

department for
**culture, media
and sport**

Microtrenching and Street Works: An advice note for Local Authorities and Communications Providers.

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Our aim is to improve the quality of life for all through cultural and sporting activities, support the pursuit of excellence, and champion the tourism, creative and leisure industries.

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Section 1: Executive Summary

- 1.1. The UK has set itself the target of having the best superfast broadband network in Europe by 2015. Achievement of this aim is essential if we are to grow our economy and take advantage of efficiencies gained from more effective use of ICT. Improved communications infrastructure is integral to this policy.
- 1.2. In the UK, upgrading broadband infrastructure will be largely market-led, with BT investing £2.5bn to deliver superfast broadband to approximately two-thirds of the country by 2014. Virgin Media have been upgrading their infrastructure, as well as increasing their footprint, and by 2012, their 100Mbps service will be available to their entire network. Other operators are also delivering high-speed services.
- 1.3. However, we recognise there will be areas of the country to which the market unaided will not deliver. Government has secured £530m until 2015 to help stimulate investment in these areas. These funds will be distributed by Broadband Delivery UK (BDUK) to local authorities, on condition that local broadband plans and match funding are in place. Local authorities, therefore, have an integral role to play in the roll-out of superfast broadband by ensuring their area is able to compete and grow the UK economy, and by developing local broadband plans for the areas within authorities that will not be served by the market.
- 1.4. In order to enable the market to deliver as far as it can, we are committed to providing the right policy and regulatory framework. This will provide certainty to market participants to encourage investment, lower the cost of deployment and remove barriers to investment.

- 1.5. This advice note seeks to remove barriers and provide certainty. Firstly, the note seeks to enable communications providers and highways authorities to agree on the best use of microtrenching. Microtrenching is an innovative deployment technique that is generally cheaper, less disruptive and quicker than conventional dig techniques. However, consideration needs to be given to where and when it is used. Secondly, to highlight flexibilities in the existing streetworks regime which could enable more rapid deployment of networks by utilities (including communications providers). Nevertheless, it should be recognised that this document only contains advice and communications providers and local and highways authorities are under no obligation to adhere to its contents.
- 1.6. The advice in this note is largely based on legislation in England and Wales, but the general principles should be able to be applied across the UK.

Microtrenching

- 1.7. Microtrenching is an innovative deployment technique that is lower cost, quicker and more environmentally friendly than traditional deployment. However, these advantages must be balanced against the impact that its use may have on the highway. The recommendations in this advice note seek to address some of the key areas of concern when deploying networks using microtrenching, and to suggest further areas of work:
- Where possible, existing infrastructure should be used – whether this is BT Openreach’s network of ducts and poles, the electricity distribution network, or other more suitable utility infrastructure such as the sewer network.
 - Networks installed by microtrenching should be at a minimum depth of 175mm. Where this is not possible, communications providers should work with highways authorities to determine whether a more shallow depth is feasible.
 - In general, microtrenching should only be used in roads that provide a Bound layer of 325mm.
 - A reinstatement specification should be developed with the aim of including this in the next revision of the Code of Practice guidance note “Specification for the Reinstatement of Openings in the Highways”.

- Accurate records of all infrastructure are kept in accordance with existing legislation and that communications providers should ensure a method of detection is used when deploying networks using microtrenching.

Street works

- 1.8. In order to ensure the street works regime do not present a barrier to the roll out of infrastructure projects, such as superfast broadband, the recommendations in this advice note seek to address issues in two key areas – the coordination of street works and the use of permit schemes:
- All utility companies should share plans well in advance and authorities should act on this information to maximise the opportunities for joint opening of highways.
 - Authorities should consider how other street work coordination tools such as early starts and exemptions for small footway excavations could be applied to economically important infrastructure developments, such as broadband.
 - Authorities and utilities should also consider whether installing new ducting in parallel with other planned works would be appropriate.
 - Authorities should consider whether the definition of ‘Major Works’ applies to broadband, given the majority of the works do not involve opening the highway.
- 1.9. We believe these recommendations and suggestions for further work will provide highways and local authorities with a sound basis with which to consider how best to maximise the opportunities provided through the roll out of major economically important infrastructure projects such as superfast broadband, and addresses some of the key areas that will speed up deployment and provide greater certainty for the market.
- 1.10. We are committed to reviewing this advice note in the light of evidence and feedback, and whilst this is not a formal consultation, we would welcome comments on this.

Section 2: Why is this advice note needed?

