

**CODE OF PRACTICE FOR CITY SERVICES  
& LAND DEVELOPMENT**

**ENGINEERING STANDARDS MANUAL**

**SECTION 3 : Appendix A**

**SPECIFICATION FOR THE EXCAVATION AND  
REINSTATEMENT OF TRENCHES**

## 1.0

### Aims

- a) To secure the co-operation of all authorities concerned in co-ordinating the use of space on and under roads, footpaths and Council reserves.
- b) To achieve maximum safety and minimum inconvenience to the public.
- c) To reduce the frequency and cost of opening and reinstating roads and footpaths by future-proofing new infrastructure and by a co-ordinated effort in the field.
- d) To undertake all works in accordance with the best environmental practices.

The best results in any job are obtained when the parties involved work in a spirit of co-operation. While Operators aim to install or repair an underground utility at reasonable cost, it must be recognised that Contract Supervisors are instructed to enforce the standards of safety and quality of workmanship, as outlined in this specification.

## 2.0

### Introduction

This specification stipulates Council's requirements for the opening, backfilling and reinstatement of roads and reserves, and the maintenance of surfaces that will be affected by the installation or repair to underground services.

When planning to undertake works an Operator, Government Department, Ad Hoc Utility Corporation, statutory corporation, Council department, or other organisation with or without the statutory authority to install infrastructure in a road, owned or controlled by the Council, must apply to the Council for a Road Opening Notice ("RON") specifying the nature of the work proposed. This notice shall be submitted to Council before any trench is opened and may either apply to a job or a section of a continuing job. It shall provide advice to Council as to the arrangements which have been made to maintain the trench or excavation in a safe condition, to backfill the trench or excavation and to reinstate and maintain the surface.

This notice shall be submitted to the Manager: Field Services, a minimum of twenty working days before excavation is commenced, during which time Council will respond in the case of any attached conditions.

Waitakere City Council has a number of strategies and policies in place in relation to the infrastructure assets of Network Utility Operators which are intended to provide guidance to Network Utility Operators wishing to install infrastructure in roads, reserves and other public open spaces owned or operated by Waitakere City. In relation to roads the particular concern is to ensure not only that disruption to road traffic is minimised as far as possible by the co-ordination of activities of Network Utility Operators, but also that the increased competition for space for utilities within the road reserve is managed to the best advantage of the Council, Network Utility Operators and the general public.

It is the Council's desire that all Network Utility Operators working in Waitakere City attend meetings co-ordinated by the Council at six monthly intervals, and work collaboratively with the Council to discuss the programme of works proposed in relation to the Network Utility Operator's network over the next six month period. These forums shall be in accordance the NZUAG partnering approach and their purpose shall be to assist the co-ordination of the Network Utility Operator's requirements with the Council's own capital works programme, and the programme of other Network Utility Operators.

It is Council's desire that Road Opening Notices for Network Extension Programmes be submitted to the Council only after the proposal has been considered by other Network Utility Operators and opportunities to coordinate network activities have been explored.

The Council may require the deferment of work to enable the alignment of work programmes.

3.0

**Definitions:**

Arterial Roads	Means those roads defined in the Waitakere City District Plan as Major Roads, Strategic Arterial Roads, Regional Arterial Roads, and District Arterial Roads.
Carriageway	Means any portion of a road used by motor vehicles.
Council	Means Waitakere City Council.
Chamber	Means any entry pits, chambers, hand holes, vaults, turning or pulling or other chambers used by Network Utility Operators to access, install & maintain Infrastructure.
The Code	Means the Waitakere City Council Code of Practice for City Infrastructure & Land Development.
Contractor	Means any person, carrying out trenching or ancillary works, for or on behalf of a Network Utility Operator.
Contract Supervisors	Means any person detailed by the Engineer or Network Utility Operator to carry out the administration of the duties detailed in this document.
Council Engineer	Means the Service Manager: Transport Assets or his nominated representative.
Network Extension Programme	Means the twelve month programme, submitted at six monthly intervals, detailing the extension of the network of any Network Utility Operator.
Network Utility Operator	Means definition set out in S166 of the Resource Management Act 1991.
Operator	Means any person or body who undertakes, for itself or through the use of Contractors, the installation of infrastructure in a road owned or controlled by the Council.
Road or Street	Means as defined as in Section 315 of the Local Government Act 1974 and includes the area from boundary to boundary, customarily referred to as Road Reserve.
Street Block	Means the length of Road Reserve between two street intersections.
Road Opening Notice	Means a notice in the form of Appendix A-1 of Section 3 - Appendix A of the Code.
Town Centres	Means the areas identified as existing or proposed in the Waitakere City Council District Plan as Major Town Centres and Town Centres.
Trenching Authority	Means any Board, Corporation, Government Department, Network Utility Operator, or any other legally constituted person or group of persons responsible for providing underground services within the Road Reserve.

#### 4.0

### General Road Opening Notice Requirements

Council may impose any reasonable condition on a Network Utility Operator, Trenching Authority or Operator intending to undertake works on Council owned or controlled land. The Council reserves the right, when giving an approval, to impose any number of standard conditions, depending on the location, scale and nature of the works, and may also impose additional conditions if reasonable and appropriate, having regard to the nature of the proposed works. The specifications below shall serve as standard conditions that may be imposed on the Trenching Authority or Network Utility Operator when notifying the Council of their intent to open a trench or undertake excavation. Further conditions may be imposed where relevant to the nature of the proposed works.

