



WELLINGTON CITY COUNCIL

POLICY ON UNDERGROUNDING

OF OVERHEAD CABLES

CONTENTS

Foreword	3
Summary of Council Policy	3
Introduction	5
Definitions	5
Policy Objectives	5
Undergrounding Principles	5
Cost and Benefits of Undergrounding Cables	6
Current Regulatory Policy for Undergrounding	6
Scope of Policy	7
Council Policy on Retrospective Undergrounding	7
Contestable Fund Programme	8
Facilitation of Resident Initiated and Funded Undergrounding Projects	9
Opportunity to Underground with Planned Infrastructure Projects and Park Upgrades	10
Reasonable Condition for Appearance of Overhead Cables	11
Appendix 1: Guidelines for Resident Initiated Projects	12

FOREWORD

Wellington City has an extensive network of overhead electricity and telecommunications cabling that provide important services to Wellington residents, businesses and organisations. Utility operators install overhead cables because they are the most cost-effective and efficient way to provide their services to customers. However, overhead cabling can be unsightly and the most popular method of reducing the visual impact of overhead cable networks is to place them underground.

The Council has addressed placing cables underground or “undergrounding” as a Policy issue previously. In order to prevent the intensification of overhead cabling, Council approved District Plan changes in 2004 that prevent utility operators from installing any new or additional overhead cabling. Furthermore, the Council requires all cabling for new developments to be installed underground. The Undergrounding Policy outlines the Council’s approach to retrospective undergrounding i.e. putting existing overhead cabling underground.

SUMMARY OF THE COUNCIL’S POLICY

- The Council encourages utility operators to underground their cable networks in all areas.
- All new subdivisions are required to have underground cable networks.
- The Council will run a three-year Contestable Undergrounding Fund pilot programme from 2006/07. The Council will invite residents groups to submit proposals for funding and provide partial subsidies to undergrounding projects that provide sufficient public benefits. The Fund will allocate a maximum of \$200,000 annually, prioritised according to the greatest level of public benefit.
- If requested, the Council will facilitate activities and communications between residents and utility operators for resident-initiated undergrounding projects. Interested residents will be provided with a set of guidelines to assist them with the planning process. Residents that meet the criteria outlined in the guidelines will receive assistance from the Council with discussions with utility operators, co-ordination of activities and imposing targeted rates in place of up front payments (if necessary). The Council and utility operators will have the option to contribute additional funding if the proposed project corresponds to any planned work such as footpath renewals for the Council or cable network replacement for utility operators.
- Ratepayers can pay the costs of the Council facilitated undergrounding projects in two ways:
 - if 75% of ratepayers agree to fund project (minimum of 8 properties), the Council will pay the entire up-front costs of project and charge all affected ratepayers a uniform targeted rate (plus interest) over an agreed time period not exceeding 5 years. Ratepayers can also pay costs up front.

- if the 75% target is not achieved, ratepayers in agreement can pay project costs through up front payment (payment will be in equal quantities or some other allocation arrangement they may agree amongst themselves).
- The Council will consider attaching an undergrounding component to other Council infrastructure projects on main roads and other high-profile areas such as parks on a case-by-case basis.
- The Council will work with utility operators to establish reasonable conditions of appearance for overhead cable networks. The Council will also continue discussions with utility operators on the prospects of cost-sharing with undergrounding projects.
- The Undergrounding Policy applies to the overhead electrical cable networks with capacity of 11,000 volts or less and to all overhead telecommunications cable networks. The Policy does not apply to Transpower's high voltage transmission cable network that makeup the National Grid or to Vector's high voltage sub-transmission cable network, which have a capacity of 33,000 volts and up.
- The Council recognises that the ultimate decision on undergrounding existing overhead cables lies with the utility operators that own the cable network and not with Council or residents.

INTRODUCTION

This document contains the Council’s Policy for the retrospective undergrounding of overhead cable networks. The Policy is designed to provide a clear approach for Council officers and residents regarding various aspects of undergrounding.

DEFINITIONS

“the Council”	Wellington City Council
“main road”	Those roads either listed or described as “main road” in the Code of Practice for Working on the Road.
“cable” or “cable network”	A cable, wire or constructed structure owned by a utility operator.
“overhead cable”	A cable, wire, or constructed structure that is located or draped between utility operator’s poles.
“underground cable”	A cable, wire, or constructed structure that is located underground.
“undergrounding”	Placing overhead cable network underground.
“utility operator”	The recognised owner of a utility cable network.

POLICY OBJECTIVES

The key objectives of the Policy are to:

- clarify the Council’s role for undergrounding projects funded by residents
- outline the feasibility of combining undergrounding projects with planned Council infrastructure projects such as footpath renewals
- clarify Council’s funding priorities with respect to undergrounding

UNDERGROUNDING PRINCIPLES

The Policy is underpinned by the following principles:

- undergrounding to improve the urban environment should be conducted in an equitable and efficient way
- Council funding for undergrounding should target projects that would result in the greatest benefit to the Wellington community
- The Council’s decisions on whether to initiate an undergrounding project will consider all qualitative and quantitative benefits and costs
- the impact of undergrounding projects on existing or future infrastructure should be minimised
- the final decision on undergrounding existing overhead cables lies with the utility operators that own the cable network and not with the Council or residents.