- 2.1. Improving the UK's communications infrastructure is integral to our ability to grow our economy and compete on a global scale. Improved connectivity changes the way we do business, use and deliver public services and consume entertainment. The UK currently has one of the most competitive broadband markets and one of the highest levels of take up across Europe, as a result of effective regulation and investment from the market.
- 2.2. The challenge is to take this to the next stage, and the UK Government's ambition is for the UK to have the best superfast broadband network in Europe by 2015. This will be achieved in two ways – ensuring the right regulatory and policy conditions to allow the market to invest in superfast broadband networks as far as possible, and a funding scheme to stimulate investment in the areas of the country that the market will not deliver to alone. Both of these factors combined will deliver superfast broadband to at least 90% of households in local authority areas with the rest receiving at least 2Mbps.
- 2.3. Reducing the cost of deployment is one of the key areas to create the right conditions for investment. Up to 80% of the cost of deployment is in the civil works, so deployment techniques that lower the cost of deployment, such as microtrenching or enabling new overhead infrastructure are important. Government is committed to ensuring that communications providers have the tools with which to enable communications companies to deploy superfast broadband networks as far as commercially viable.

- 2.4. The Government set out a presumption in favour of sustainable development at Budget 2011, as part of the Growth Review. In terms of broadband deployment, this presumption simply means that unless there is a good reason not to allow deployment of superfast broadband networks, deployment should be allowed. This is consistent with the National Planning Policy Framework (NPPF), which the Government began consultation on in July. The NPPF will consolidate some 1000 pages of planning regulations into one overarching Framework that will support neighbourhood and local planning decisions.
- 2.5. Local authorities are fully aware of the importance of superfast broadband as an enabler to grow the economy and to deliver greater efficiencies in the delivery of public services, particularly in health and education. With virtually all local authorities engaged in the Broadband Delivery UK (BDUK) process for accessing their Local Authority share of the £530m Government has set aside to help deliver superfast broadband in areas the market will not deliver to unaided, Government is keen to ensure that local authorities are considering ways in which they could be flexible to aid the market deployment of superfast broadband. This could be considering innovative deployment techniques such as microtrenching, or considering what more can be done around street work coordination, the role of street work permit schemes, or how planning processes may be simplified to allow greater deployment.
- 2.6. However, the roll-out of superfast broadband also needs to be planned and managed in a way that avoids unnecessary disruption and other adverse impacts on our road networks, because (i) street works contribute to congestion that costs the economy and society an estimated £4.2bn a year; and (ii) where works are not carried out to a good standard, in line with statutory requirements and generally accepted working practices, this can result in long-term damage to the highway which ultimately falls to the local authority to put right. Authorities should also take note of the risk of damage and cost of subsequent repair of the fibre network.
- 2.7. The purpose of this advice note is to assist local authorities in ensuring that their approach to street works management strikes the right balance between facilitating the roll-out of necessary new infrastructure and minimising the adverse impacts of those works.

- 2.8. To assist local authorities and communications providers, this advice note covers three areas:
- micro-trenching;
 - coordination powers under the New Roads and Street Works Act 1991 (“NRSWA”);
 - permit schemes under the Traffic Management Act 2004
- 2.9. The advice note includes some recommendations aimed at communications companies and local authorities who are seeking to facilitate deployment of new infrastructure such as superfast broadband. We believe Local Authorities have a key role to play in shaping the future of the communications network in the UK, and these are key issues that should be considered.

What is microtrenching?

- 2.10. Microtrenching (or slot-cutting) is an innovative technique that can be used to deploy communications infrastructure, typically fibre optic cable, in highways. Under the right circumstances the technique has the potential for low-impact deployment methodology in which fibre optic cable and sometimes conduits are laid into a slot-cut trench less than 20mm wide, and typically between 120-300mm deep, without disrupting or damaging existing infrastructure in the highway. The trench is then reinstated, often making it difficult to even notice that works have taken place.
- 2.11. Using this method can save considerable time in deployment, as well as using fewer resources, and can have a reduced environmental impact, with less waste removed from trenches or transported to the site for backfill. Traditional construction methods typically cost in the order of £75-125 per metre and a single gang will typically complete 30-50m a day. Microtrenching uses approximately one hundredth of the material needed to backfill the trench and where the technique is appropriate typical costs are in the order of £10-15 per metre and a single gang will typically complete 150-200m per day. A more costly variation is to lay a small duct (approx. 15mm OD)

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and then blow fibre through the duct. Whilst more expensive initially, this is potentially easier to maintain and repair.

- 2.12. This makes microtrenching an attractive proposition for communications companies who are looking to deploy superfast broadband networks. This technique will allow much more fibre to the home (FTTH) deployment to take place, bringing much needed increased capacity and greater reliability to rural areas.