The Operator must at all times comply with these conditions:

- a) Any special conditions imposed on the Road Opening Notice, and
- b) The requirements with all statutes and regulations relevant to the proposed work including, without limitation, the Health & Safety in Employment Act 1992, the Resource Management Act 1991 and the Council's District Plan made under that Act.

#### 4.1

A copy of the Road Opening Notice issued by the Council, all accompanying documentation and the Council's approval, must be held on site and available for inspection at all times during the undertaking of the works. If the Operator is unable to produce this at the request of the Engineer, a stop work order will be issued for that site.

#### 4.2

The Operator will afford all assistance to the Council to permit inspection at any time and from time to time during the conduct of the works.

#### 4.3

Every application must be signed by an officer of the Operator or its duly authorised agent. Where an application is lodged by a Contractor on behalf of the Operator, the Contractor will be deemed to be the duly authorised agent of the Operator.

#### 4.4

All backfill and reinstatement works involving open trenching must comply with the standards set out in this specification.

#### 4.5

These conditions of approval bind the Operator and any Contractor employed by the Operator. Where the RON application is made by the Operator, the Operator will ensure that the Contractor is fully informed of the condition of Council's approval to the RON. Compliance with the conditions of approval are the joint and several liabilities of both the Operator and the Contractor.

#### 4.6

The Operator acknowledges that records of underground infrastructure held by the Council, including information held by the Council in relation to its own infrastructure assets, may be unreliable and inaccurate.

Information supplied by the Council to the Operator in relation to existing infrastructure, whether prior to an application for a RON or during the carrying out of proposed works, is supplied on the basis that no liability will attach to the Council if that information proves to be incorrect.

The Operator agrees:

- a) To take the road public open space or reserve in the condition in which it is found, and
- b) To undertake all investigations prior to the commencement of work at its own risk in all respects.

The Council accepts no responsibility for damage to the works or to equipment caused by road users or other members of the public.

## 5.0

### Plans

#### 5.1

Plans of the proposed work and associated communications shall be submitted to the Council with the Road Opening Notice.

The Operator shall provide the following:

- a) A traffic management plan (TMP), which must include details of hazards and warning lights to be used in circumstances of night work operations and/or the delineation of lanes left in place overnight.
- b) Plans and specifications of the proposed work. Plans are to be prepared to a scale of 1:500 or 1:200 where needed for clarity. The location and size of all existing and proposed cables, conduits, underground structures, proposed chambers or above ground structures, the location of trees, gardens and other (Council) Parks assets, property boundary and kerb lines are to be shown together with dimensions to boundaries and kerbs, and the proposed depth below existing surface levels at regular intervals. Further confirmation may be required to demonstrate the ability to maintain a minimum separation distance of 250mm clearance in any direction from any water supply, wastewater and stormwater services.
- c) A timetable for commencement, undertaking and completion of the work.
- d) Evidence of the Operator's investigation of the location of existing underground services in the area of the proposed work. (Contact details for the organisations with underground services can be obtained from [www.auog.org.nz](http://www.auog.org.nz)).
- e) Details of consultation undertaken with other Network Utility Operators in accordance with the general requirements where the consultation has been required by Council to allow for the alignment of works.
- f) Where an opening is proposed within 10m of a Watercare Services Ltd sewer or watermain, details of the consultation undertaken, or proposed with Watercare Services Ltd.
- g) Details of any proposed storage of equipment or materials including spoil on site outside working hours.

#### 5.2

The plans and appropriate documentation shall be received by the Council's Customer Field Officer: Roading, and approved by the Council, prior to the acceptance of the Road Opening Notice.

#### 5.3

As Built plans are to be provided to the Council within four weeks of the completion of the installation of ICT Infrastructure. As Built data shall be provided in accordance with the standards specified in the Quality & Release Chapter of this code in relation to the specific service(s) installed under the Road Opening Notice.

## 6.0

### Public Liability Insurance

#### 6.1

Evidence of Public Liability insurance held by both the Operator and its Contractor for a sum not less than two million dollars shall be provided to the Council on either an annual basis or job by job basis for the period of the works. This cover shall be in a form acceptable to Waitakere City Council, indemnifying the Council against liability for any damage, loss or injury for any claim, or series of claims, arising out of the existence of a trench or excavation or other obstacle associated with the work.

Such insurance shall be on such terms and with such Insurers as Council may reasonably require. Such insurance shall include the vicarious liability of Council. Evidence shall be provided either on an annual basis or job by job by way of a certificate of currency or a copy of the policy schedule.

This evidence is to be provided as a written certificate given by the insurance company (not the insurance broker). Where provided annually the cover must be for the work programme over the twelve month period following the receipt of this information.

## 6.2

The Council accepts no responsibility for damage to the works or to equipment caused by road users or other members of the public.