COST AND BENEFITS OF UNDERGROUND CABLES

Placing existing overhead cables underground may have a number of key benefits, although some are very difficult to quantify. The benefits include:

- cables are removed from sight which should improve the appearance of the urban environment
- property owners may benefit through increased property values
- reduced exposure to the elements can reduce maintenance, repair and outage costs for utility operators
- public safety should improve from reduced traffic hazards, electrocution risks and hazards resulting from major earthquakes and storms
- decreased tree pruning costs for Council and utility operators.

The benefits of retrospective undergrounding are significant but Council also recognises that there are some drawbacks that must be taken into account:

- retrospective undergrounding is extremely costly because of the engineering requirements and the high cost of materials¹. A citywide undergrounding programme would cost around \$250-350million.
- the high costs associated with a citywide undergrounding programme would be passed on to rate-payers and consumers
- the benefits of undergrounding are notoriously difficult to quantify
- the streets with trolley bus network would receive less visual benefits from undergrounding because the trolley bus networks would remain in place
- when underground cables do need maintenance, repairs or replacement, it is much more costly than repairing overhead cables
- undergrounding projects could result in damage to roots of street trees and vegetation, possibly resulting in loss of amenity.

CURRENT REGULATORY POLICY FOR UNDERGROUNDING

1) General Policy Statement

The Wellington City District Plan 2000 states that the Council's Policy "is to encourage network utilities to be sited underground in all areas". The Council can not require utility operators to underground their existing overhead cable network² and utility operators are reluctant to initiate undergrounding projects because of the lack of commercial benefits. Utility operators sometimes underground their cable networks when the benefits of undergrounding exceed the costs.

Utility operators will decide whether or not to underground their cable network based on factors such as the cost of undergrounding and operational and maintenance requirements of their cable network or other cable networks.

¹ On average, undergrounding projects in Wellington cost approximately \$600,000/km-\$1,000,000/km (the cost per property ranges approximately \$6,000-\$10,000). This includes all planning, labour, material and compliance costs associated with the project.

² The Telecommunications Act and the Electricity Act both state that local authorities are allowed to put reasonable conditions on utilities with regard to their distribution network.

2) *Additions of Overhead Cables to Existing Overhead Network*

In August 2004, the Council approved District Plan change 14 that prevents any further intensification of overhead cabling in Wellington. The District Plan change requires utility operators to obtain resource consent for the installation of any new or additional overhead lines in urban areas (consent is not needed in rural areas), which effectively stops any further intensification of the overhead cable network and encourages the undergrounding of new and additional overhead cables.³ In addition, rule 23.1.2 (approved in 1994), which permitted the addition of one overhead cable for new technology, has been removed.

3) *New Subdivisions*

All new subdivisions are required to have underground cables following the introduction of the District Scheme in 1968.

SCOPE OF POLICY

The Undergrounding Policy applies to the overhead electrical cable networks with capacity of 11,000 Volts or less and to overhead telecommunications cable networks.

The Policy does not apply to Transpower's high voltage transmission cables and infrastructure that make up the National Grid or to the high voltage sub-transmission cables and infrastructure, which have a capacity greater than 33,000 Volts.

The Policy does not apply to the Trolley Bus network.

COUNCIL POLICY ON RETROSPECTIVE UNDERGROUNDING

The Council recognises that undergrounding cable networks provide aesthetic and public safety benefits. The main drawbacks with undergrounding are the high costs and difficulty deciding how costs should be shared. The Council's Policy is framed by the principle that those that benefit from undergrounding should pay an amount proportional to the benefits received. This can become complicated because quantifying and assigning the benefits is difficult and subjective.

The Council will be pro-active in helping Wellington residents to underground overhead cables. Council funding for undergrounding will strategically target areas that would receive the biggest public benefits but a large-scale undergrounding programme would be too expensive to implement given Council's existing priorities. The Council's Undergrounding Policy has four components:

1. A \$200,000 Contestable Undergrounding Fund pilot programme where residents apply to Council for partial subsidies, from 2006/07.
2. Facilitate projects initiated and paid for by residents.

³ Additional overhead cables will only be granted resource consent under special circumstances.

3. Consider undergrounding in conjunction with planned Council infrastructure projects and park upgrades.
4. Develop reasonable conditions to ensure overhead networks are of a reasonable quality.

It should be noted that Council officers might not be able to meet the demand for undergrounding projects if there are high levels of interest for both the facilitation of resident initiated projects and the Contestable Fund. The Council retains the right of deciding how many project proposals it accepts from an administrative perspective if Council resources cannot meet the demand for resident initiated proposals.

CONTESTABLE FUND PROGRAMME

The Council will establish a pilot Contestable Undergrounding Fund to subsidise a limited number of resident initiated projects that provide sufficient public benefits. The Fund would initially operate as a three-year pilot starting in the 2006/07 financial year. A review to assess the process and the benefits accrued in relation to the cost of the programme will be undertaken towards the end of the pilot. The Fund provides \$200,000 annually for undergrounding projects (subject to approval in the 2006/2007 Long Term Council Community Plan).