Picture of recent microtrench in Chelmsford, Essex. ©Vtesse Networks

- 2.13. It should be noted that microtrenching may not be suitable in all types of roads, and any deployment will depend on the composition of the road and the location of existing buried infrastructure. This is because there is greater risk of plant being damaged, and in certain road types (such as concrete and evolved roads), it may not be possible to reinstate the road in a manner that preserves the long term integrity of the road structure.

- 2.14. Microtrenching is most likely to be suitable in roads with a significant depth of bound construction and well defined Road Base, Binder Course and Surface Course layers. The position of any trench in the road is also a key consideration with the greatest risks of problems arising where trenches run in defined wheelpaths.
- 2.15. The use of microtrenching is also not appropriate for direct connections to individual premises in footways, as the lack of construction is likely to give rise to significant damage and increase the risk of accidents for pedestrians, for which the local authority would incur the risk of liability.
- 2.16. However, despite these limitations, we believe the use of microtrenching still has a role to play in aiding the roll out of superfast broadband networks, particularly in providing point to point connections in the middle mile of the network – for example bringing the network to the outskirts of the urban environment or other point of presence in the network,. The next section sets out the key issues with microtrenching and the likely actions that will be necessary to mitigate these, particularly the types of road where microtrenching will be possible, the position in the road and the reinstatement specification that should be used.
- 2.17. Many local and highways authorities have a number of reservations regarding the practice, primarily around consistency of deployment, potential liabilities and integrity of the highway or footway. As a result, many communications providers have struggled to use this method of deployment widely, with negotiations with the local and highways authorities sometimes taking a number of years to resolve. This advice note is intended to set out what some of the key issues are and how they may potentially be resolved so all parties are content and enable more deployment to take place, more quickly.

Street works

- 2.18. The New Roads and Street Works Act 1991 (NRSWA) includes powers for Highway Authorities to coordinate street works. Effective coordination of works in the street depends on works promoters providing the local highway authority with high-quality advance information about their proposed works, and highway authorities acting on that information to identify opportunities for planned works to be coordinated.
- 2.19. More recently, the Traffic Management Act 2004 introduced Permit Schemes in order to allow local authorities greater control over how they manage congestion in the road network. It is for local authorities to consider whether operating a permit scheme would deliver overall benefits for their communities. Currently, if a local authority wishes to run a permit scheme, they must apply to the Secretary of State for Transport for approval. The cost of permits is intended to cover the cost of running the scheme. Currently, Transport for London and most of the London boroughs have implemented a permit scheme, as have Kent and Northamptonshire.
- 2.20. Some communications providers (and other utilities) have expressed concerns about the consistency of application of permit schemes by different local authorities. Permit Schemes by their very nature will be individual based on the network conditions and aspirations of each local authority as this is the essence of “localism”. However, this part of the advice note, whilst not constituting legal advice, is intended to clarify what the relevant legislation is and to highlight where there may be some flexibility for local authorities to ensure such schemes do not present an unnecessary barrier to deployment.

Section 3: Microtrenching. What are the key issues and potential solutions?

- 3.1. Despite its potential to lower the cost of deployment for superfast broadband, there are a number of key issues that have affected its widespread deployment to date. We do not believe that all of these are insurmountable, and can be overcome with cooperation between Local/highways authorities and communications providers. There are a number that we believe will require some degree of best practice and standardisation across local authority areas and communications providers, providing certainty for both authorities and providers, which can only aid investment decisions. Below is a brief summary of each key issue or suggested best practice, and suggested solution – whether that is a short-term measure with a longer term option, or an immediate consideration.
- 3.2. Local Authorities should be aware that where there is a departure from the Specification for the Reinstatement of the Highway, this may only be achieved by agreement and therefore increases the risk/liability for costs incurred by other utilities/works promoters whose own works are compromised by the presence of these micro ducts.

1. Use of existing infrastructure

- 3.3. There is some concern from some highways authorities that communications providers are not using existing infrastructure to deploy networks in the first instance. The reality is that where there is the possibility to deploy in existing ducts or over poles, whether this is using BT's network or other utility infrastructure, most will take this option, as it will virtually always be cheaper than deploying new networks. However, we appreciate that use of existing infrastructure is not as widespread as government or other public bodies may like. This has been raised as a key barrier to deployment.