## 6.3

The Operator agrees to indemnify Council against all claims, demands, actions, suits or proceedings brought or made against Council in respect of any loss or damage to property or death or injury to person(s) arising directly or indirectly out of or in relation to the works or the carrying out of the works pursuant to the Road Opening Notice. For the avoidance of doubt, this indemnity applies notwithstanding the absence of any breach of the Road Opening Notice or any negligence or wrongdoing on the part of the Operator, its Contractor(s) or anyone for whom the Operator is responsible in connection with the works, and, extends to cover all costs (on a solicitor client basis) and disbursements reasonably incurred by the Council in defending any such claim or claims.

## 7.0

### Legal Requirements

### 7.1

Waitakere City's powers to control work on roads is under Part XXI of the Local Government Act 1974 but also in the Gas Act 1982, the Telecommunications Act 2001, s.24 of the Electricity Act 1968, S.25 of the Gas Act 1992, the Resource Management Act 1991, ss.48 and 48A of the Reserves Act 1977, the Local Government Act 1974, the Local Government Act 2002 and Waitakere City Council Bylaw Chapter 2, Section 208.1 and 209.1. Other Acts deal with less common utility situations. The Council will consider the application and will either approve the application, or decline it, having regard to the nature of the works proposed in the RON and any statutory provisions that may be relevant to the proposed work.

### 7.2

In carrying out all works, the Operator shall comply with the provisions of all statutes, regulations and bylaws of central and local government and other authorities that may be applicable to the works. Particular attention is drawn to the Noise Control Act 1982, the Construction Act 1959, the Construction Regulations 1961 and any amendments. The Contractor shall meet all their obligations under the Health and Safety in Employment Act 1992, The Health and Safety in Employment Regulations 1995 and any subsequent amendments.

### 7.3

In any case where the Operator, or its Contractor, is in breach of any of the conditions of this approval or in the Council's opinion the works are being carried on in such a manner that the site is not safe either for workman and/or members of the public then the Council will serve a notice in writing upon the Operator and/or the Contractor directing that work will cease until the breach has been remedied or the safety concerns have been adequately addressed.

### 7.4

The Operator will pay the Council's reasonable costs of and incidental to:

- a) Approval of the Road Opening Notice, and
- b) Any inspections related to the works, and
- c) Any work which it is necessary for the Council to undertake to remedy a breach by the Operator or its Contractor of any conditions of this approval.

### 7.5

The costs of any work under clause 7.4(c) may include an administration fee and shall be a debt due and payable to the Council upon demand and will bear interest from the date of demand to date of payment at a rate of interest equal to the Bank of New Zealand commercial base lending rate plus five percent calculated on a daily basis. Interest will continue to accrue at this rate both before and after judgment.

### 7.6

The Operator may be required to execute a performance bond in favour of Council where Council is concerned about the possibility of significant financial or environmental risk as a result of the work.

This bond shall cover all works in the road reserve and shall be raised on a project specific basis at the discretion of Councils Engineer.

## 8.0

### **Emergency Works**

#### 8.1

In any case where emergency repair work is necessary, and lodging of a RON application for the commencement of work is impracticable before the commencement of work, the Operator shall notify the Council's 24 hour Call Centre of the intent to undertake works. The application is to be lodged, together with such supporting information as is reasonably practicable in the circumstances, within five working days of the commencement of that work.

#### 8.2

The provisions relating to public relations in Section 12.0 below shall not apply in case of emergency works.

## 9.0

### **Protection of Property and Existing Services**

#### 9.1

The positions of existing watermains, sanitary and stormwater sewers, traffic signals, and detector loops and other services or structures above or below ground, as far as they are known, are available for the information of the Operator at the offices of the Council and the respective service authorities. The locations should not be taken as guaranteed.

#### 9.2

The Operator shall make itself fully aware of the position of all underground services in the locality, before commencing work, as required by Clause 12(d) of the Construction Act 1959.

#### 9.3

The following requirements relating to construction works shall also apply:

- a) Each utility authority shall maintain a complete and accurate record of its entire works within the road reserve and will make appropriate parts of these records available to anybody authorised by Council to trench within the road reserve.
- b) Where the owner of any service decides that one of their lines is unduly vulnerable because of proposed trenching by another Operator, it shall take whatever additional measures it considers warranted to protect the service, such as locating and marking the position of its work on the surface, providing site supervision etc.
- c) A Trencher may not use mechanical digging closer to an existing service than the distances specified by 0.5m horizontally or 0.3m vertically from the recorded position of any service until the service has been located by hand digging unless more stringent conditions are imposed by any service owner.
- d) Access to all hydrants and valves on watermains, sumps, manholes and inspection chambers on underground structures of any kind shall be kept free from obstruction as far as possible at all times.
- e) Street trees and ornamented planting, gardens, native trees and other (Council) Parks assets within the road, shall not be interfered with without the consent of the Council's Parks Department. For works within the dripline of Street Trees a Resource Consent may be required from Council for the proposed works.
- f) Mechanical excavation of trenches within the dripline of street trees is not permitted. All excavation must be hand dug.
- g) Infrastructure under vehicle crossings shall be thrust bored unless an alternative method is negotiated with all users of the crossing and the access-way reinstated to the satisfaction of Council Customer Field Advisor.
- h) Where piping ducting or cabling crosses Council's stormwater and sewer pipelines within 0.25m in either a horizontal or vertical plane, on the completion of installation a CCTV inspection of the pipes is to be made and submitted to Council as part of the final documentation to ensure that no damage has occurred.

