that tunnelling techniques be the preferred option over narrow trenching.

Should narrow trenching for road crossings only be employed where a tunnelling technique such as mole-ploughing cannot be achieved for engineering reasons? We believe that greater use trenchless pipe laying where narrow trenching is the proposed installation method of installation may better protect the road asset.

Question 5

Should the code require that trenchless pipe laying be the preferred method of installation over narrow trenching? This would restrict narrow trenching to only being used where trenchless pipe laying cannot be achieved.

Yes No

Please use the box below to justify your answer.

My comments:

Ground conditions

There are large parts of Scotland where the natural landscape presents challenges to the engineering solutions required to install utility apparatus. The issues raised may be particularly acute in a narrow trench and therefore present an even greater risk to the fabric of the surrounding road asset. This might include where areas of peat, granite or other types of challenging ground are encountered. These types of ground are discussed and defined in s2.5.2 of the current code.

Question 6

Should narrow trenching be Prohibited where certain ground conditions are encountered? Yes No

Please use the box below to justify your answer providing details on any restrictions on ground conditions you feel ought to apply.

My comments:

Site safety – signing, lighting and guarding

As narrow trenching is intended to be a faster method of installing apparatus, it may be the case that setting up and taking down the site in line with the current code of practice on site safety (“Safety at Street Works and Road Works a code of Practice”) takes proportionately more time than at a site with a traditional trench. There may be a temptation to cut corners to speed up the process. This perhaps raises a question over whether the current safety code is adequate or does narrow trenching need specific requirements?

Question 7

Is the current safety code adequate for narrow trenching?

Yes

No

Please use the box below to provide details of any specific safety considerations for narrow trenching.

My comments:

Encounters with rock

Buried and shallow rock are generally unknown until excavation work begins. It is therefore not possible to make a site based assessment of works which accurately pinpoints where rock might be encountered.

If rock is encountered should the code require those installing apparatus using a narrow trench to cut a slot where rock is encountered to ensure the minimum depth of cover is maintained? or should a shallower minimum depth be allowed where rock is encountered, subject to an appropriate notification method?

As this would require local authority agreement under an advice note endorsed by the Scottish Roads Work Commissioner (Advice Note 21), should the requirement under the code be for the utility company and roads authority to hold a joint site meeting before works can proceed?

Question 8

Should there be a requirement to cut a slot where rock is encountered?

Yes No

Should the code require that apparatus be laid at a shallow depth when rock is encountered, subject to an appropriate notification method?

Yes No

Should there be a requirement to stop works and hold a joint site visit as soon as rock is encountered?

Yes No

My comments:

Are there any other issues you wish to raise which are not covered above?

The Scottish Government welcomes any further comments and suggestions on the proposal and how it might be improved or made more sustainable.

Question 9

Do you have any other comments about any of the issues raised in this consultation? Yes No

If so, please use the box below to provide details.

My comments:

Part three - assessing impact

Equality

1. In considering possible changes to the code the public sector equality duty requires the Scottish Government to pay due regard to the need to:
 - eliminate discrimination, victimisation, harassment or other unlawful conduct that is prohibited under the Equality Act 2010
 - advance equality of opportunity between people who share a protected characteristic and those who do not; and
 - foster good relations between people who share a relevant protected characteristic.

1.1 These three requirements apply across the 'protected characteristics' of:

- age
- disability
- gender reassignment
- marriage and civil partnership
- pregnancy and maternity
- race
- religion and belief; and
- sex and sexual orientation

1.2 At this early stage it is difficult to determine whether significant effects are likely to arise and the aim of the Scottish Government is to use this consultation process as a means to fully explore the likely equality effects, including the impact on children and young people.

1.3 Once completed the Scottish Government intends to determine, using the consultation process, any actions needed to meet its statutory obligations. Your comments received will be used to complete a full Equality Impact Assessment (EQIA) to determine if any further work in this area is needed.

Question – equality impacts

Are there any likely impacts the proposals contained within this consultation may have on particular groups of people, with reference to the 'protected characteristics' listed above? Please be as specific as possible.

Question – children and young people

Do you think the proposals contained within this consultation may have any additional implications on the safety of children and young people?

Business and Regulation

1.4 A Business and Regulatory Impact Assessment (BRIA) will analyse whether the proposals are likely to increase or reduce the costs and burdens placed on businesses, the public sector and voluntary and community organisations.

Question – business impacts

Do you think the proposals contained in this consultation are likely to increase or reduce the costs and burdens placed on any sector? Please be as specific as possible.

Privacy

1.5 A full Privacy Impact Assessment (PIA) will be conducted to ascertain whether our proposals on a revision to the code may have an impact on the privacy of individuals.

1.6 Although it seems unlikely, at this early stage it is difficult to fully determine whether significant privacy impacts are likely to arise and the aim of the Scottish Government is to use this consultation process as a means to fully explore the likely privacy effects.

Question – privacy impacts

Are there any likely impacts the proposals contained in this consultation may have upon the privacy of individuals? Please be as specific as possible.



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