- 3.4. In terms of access to BT Openreach's network of ducts and poles, BT are currently finalising their Physical Infrastructure Access (PIA) products that will enable Communications Providers (CPs) to use BT's network. We believe that if a CP wishes to deploy network into an area and there is capacity in existing ducts or across their poles, existing telecoms networks that Ofcom have required to be made available should be used. In practice, this is likely to mean BT's network for the foreseeable future, but could apply to other operators in the future.
- 3.5. BT has recently published their revised reference offer and products will shortly be available in the market. PIA needs to happen quickly, and given the reach of the BT network into rural communities, we anticipate that this may be one of the most effective ways in which to deliver superfast broadband to the most challenging of places.
- 3.6. We also believe that it is appropriate that Communications Providers should take reasonable steps to make use of the electricity distribution or access network, again assuming there is capacity in the network. There are many examples of sharing of other utility infrastructure across the country, particularly between electricity and telecommunications companies. We recognise there are a number of issues to work through, such as health and safety, but are confident that these can be resolved. We are working with both the telecommunications and distribution network operators in order to iron these out but given the number of commercial deals or trials already in place, we do not believe this will be an insurmountable obstacle.
- 3.7. Government has committed to reviewing the need for legislation in relation to infrastructure sharing every 6 months, and will reassess whether legislation is needed again in December 2011. One of the legislative options under consideration is whether to extend Ofcom's powers to impose infrastructure sharing on all providers of electronic communications networks with rights under national legislation to install infrastructure on private or public land as set out in Article 12 (1) of the Framework Directive. In implementing the Directive on 26 May, Ofcom's powers to impose sharing were limited to operators with powers under the Electronic Communications Code which includes telecommunications network, conduit providers, water and

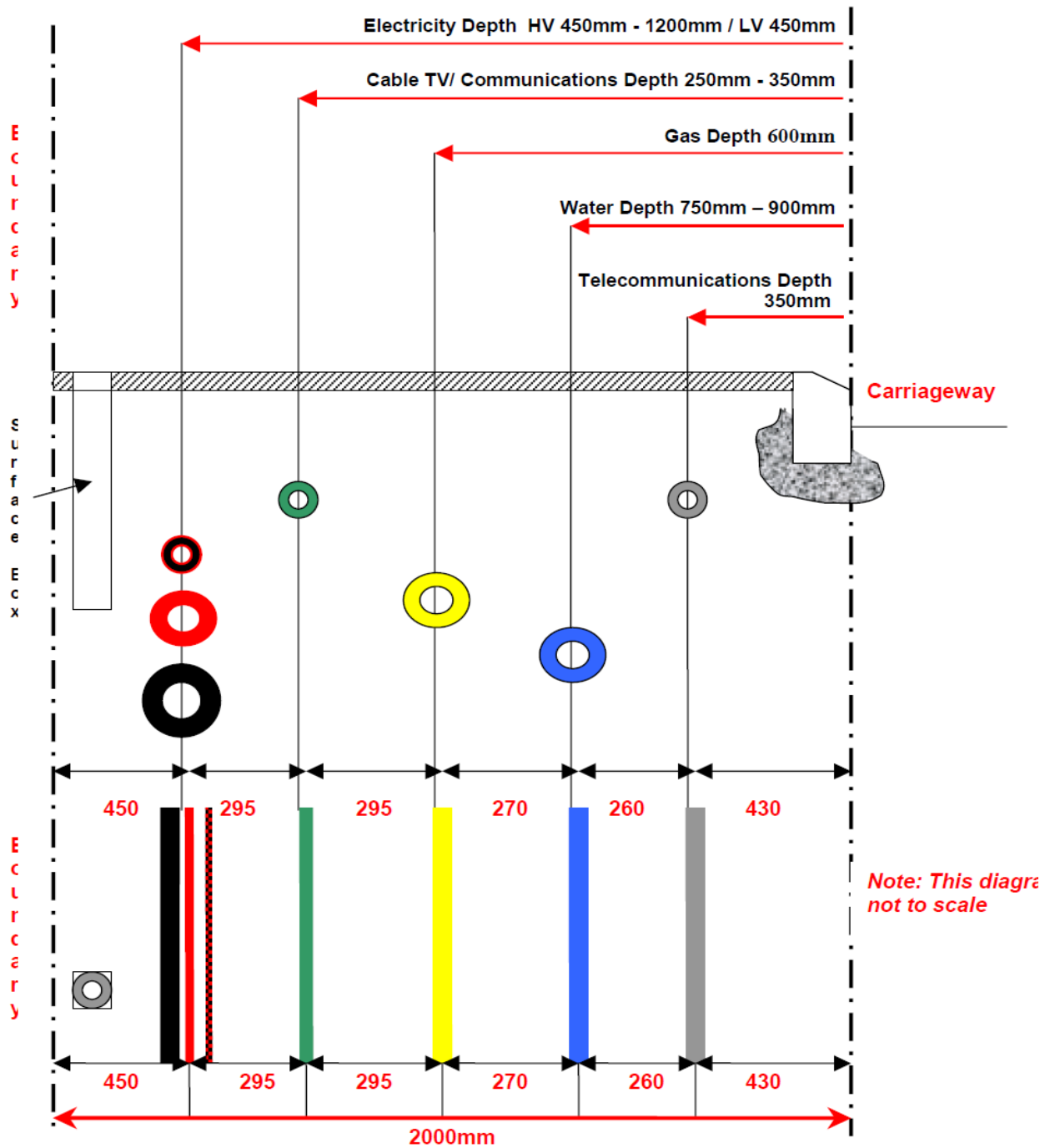
sewerage companies who have rights under the Code. We will consider whether it would be appropriate for Ofcom's infrastructure sharing powers to also apply to the communications networks of distribution network operators.