#### 9.4

Special restraints are imposed for work near specific services as detailed in the following clauses 9.5 to 9.11 inclusive. The requirements apply unless agreed otherwise by the service owner.

#### 9.5

##### Underground Electricity Power Cables

The following requirements apply:

- a) Consultation with the Network Utility Operator is required when digging or working close to underground electricity power cables. No cables are to be moved by anyone except staff of the Network Utility Operator or authorised Contractors.
- b) 400-230 volt cable protection is to be located by hand-digging. Supervision by the Network Utility Operator is required for excavations greater than 1.5m.
- c) 11,000 volt cable protection is to be located by hand-digging. Supervision by Network Utility Operator is required when working closer than 0.3m vertical above or 0.6m horizontal and if deep excavation. Notification of 48 hours except in genuine cases of emergency.
- d) 33,000 volt cables are to be located by Network Utility Operator. Supervision required when working closer than 1meter vertical above or 2m horizontal. Notification of 48 hours, except in genuine cases of emergency.

#### 9.6

##### Telecommunications Cables

The following requirements apply:

- a) Consultation with the Network Utility Operator is required when digging or working close to underground telecommunications cabling and ducting.
- b) Machinery is not to be used within 1.5m of the position of fibre optic, high capacity copper trunk or coaxial cables as determined by a pipe locator and recorded with pegs at intervals of 4m.
- c) Machinery can be used up to 0.5m from the cable when the cable has been located by hand at intervals of less than 2m. The machinery is to be operated away from the cable.
- d) 48 hours notification is required in all cases except in genuine emergencies.

#### 9.7

##### Gas Mains

The following requirements apply:

- a) Mains up to 2000 kPa pressure – when working closer than 0.3m vertical or 0.6m horizontal, mains to be located by hand-digging under supervision of Network Utility Operator.
- b) 48 hours notification is required in all cases except in genuine emergency cases.

#### 9.8

##### Traffic Signals

The following requirements apply:

- a) Where work is to take place within 50m of traffic signals the Trenching Authority shall consult with the Engineer or his representative.
- b) Special conditions when working near traffic signals may be imposed by the Engineer to protect the detector loops and the operation of the signals.
- c) A traffic signals communication network is located in Great North Road, New Lynn and Lincoln Rd, Henderson. Liaise with the Engineer to locate this network.
- d) In any case where the proposed work is likely to have an effect on traffic signal detector loops associated with a State Highway, or will occur within 50m of traffic signals, details of consultation undertaken, or proposed, with the Traffic Management Unit of Transit New Zealand (“TMU”).

- e) Work on traffic signal detector loops may only be undertaken by a Contractor approved by the TMU, at the cost of the Operator. Detector loops must be fully reinstated within five working days of final seal reinstatement.

#### 9.9

##### Bus Companies

Where the proposed works are within 50m of a designated bus stop, details of consultation undertaken or proposed with the relevant bus companies shall be submitted as part of the Road Opening Notice application.

#### 9.10

##### Regional Services

The following requirements apply:

- a) Regional sewer lines and bulk water supply pipes are to be given minimum clearances of 1.0m parallel to and 300mm for services crossing. Consultation with the appropriate Network Utility Operator at design stage is advisable.
- b) All work within 10m of Regional Services lines (15m if blasting) is to be notified to, and written approval gained from, the appropriate service at least 24 hours in advance.

#### 9.11

##### High Pressure Natural Gas and Petroleum Products Pipelines

Any work within 2m of the pipelines requires a permit from the Network Utility Operator. 72 hours notice must be given and acknowledgement of the proposed works will be given. This is not a permit; the permit will be issued on site on the day of the works by Network Utility Operator.

#### 10.0

##### **Responsibility for Repairs and Reinstatement**

#### 10.1

The repair, replacement or reinstatement of any disturbance or damage to the Carriageway, footpaths and vehicle crossings, other underground services, berms, fences, bridges, retaining walls, trees, gardens and other (Council) Parks assets, poles, cables or other structures or property shall be the responsibility of the Operator causing the damage unless specific arrangements to the contrary are made.

#### 10.2

The cost of repair and reinstatement of any roadway, berm, fence, footpath, water pipe, sewer and stormwater drain, channelling, foundation, retaining walls, poles, cables or other services or structure or neighbouring property shall be the responsibility of the Operator causing the damage, unless otherwise agreed. Where existing services are damaged as a result of the trenching work, the Trencher shall immediately advise the owner of the damaged service to arrange for repairs to be carried out before backfilling.

#### 11.0

##### **Drainage**

#### 11.1

The trencher shall ensure that the surface run-off is not altered so as to create further or future ground instability.

#### 11.2

If dewatering of trenches is carried out, no material, fines, etc. from beyond the line of the trench shall be removed that is unable to be replaced. No waterborne sediment removed by dewatering shall go to any catch pit or manhole. Any sediment that is allowed to enter the stormwater system shall be removed by the Trencher on the instruction of the Engineer. All open trenches shall be maintained in a dewatered condition. Waterlogged material shall be removed to the satisfaction of the Engineer.