Recommendation 1: Where possible, communications providers should look to use existing networks before considering microtrenching, and engage with the local authority at the initial scheme inception. We believe this will become easier and more transparent as both PIA and work on access to other infrastructure develops.

2. Depth of microtrench

- 3.8. Local authorities have raised the issue that there does not seem to be any consistency view across communications providers regarding the proposed depth of microtrench.
- 3.9. All plant installed in the highway in recent years should be positioned according to guidelines laid out by the National Joint Utilities Group (NJUG), which recommends the depth different types of utility infrastructure should be buried. This has been further qualified in a court of law which has agreed that the NJUG guidelines form the common depth envelope. Communications infrastructure, for example should be the closest to the surface.

FIGURE 1 - Recommended Positioning of Utility Apparatus in a 2 metre Footway



3.10. For traditional, deep trench construction the recommended minimum depth for telecommunications apparatus is 250-300 mm in the footway or verge, and 450 mm-600 mm in the carriageway. The current guidelines do not specifically mention microtrenching, but the technique is widely used for traffic control purposes, at depths of 50 – 100 mm, and for some telecommunications installations at 100 – 200 mm but these have been infrequent up to now. Microtrenching is only likely to be suitable for

cables of less than 20 mm diameter and in roads with at least 325 mm Bound Layers.

If installed at too shallow a depth, cables are likely to be damaged by normal road maintenance activities such as surface planing;

- 3.11. Note should also be taken of the Electronics Communications Code Conditions and Restrictions Regulations 2003 regarding the installation of cables below:

Use of conduits

9. Where electronic communications apparatus is to be installed underground in—

(a) a part of a maintainable highway or, in Scotland, a public road which is paved, or

(b) a street or, in Scotland, a road which the code operator has been notified by the street authority or the road works authority is to be paved, or

(c) the verge of any street or, in Scotland, road,

it shall be installed in conduits unless it is not reasonably practicable to do so.

- 3.12. Currently, when damage occurs to traffic control cables that are in shallow microtrenches as part of the cost of some road maintenance, Highways Authorities bear the cost of this damage. Therefore communications providers should accept that they should bear the cost of any damage during routine highway maintenance and should be prepared to provide an indemnity to the Highway Authority and Utility companies where shallow plant compromises their infrastructure maintenance. Such shallow installations should be at the discretion of the Highways Authorities but normally permitted if the communications provider can satisfy the Highway Authority's reasonable indemnity requirement. Highway Authorities have the discretion to accept installations outside these limits.

- 3.13. We will revisit this recommendation should evidence be presented that clearly shows these recommendations substantially increase the risk of damage to the road, the reinstatement method does not stand up to scrutiny or make the investment case for superfast broadband unviable.

- 3.14. We would encourage the communications provider and highways authorities to work together. Scheme proposals are likely to depend on individual circumstances and should be considered on a case by case basis.
- 3.15. We are aware of successful examples of microtrenching being deployed at a much shallower depth, such as those carried out by Vtesse Networks in Horsham, or by Tulloch Developments in the Shetland Isles. Where a road, especially in more rural areas, cannot be microtrenched to a depth of 175mm, we would encourage the communications provider and highways authorities to work together to determine whether a shallower depth would be appropriate. This is likely to depend on individual circumstances and should be considered on a case by case basis.
- 3.16. The NJUG guidelines are advisory only, but have been cited in case law (see *Telewest v Yorkshire Electricity Distribution Ltd* [2006] EWCA Civ 1418), so do have some degree of judicial recognition. This is important to ensure that there is some degree of standardisation across all works carried out in the carriageways, footways and verges, and ensures all undertakers are able to dig safely and identify where apparatus is in the road.