### 11.3

All retaining walls shall have suitable drainage installed at the base of the wall to collect the groundwater and be connected via a sediment trap/cesspit prior to discharging to a suitable outlet as approved under the Road Opening Notice.

### 12.0

#### **Public Relations**

The following requirements shall be undertaken by the Operator, however in the case of emergency repair works these requirements do not apply.

### 12.1

Prior to the planned excavation commencing, the Operator shall provide details of their Communication Plan to inform those affected businesses and residents of the proposed works, the likely effects of noise, dust or vibration, the effects (if any) on traffic and the steps proposed to address the effects of the proposed works generally. The Communication Plan shall also include actions to inform any property owners / occupiers on how they will be affected and who to contact for future information or to convey complaints. Where it is proposed to use open trenching methods which will affect vehicle crossings, the Communication Plan must specifically identify procedures for informing affected parties about the proposed works. A copy of this advice is to be lodged with the Road Opening Notice.

Where Council is not satisfied that all of those business and residents that may be affected by the proposed works have been consulted by the Network Utility Operator, the Council will require at its discretion the Network Utility Operator to inform those identified business and residents of the proposed works and likely effects.

### 12.2

No trench shall be opened which will interfere with vehicular access to any property unless the occupiers/owners are notified at least twenty-four hours in advance.

### 12.3

A programme of works is required to be submitted to the Engineer for approval as part of the RON application. Approval in high pedestrian areas or high vehicular traffic areas will be subject to a maximum length of trench being open (normally 50m), a suitable programme of restoration and details of how the Operator will ensure the safe movement of pedestrians and vehicles.

The Trenching Authority shall advise the Traffic Safety branch of the New Zealand Police of all work on main roads and of all major works.

Construction noise is to be actively managed and must not exceed the standards specified in NZS6803P: 1984 or any future amendments.

Construction work is to be managed so that the vibration effects of the work are minimised.

In the case of works in the road but outside of the Carriageway, or other works in confined areas of public open space or reserves, a minimum protected clearance of 1.2m is to be maintained around the works for pedestrian use.

### 13.0

#### **Safety**

### 13.1

Warning signs, barricading and lighting of trenches and obstructions shall be provided as required by Section 353 of the Local Government Act 1974, the Construction Act 1959 and all amendments thereto and any other relevant legislation. An effective barricade as required by the Construction Act must be erected immediately work commences and maintained until the surface is restored.

### 13.2

Signs shall conform to those prescribed in the Transit New Zealand publication "Working on the Road – A Handbook for Temporary Traffic Control and Safety at Roadworks Site", Second Edition, published in February 1991, or any amendments thereto.

### 13.3

Operators shall follow the procedures set out in the Transit New Zealand handbook for all appropriate aspects of site safety and traffic control associated with their respective trenching works. A safety management programme shall be established to manage and monitor the works to ensure that public safety is protected.

### 13.4

The Operator is responsible to provide, set up and maintain warning notices, barricades and flashing lamps sufficient to ensure the safe passage of vehicles and pedestrians at all times. Apparatus used to ensure control and safety of both vehicles and pedestrians shall be stable and visible day and night (i.e. reflectorised) and in all ways suited to the purpose.

### 14.0

#### **Traffic and Pedestrians**

### 14.1

The Operator is required to organise its work in such a manner that:

- a) Avoids carrying out work on the Carriageway during times of peak traffic flow. Work may only be carried out on the carriageway of Arterial Roads during the hours of 7.00am to 6.00pm Monday to Sunday. During the period between 7.00am and 9.00am, and 4.00pm to 6.00pm the obstruction to normal traffic movement shall be minimised. More restrictive work hours may be imposed by the Engineer depending upon the nature and extent of the proposed work. Specific approval is required for work to be undertaken outside these hours. However in the case of emergency works, these restrictions do not apply.
- b) The Council may require work to be undertaken outside normal working hours.
- c) Where the works are being carried out during daylight hours the carriageway will be fully open to traffic during hours of darkness and no more than half the carriageway will be closed at any one time, except with the express permission in writing of the Engineer.
- d) The length of trench open at any time is kept at a minimum. The maximum length of trench open at any time shall be as dictated by the specific Road Opening Notice unless the Operator obtains the prior approval of the Engineer. When the length of trench open on a footpath is likely to restrict pedestrian access to shops or services, a temporary bridge of suitable materials is to be provided as appropriate for access across the trench.
- e) On Carriageways with high traffic volumes (in excess of 3,000 vehicles per day) the Trenching Authority shall give priority to techniques other than open trenching including thrusting or boring;
- f) Parking of plant and equipment must comply with all bylaws regulations and restrictions. Any offending act will lead to issue of parking infringement notices unless approval has been obtained. No unreasonable inconvenience to either vehicles or pedestrians is permitted. No materials may be stored on the road without the approval of the Engineer.
- g) The storage of materials, product, vehicles, and machinery on Council reserves is not permitted as of right and requires the written consent of Councils Parks Department.