Recommendation 2: Local and Highways Authorities should consider micro trenching as an acceptable method of installing communications cables, subject to the caveats and conditions above, as long as the proposed trench is within the bound layers and at least 175mm deep with a maximum permissible depth of 250mm. Highways Authorities have the discretion to accept installations outside of these limits.

3. Road Type and position of trench in the road

- 3.17. Roads constructed in the last 60 years have been designed considering the volume of traffic that is to be endured over a given design period, generally 20 years. In general terms traffic loading, expressed in millions of standard axles (msa) is calculated from the 24 hour average annual flow of commercial vehicles in one direction, predicted growth in the number of commercial vehicles and the average axle loading factor per commercial vehicle over a 20 year period. This calculation,

amongst other factors, determines the thickness of bound material required to provide a robust road carriageway. The same process has been used to determine the specification that roads should be reinstated to after works have taken place.

- 3.18. It must be recognised however that standards for road construction have changed many times over the years, in line with the increasing size and number of vehicles using the road network and, depending on age, the actual thickness of construction will vary. The situation is actually more complicated in that the vast majority of roads in the UK are founded on ancient highways and have never been designed as such, rather evolving through the application of various surfacing treatments over time. Some roads carrying very heavy traffic have only a very minimal depth of bound material.
- 3.19. The ability to deploy microtrenching will therefore largely depend on the road construction, and it will not be possible to use this technique in all roads. Evolved rural roads in particular are unlikely to be suitable for microtrenching. The microtrenching process is likely to disrupt the structural matrix that has evolved over centuries, leading to rapid deterioration. Microtrenching in granular materials is problematic in any case, leading to jammed aggregate and making it virtually impossible to clear the excavation completely. In consideration of these issues, microtrenching should be carried out wholly within bound materials. Also, in order to maintain the integrity of the bound layers it is essential that the bound layers are not cut through completely. It is considered that a minimum uncut thickness of 75mm should be adequate to ensure integrity. In general terms, therefore microtrenching will not be appropriate in roads with less than 325mm of bound construction.
- 3.20. This does not mean microtrenching won't have an impact in helping to deliver superfast broadband into more rural areas – it is more likely that microtrenching will be used to deploy fibre to the outskirts of the urban environment) rather than being used to connect homes in the last mile. These connections are still essential to improve connectivity in those areas for which it is harder to make the economic case, and using microtrenching in these areas will help lower the cost of deployment.
- 3.21. Because of these limiting factors caused by the composition of certain roads, microtrenching should only be used in roads where records show there is a

significant thickness of bound material present or where this has been determined through coring or preferably non-destructive techniques such as ground penetrating radar.

- 3.22. Similarly, the positioning of a microtrench in the road is also key. Those utility companies using this technique vary where apparatus is laid in the road, depending on a number of factors, including the wishes of the local authority, the condition of the road and the volume of traffic expected. Microtrenches are most often dug towards the kerbside. In this case, providers need to ensure that reinstatement does not impact on cyclists and motor cyclists and provide local authorities with greater exposure to liability.

Recommendation 3: Microtrenching should only be used in roads where there is a minimum of 325mm of bound construction. The position of trenches within the highway should be determined in consultation with the local highway authorities.

4. Reinstatement specification

- 3.23. Where microtrenching is undertaken it is essential to ensure that these trenches are reinstated effectively to an appropriate standard. When a road is broken for installation or repair works of utility plant, the excavation must be reinstated in accordance with the specifications laid down in the Code of Practice guidance note “Specification for the Reinstatement of Openings in the Highways”, issued under Section 71 of the New Roads and Street works Act 1991.
- 3.24. This Code of Practice has been developed over time in conjunction with the Highways Authorities and Utilities Committee (HAUC UK). Working groups are responsible for developing the technical detail and the guide is the definitive guide by which all road openings are reinstated.
- 3.25. The key issue is that microtrenching is currently not addressed directly. This leads to problems, with CPs having to negotiate the reinstatement specification with each local and highways authority, with many CPs having different specifications that they consider to be adequate. This is time consuming and because the reinstatement is

not covered in the Code of Practice (and therefore does not give the same liability assurance that the standards required by the 1991 Act have been satisfied); many authorities are reluctant to authorise microtrenching in their roads.

- 3.26. The obvious solution is to amend the Specification for Reinstatement to include microtrenching. However, before that can happen, both the communications providers and highways authorities need to agree a specification and have proved that it has worked satisfactorily. Therefore, we suggest that all stakeholders agree a specification that can be presented to HAUC UK. Once this has been proven to be working well for a period of time, it can then be considered by the HAUC UK working group on reinstatement for inclusion in the next iteration of the reinstatement specifications.
- 3.27. Key issues will be to ensure the cable/conduit is effectively retained at the full depth of the slot, the apparatus is fully encapsulated and the slot is fully filled on a consistent basis. There will be a need also to agree appropriate tolerances for surface finish and the potential need for a top dressing of aggregate in areas where skid resistance needs to be maintained.

Recommendation 4: All stakeholders should agree, through bodies such as HAUC UK and other bodies such as UKCTA, along with relevant soils and materials experts, a specification that can be used in practice, before it is considered for inclusion in the statutory Specification for the Reinstatement of Openings in the Highway at the next available revision.

5. Records management and detection

- 3.28. All utility companies are required by Section 79 of the New Roads and Street Works Act 1991 to keep records of where apparatus is installed in the road, in order to be able to provide this information to other utility companies and highways authorities who need to enter the road. This is necessary in order to ensure companies and authorities who enter the road can avoid damaging apparatus, injury to operatives, minimise disruption to undertakers' customers and inconvenience to the street user.

- 3.29. Companies or authorities that are planning on works should contact all relevant utilities to ascertain where apparatus exists. However, despite this requirement, there is some concern that accurate records are not being kept by all companies, and not all undertakers are carrying out the necessary checks prior to opening the road. This is particularly a problem with microtrenching, as it is not always obvious that plant exists, especially if the road has been resurfaced. To address this, we recommend that any company deploying infrastructure using this technique should ensure that their network is detectable – whether through metallic components or other methods of detection. This will help to minimise unnecessary damage to plant.
- 3.30. In addition, the National Underground Assets Group (NUAG) has been working on a proposal to develop an online one-stop-shop that details all plant in all roads. This is in its infancy, and a trial project across London is underway, funded by utility companies. This will provide undertakers with the ability to see what infrastructure exists in the road and will be particularly useful for identifying plant installed by smaller companies or providers.

Recommendation 5: We would stress that all undertakers should ensure they carry out plant checks when undertaking works, and that accurate records are kept of cable locations, where microtrenching is used as normal cable detection techniques will not identify the presence of the cable. Companies deploying infrastructure using microtrenching should ensure their network is detectable through metallic components or other methods of detection.

Section 4: Street works: What are the key issues and potential solutions?

Coordination powers under NRSWA

- 4.1. NRSWA and regulations made under it sets minimum time periods for advance notification of works, and the underlying principle is that works promoters should share their plans openly with highway authorities as far in advance as they reasonably can.
- 4.2. For major programmes of work involving the roll-out of new infrastructure, it is likely to be possible to share forward planning information in outline form well in advance. There is significant benefit both to highway authorities and works promoters in sharing forward plans and identifying any possible coordination opportunities or conflicts well in advance, not least because it is easier to adjust the precise timing of programmes before detailed plans have been finalised and contractual commitments entered into.

Recommendation 6: works promoters should share their emerging plans for infrastructure deployment with highway authorities at the earliest opportunity, and highway authorities should engage with those plans, to identify opportunities for coordination (and address any potential problems arising).

- 4.3. At the same time, highway authorities seeking to support the roll-out of economically important new infrastructure need to be sensitive to the fact that major works programmes will not necessarily go completely to plan, and it may be necessary to reschedule aspects of the work. Again, the key here is for works promoters and the

highway authority to discuss these issues at the earliest opportunity, and to work together flexibly. For example:

- Local authorities have some powers to authorise “early starts” – i.e. works beginning before the period for the notice of the start date for the works has expired. Authorities are under a duty to act reasonably in deciding whether to allow early starts. Early start requests need to be considered on a case-by-case basis, but if an early start can be allowed without adverse impact on road users then permission is unlikely to be denied.
- Authorities and communications providers could work together to identify opportunities for new ducting to be installed where the authority is for example carrying out resurfacing work. This would enable communications providers to install new fibre optic cables at a later date with minimum disruption and without the need to re-excavate the highway.

Recommendation 7: Authorities are encouraged to review their approach to using NRSWA street works coordination tools to ensure that they strike an appropriate balance between their network management objectives and their aspirations for supporting the deployment of economically-important new infrastructure such as broadband. Authorities and utilities should also think creatively about opportunities to install new ducting in parallel with other planned works.

Permit schemes

- 4.4. A number of authorities have opted to put in place permit schemes under the Traffic Management Act 2004, or are developing proposals to do so. Under a permit scheme, works promoters must obtain a permit from the highway authority before undertaking works. The aim of these schemes is to provide stronger powers for authorities to manage and coordinate the works on their streets, and thereby reduce disruption.