### 15.0

#### **Excavation**

### 15.1

No continuous length of open trenching shall exceed 150m or as dictated by the specific Road Opening Notice. This includes the excavation and back filling operation lengths as well as the working section of the open trench.

This length of open trench generally consists of 50m of excavated trench, 50m of cable/ ducting laying and 50m of trench backfilling.

#### 15.2

Infrastructure under vehicle crossings shall be installed using trenchless technology unless an alternative method is negotiated with all users of the crossing and the access-way reinstated to the satisfaction of Council Customer Field Advisor.

#### 15.3

When an excavation is required to be made through any concrete, asphalt or chip seal surface, the proposed edges of the excavation or Trench shall be cut with a power saw prior to the excavation of the Trench. The cut is to extend the full thickness of the surface layer in a clean straight vertical line. Where the trench width varies or the trench changes direction, the change of direction of the saw cut shall not exceed 45° from the longitudinal axis of the trench.

#### 15.4

As excavation proceeds, all excavated material unsuitable for backfilling and material not required for backfilling shall be removed from the site without delay.

#### 15.5

Earthworks and sediment controls shall be implemented in accordance with Auckland Regional Council Technical Publication 90 "Erosion and sediment control guidelines for land disturbing activities."

#### 15.6

Areas adjacent to the excavation shall not be undercut. If slumping of material from the sides of the excavation causes depressed areas adjacent to the excavation or if the edges of the pavement are lifted during excavation, additional saw cutting outside of the original line of the excavation and outside the area of damage will be required before reinstatement is permitted.

Details of such works shall be provided as per the Public Relations requirements above.

#### 16.0

### **Backfilling**

#### 16.1

The material used for bedding underneath and around the service or service duct shall be as required by the Operator. In no case shall it exceed 100mm above the top of the service, unless specifically required by the Operator.

#### 16.2

The backfilling of trenches shall be in accordance with WCC Drawing No.10762 R3 "Trench Reinstatement Standard Details", as attached.

#### 16.3

Trenches shall be reinstated so that no settlement will occur.

#### 16.4

Shall have the surface re-cut, be excavated as necessary and backfilled in compliance with this specification.

#### 16.5

The following guidelines are recommended to be followed:

- a) In Carriageways shall be well graded granular 40mm base course material free from clay, vegetation and building rubbish.
- b) All material shall be placed and compacted in layers not exceeding 150mm in loose depth.
- c) Compaction of materials in layers shall be achieved by mechanical compaction equipment appropriate to the size of the trench, the type of backfill material used and the location of the trench in the road.
- d) Where concrete or other stabilised layers exist in the roadway the trench shall be reinstated with similar material or as otherwise directed by the Engineer.

17.0

## **Surface Reinstatement**

17.1

The Operator should note that they will be required to reinstate any broken surfaces in their area of works unless they can provide photographic or video evidence of existing damage prior to commencing works.

Refer to WCC Drawing No.10762 R3 "Trench Reinstatement Standard Details".

17.2

### General

17.2.1

Permanent resurfacing is to be carried out as soon as practicable after backfilling has been completed and not exceeding the time frames contained within the specific RON.

17.2.2

Permanent resurfacing shall be similar in type, quality, texture and strength as surrounding materials either temporary or permanent resurfacing being placed.

17.2.3

The final surface level of the trench shall be to within 0mm to 5mm above the original surface level.

17.2.4

No permanent surface reinstatement shall be carried out until the Trenching Authority is satisfied that the backfilling procedures have been satisfactorily completed.

17.3

### Special Paving Areas/Shopping Centres

17.3.1

In areas where Council has elected to improve the appearance and value of its pavement asset with higher quality surfaces, surface reinstatement will be required, at the expense of the Trenching Authority, to a condition at least equal to the 'as found' condition of the paving.

17.4

### Grassed Areas

17.4.1

All grassed areas disturbed by trenching work shall be reinstated to a condition at least equal to the 'as found' condition, to the satisfaction of Council's Parks department.

17.4.2

Where excavation is required to install an above ground Cabinet as defined in Section 8 of the Code, the slope behind this Cabinet shall be battered to a grade that is suitable for lawn mowing, and to the satisfaction of the Council's Parks department.

17.5

### Concrete Surfaces

17.5.1

All surfaces damaged as a result of the trenching works shall be fully reinstated to a condition at least equivalent to the condition prior to the works commencing.

17.5.2

If the edge of the trench is within 1m of a crack or the edge of existing pavement, then the existing pavement within this zone shall be replaced as part of the trench reinstatement.

### 17.5.3

In the situation where the reinstatement is to extend to a crack the face of the crack shall be trimmed by saw cutting to create a straight edge.

### 17.5.4

Where the distance between the trench centreline and the nearest construction joint is less than 2m the reinstatement shall extend to that construction joint.

### 17.5.5

If these criteria cannot be met, then the reinstatement is to be across the full width of the footpath or Carriageway.

### 17.5.6

Concrete Carriageways shall be constructed to the same thickness as the original concrete Carriageway and the concrete shall have a minimum compressive strength of 17.5 mPa after twenty eight days.

### 17.5.7

Concrete vehicle crossings shall be reinstated with a minimum concrete thickness of 150mm for residential crossings and 200mm for commercial/industrial crossings. The concrete shall have as minimum compressive strength of 20 mPa after twenty eight days. The details shall be to Council's standard vehicle crossing details.

### 17.5.8

Construction joints shall be formed at 2.5m centres. The line and level of the reconstructed surface shall match the cross fall and level of the adjacent undamaged surface.

## 17.6

### Sealed Surface

#### 17.6.1

All parts of the surface damaged during or as a result of the work, shall be reinstated to as specified using materials as shown in Drawing No. 10762, R3.

#### 17.6.2

If the edge of the trench is within 1m of a construction joint, a crack or the edge of existing pavement, then the existing pavement within this zone shall be replaced as part of the trench reinstatement.

#### 17.6.3

Construction shall be carried out as follows:

- a) All edges are to be saw cut. Trimming allowance is to be a minimum of 150mm on each side. The base course layer shall be swept free of all loose material before a tack coat is applied. The tack coat of hot bitumen or emulsion shall be sprayed or painted to the vertical joints of the existing pavement and the surface of the base course. The rate of application of the tack coat is to be 0.3 litres per square metre.
- b) Asphaltic concrete material shall be laid and compacted so as to meet the density requirements of TNZ:P9:1975 and any amendments.
- c) Where the adjacent road surface is chip-sealed, permanent resurfacing using a two-coat chip-seal shall be carried out under the jurisdiction of the Council Streets/Contract Supervisor one month after completion of the hotmix surface. If the adjacent surface is asphaltic concrete then the joints are to be sealed as described under Resurfacing below (clause 78-80).

## 17.7

### Service Covers and Bench Marks

#### 17.7.1

Service covers, e.g. water hydrant boxes, tobies, manholes, etc. shall be reinstated to their original condition during trench compaction and their finished level shall match the adjacent ground levels.

#### 17.7.2

All frames shall be bedded so as to conform to the plant of the adjoining surface and shall be flush with the adjoining surface on all sides. Such frames shall be able to be adjusted for possible changes in road level (e.g. Carriageway resurfacing).

#### 17.7.3

Structural design of apparatus in the pavement; (i.e. manholes, valves, hydrants, survey marks etc.) shall be adequate to withstand the loading to be applied with a reasonable factor of safety, no rocking shall occur.

#### 17.7.4

Care shall be taken not to disturb and/or damage Department of Survey and Land Information survey standards.

#### 17.8

##### Resurfacing

##### 17.8.1

The aim in resurfacing trenches is to ensure that permanent resurfacing is carried out as soon as practicable after backfilling and that inconvenience to the public is kept to a minimum.

##### 17.8.2

In streets with large traffic flows, in shopping areas, or where the Engineer so agrees, the Trenching Authority may arrange for a 10mm thick layer of fine emulsion mix to be applied to the trench immediately backfilling is completed in order to minimise nuisance and inconvenience to the public. The emulsion mix is to be laid to meet existing levels and compacted so as to be stable under traffic. This resurfacing is to be regarded as a temporary seal only and must be removed and replaced by a permanent resurfacing within thirty days.

##### 17.8.3

The cost of all temporary resurfacing is to be borne by the Operator.

#### 17.9

##### Joint Sealing of Carriageway Surfaces - Asphaltic concrete surfaces

##### 17.9.1

Within one month of permanent resurfacing a band 50mm either side of joints in carriageway shall be sealed with a hot poured rubber bitumen material approved by the Engineer. The material shall be "Samifilla" or other approved material complying with BS2499:1973 or U.S. Federal Specification S-S-1614(1):1970. All joints shall be water blasted to remove loose dirt and other foreign matter, dried and then filled to the approval of the Engineer.

#### 17.10

##### Kerb and Channel

##### 17.10.1

Where trenching crosses the kerb and channel any section damaged shall be replaced to the original line and level and to conform to the Council's standard details.

#### 18.0

##### **Clean Up and Make Good**

##### 18.1

The following requirements apply:

- a) As work proceeds the trencher shall progressively carry out all restoration and tidying up work. If regular tidying up and restoration is not being done the Engineer will require and instruct the Trencher concerned to carry out this work immediately. On completion of the work, the Trencher shall remove all plant, materials and other things that may have been brought upon the site in aid of the works and clear away all rubbish and leave the site in a similar condition to that which existed before the work was commenced;

- b) Trees shall not be cut or removed without the written permission of the Council's Arborist. Any trees or branches cut down or tree stumps uprooted during the work shall be removed. Branches that require removal should be cut by saw by a qualified arborist and not broken by machinery. The trencher shall clean out all sumps and repair or reinstate all road surfaces, fencing, walls, floors, lawns, gardens, paths, inclusive of transplanting trees, shrubs, etc. and make good all damage which may have been caused through his operations in connection with the work.