- 4.5. The design and operation of permit schemes is a matter for individual highway authorities, within the parameters of “permit regulations” made by the Secretary of State under section 37 of the 2004 Act . Clearly schemes need to be designed and operated in a proportionate manner, such that costs imposed on works promoters are justified by the impacts in terms of reduced congestion and disruption to road users.
- 4.6. The legal framework for permit schemes provides a great deal of discretion to local authorities to adapt their permit schemes to suit local needs, subject to permit regulations. For example, the legislation provides flexibility for authorities to define the types of works that are included (or excluded) from the scope of their permit scheme, to set the level of permit fees (subject to limits set in regulation), and to vary those fees according to different types of works.
- 4.7. Decisions on whether particular types of works (e.g. works taking place in the footway) should be within the scope of a permit scheme, and if so what permit fees should apply to different types of works, are a matter for the local authority. Permit fees must be set on a strict cost-recovery basis and must not be used to generate revenue. The Government will shortly be consulting on proposals to remove the current requirement for new permit schemes (or changes to existing ones) to be approved by the Secretary of State. This would give local authorities greater freedom and flexibility, subject to review and scrutiny, to vary their existing permit schemes where they consider it appropriate to do so.

Recommendation 8: Authorities operating or contemplating permit schemes should consider whether their current or proposed approach involving the definition of ‘Major Works’ strikes the best possible balance between their aspirations for deployment of economically important infrastructure and the need to minimise the disruption and inconvenience involved. Over 80% of broadband roll-out works are confined entirely to the footway, and are usually of relatively short duration. Our advice is that in these cases, the designation of ‘Major’ is unlikely to be suitable, and the treatment of other cases should also be considered carefully by local authorities.

Section 5: Conclusions

- 5.1. This advice note is intended to help to provide some certainty to the market, and offer some non-statutory, practical advice to communications providers, other utility companies and authorities on some of the key issues that may be hampering the roll out of major infrastructure projects, such as superfast broadband.
- 5.2. We believe that the note will help to remove some of these barriers, which will help to speed up the deployment of superfast broadband in the UK and will go some way to ensuring the UK meets its ambition of having the best superfast broadband network in Europe by 2015.
- 5.3. The recommendations and content in this advice note serve as a starting point, and whilst this is not a formal consultation, we are committed to reviewing these in the light of responses, feedback and further evidence from all stakeholders.

Summary of recommendations

Microtrenching

Recommendation 1: Where possible, communications providers should look to use existing networks before considering microtrenching, and engage with the local authority at the initial scheme inception. We believe this will become easier and more transparent as both PIA and work on access to other infrastructure develops.

Recommendation 2: Local and Highways Authorities should consider micro trenching as an acceptable method of installing communications cables, subject to certain caveats and conditions, as long as the proposed trench is within the bound

layers and at least 175mm deep with a maximum permissible depth of 250mm. Highways Authorities have the discretion to accept installations outside of these limits.

Recommendation 3: Microtrenching should only be used in roads where there is a minimum of 325mm of bound construction. The position of trenches within the highway should be determined in consultation with the local highway authorities.

Recommendation 4: All stakeholders should agree, through bodies such as HAUC UK or other trade bodies such as UKCTA, along with relevant soils and materials experts, a specification that can be used in practice, before it is considered for inclusion in the statutory Specification for the Reinstatement of Openings in the Highway at the next available revision.

Recommendation 5: We would stress that all undertakers should ensure they carry out plant checks when undertaking works, and that accurate records are kept of cable locations, where microtrenching is used as normal cable detection techniques will not identify the presence of the cable. Companies deploying infrastructure using microtrenching should ensure their network is detectable through metallic components or other methods of detection.

Street Works

Recommendation 6: works promoters should share their emerging plans for infrastructure deployment with highway authorities at the earliest opportunity, and highway authorities should engage with those plans, to identify opportunities for coordination (and address any potential problems arising).

Recommendation 7: Authorities are encouraged to review their approach to using NRSWA street works coordination tools to ensure that they strike an appropriate balance between their network management objectives and their aspirations for supporting the deployment of economically-important new infrastructure such as broadband. Authorities and utilities should also think creatively about opportunities to install new ducting in parallel with other planned works.

Recommendation 8: Authorities operating or contemplating permit schemes should consider whether their current or proposed approach involving the definition of ‘Major Works’ strikes the best possible balance between their aspirations for deployment of economically important infrastructure and the need to minimise the disruption and inconvenience involved. Over 80% of broadband roll-out works are confined entirely to the footway, and are usually of relatively short duration. Our advice is that in these cases, the designation of ‘Major’ is unlikely to be suitable, and the treatment of other cases should also be considered carefully by local authorities.