## 19.0

### **Maintenance**

#### 19.1

The following requirements apply:

- a) The Trenching Authority will be held responsible for any maintenance work required as a result of the trenching operations for a period of twelve months after application of the final surfacing material. Any such maintenance work required by Council shall be undertaken by the Trenching Authority at their cost within the time specified by the Engineer.
- b) A Notification of Completion of Works in the form of Appendix A-2 of this specification is to be lodged with the Engineer immediately any trenching work is completed.
- c) Should any maintenance work requirement not be undertaken by the Operator, the Council reserves the right to arrange or undertake such maintenance work and this work will be at the cost of the trenching authority in accordance with section 7.4(c) and section 7.5.
- d) If maintenance work is required, twelve months further maintenance for the rework will commence from the date that repair work is completed.

## APPENDIX A-1 : ROAD OPENING NOTICE

### 1.0

#### General

A Road Opening Notice is required for all excavations within the road reserve and on Council land.

These may include:

- a) Service Authority trenching or repair works;
- b) Waitakere City Council trenching or repair works;
- c) Electrical Contractors providing connections to power supply;
- d) Telecommunications Contractors providing connections to telecommunication networks;
- e) Connections or repairs for private drainage systems.

### 2.0

#### Description of Works

Major Works

- a) Any crossing of Carriageway by open trench;
- b) Any hole in the Carriageway greater than 1m<sup>2</sup>;
- c) Any trench along berm footpath or Carriageway.

Minor Works

- a) Any work covering less than 1m<sup>2</sup> where minimal traffic disruption;
- b) Services to domestic dwelling where Trench runs across berm or across footpath.

### 3.0

#### Contractors Obligations

On receipt of an approved Road Opening Notice the Operator shall ensure the following:

- a) For Major Works that he notifies the Council of actual start date.
- b) When all works are completed and reinstated in terms of the specification and conditions the Operator shall notify the Council in writing that works are complete on the standard form supplied. The twelve months maintenance period shall commence from the date this form is received unless council notifies the applicant that the reinstatement is not adequate. In this case the maintenance period shall commence when works are completed to the Council's satisfaction. If the Council receives no notification that works are complete then the maintenance period will not commence.
- c) The Operator is to ensure all Contractors are fully informed of their obligations under the Health and Safety in Employment Act 1992, the standards required by the Council's specification and any conditions imposed on his notice of approval.
- d) The Operator shall carry out works as quickly as possible and no reinstatement shall remain uncompleted for greater than 7 days after completion of the works. All conditions imposed on the Operator to manage to nature of the works shall be strictly adhered to. All conditions are listed in full in the Specification for Excavation and Reinstatement of Trenches (Code of Practice for City Infrastructure & Land Development: Section 3 – Appendix A), available from Council on request.

**WAITAKERE CITY COUNCIL ROAD OPENING NOTICE**

.....  
 Road Opening Number to be  
 quoted on all correspondence

**TO: MANAGER: FIELD SERVICES**

DATE: ...../...../.....

I intend to carry out the work described in the plans, the specifications attached and as described below:

Company Name: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone (Day): \_\_\_\_\_ A/H: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

**Description of Work:**

Street No(s) and Name Affected: \_\_\_\_\_

Type Of Work:	Location:	Work Considered To Be:
<input type="checkbox"/> Power <input type="checkbox"/> Gas <input type="checkbox"/> Telecommunications <input type="checkbox"/> Waitakere City <input type="checkbox"/> Other: _____	<input type="checkbox"/> Berm <input type="checkbox"/> Footpath <input type="checkbox"/> Carriageway <input type="checkbox"/> Other Council Land	<input type="checkbox"/> Major <input type="checkbox"/> Minor (Less 1m <sup>2</sup> ) <input type="checkbox"/> Emergency

Estimated Start Date: \_\_\_\_\_

Estimated Duration: \_\_\_\_\_

Explanation of Work to be Completed: \_\_\_\_\_

**NOTE:**

**FOR MAJOR WORKS ACTUAL START DATE TO BE NOTIFIED TO: BALVANT DULLABH, Ph: 836 8000 Extn. 8909**

I agree to undertake the works in accordance with Waitakere City "SPECIFICATION FOR THE EXCAVATION AND REINSTATEMENT OF TRENCHES" and any other conditions as required by the Engineer, or his representative.

Signature: \_\_\_\_\_

**CONDITIONS OF APPROVAL:**

The following standard conditions of approval shall be met by the Operator notifying Council of their intent to undertake works:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Notice sighted by: \_\_\_\_\_ Date: \_\_\_\_\_  
 (On behalf of Manager: Field Services)

Designation: \_\_\_\_\_

This notification refers to ALL excavation works within the legal road reserve and on Council land.

**APPENDIX A-2**

TO: Manager: Field Services  
Waitakere City Council  
Private Bag 93 109  
Henderson  
WAITAKERE CITY 1231

**ROAD OPENING NOTICE  
NOTIFICATION OF COMPLETION OF WORKS**

I ..... hereby advise the Manager: Field Services, Waitakere City Council, that all works related to Road Opening Number: ..... are complete. We have met all requirements of the "Specification for the Excavation and Reinstatement of Trenches" and other conditions imposed. I fully understand that a twelve month maintenance period applies from the date the Council receives this notification unless the reinstatement works are rejected by the Council. In this case the maintenance period will commence upon satisfactory completion of the works.

Signed: ..... Date: .....

Designation: .....

Company: .....

Street No(s) and Name: .....  
.....