The Council will invite residents to submit proposals for undergrounding projects each year. After obtaining costs estimates from utility operators, the Council would then rank projects based on the criteria outlined below:

- public benefit as determined by whether the project area is located on or contains:
 - main roads
 - suburban centres/shopping centres/town centres
 - heritage sites
 - tourist routes and sites
 - high use pedestrian areas
 - recreation areas
 - scenic areas
- total size of project (length of road and number of properties affected)
- cost of project – total cost, cost per property and cost per km
- number of residents that will benefit from project
- number of residents willing to contribute funding to project
- total funding amount that residents are willing to contribute
- total funding amount the utility operators are willing to contribute
- ability to align timing with other Council projects to lower costs of undergrounding (e.g. footpath renewal or street widening)
- presence of trolley bus networks in project area
- affect of project on existing street trees and vegetation.

Approved projects either receive up to \$100,000 or 25% of the project costs, whichever is the lesser. The evaluation against the criteria is designed to identify the projects that provide the greatest public benefit at the most cost-effective price.

Residents can pay for project costs in the following ways:

- if 75% of ratepayers agree to fund project (minimum of 8 properties), the Council will pay entire up-front costs of project and charge all affected ratepayers a uniform targeted rate (plus interest) over an agreed time period not exceeding 5 years. Ratepayers can also pay costs up front.
- if the 75% target is not achieved, ratepayers in agreement can pay project costs through an up front payment (payment will be in equal quantities or some other allocation arrangement they may agree amongst themselves).

The costs of projects might be reduced if the project coincides with a Council works project such as footpath renewal or street widening. The Council will also consider, on a case-by-case basis, aligning the timing of Council infrastructure projects planned for the following financial year with the undergrounding project in order to offset the costs of approved undergrounding projects. Council's Asset Management Plans provide time frames of planned works for residents who want to attempt to coordinate their projects with them.

Some Council works (i.e. most storm water and drainage upgrades) do not lend themselves to easy alignment with undergrounding of cables in terms of timing and best engineering or traffic practice.

Prior to approval, the Council will negotiate with utility operators to contribute funding to the proposed projects. The willingness to contribute will likely depend on the condition of the existing overhead services and the assessed benefits to the companies putting the services underground.

FACILITATION OF RESIDENT INITIATED AND FUNDED UNDERGROUNDING PROJECTS

For projects that do not receive funding from the Contestable Fund, the Council will facilitate a process for residents who are interested in funding undergrounding projects on their street. Residents will receive Council assistance in the form of staff resources liaising with utility operators to prepare cost estimates.⁴ Guidelines for Resident Initiated Projects are provided to ensure the process is clear and efficient for officers, residents and utility operators (see appendix 1). The Council will work with utility operators to prepare estimates of costs per property.

The guidelines follow the following process:

1. Residents prepare an expression of interest containing a project description, a list of residents that agree in principal to contribute funding to project (minimum of 8 properties) and a nominated contact representative for residents. Residents should be aware that expected costs range between \$6,000-10,000 per property.
2. If the 75% threshold is met, the Council will liaise with utility operators to obtain cost estimates for the project and prepare a project proposal for consideration by residents.⁵

⁴ Costs include undergrounding to ratepayers properties that do not agree to participate in project.

⁵ Ratepayers can apply for a rates postponement under the Rates Postponement Policy if they feel they are unable to meet the costs of the rates increase. This also applies to the Contestable Fund Projects.

3. If the 75% threshold is not met, the Council will continue with the process if the balance of ratepayers in agreement agrees to pay entire cost of project.
4. Once cost estimations are received, residents determine if they want to proceed with funding the project and indicate their preferred payment option (if applicable).
5. If there are any funding implications for the Council through targeted rates (see below), the Council will consult through its Draft Annual Plan on the setting of a targeted rate.
6. Once funding is secured, the Council will arrange for utility operators to manage the contract tendering and construction aspects of project.
7. Construction will begin on project. Conversion of overhead cable networks to underground cable networks will involve:
 - placing main distribution cables underground.
 - placing customer service cables underground⁶
 - reinstatement of footpath or road where construction has taken place
 - removal of overhead cable network
 - upgrade of streetlighting network

The methods of payment and distribution of costs for Contestable Fund projects will apply to resident funded projects (see above). Like Contestable Fund projects, the costs of resident funded projects might also be reduced if the project coincides with a Council works project or if utility operators agree to contribute to the project costs.

The Council is unlikely to facilitate resident initiated projects that increase the cost of other planned Council projects and/or imposes significant engineering or traffic disruptions.

OPPORTUNITY TO UNDERGROUND WITH PLANNED INFRASTRUCTURE PROJECTS AND PARK UPGRADES

The Council will consider including an undergrounding component to large infrastructure projects on main roads, open spaces or park upgrades (e.g. Karori Town Centre upgrade and City Gateway Project). The financial and logistical feasibility of attaching undergrounding to a Council project will be assessed during the planning stages. In addition to providing a cost estimate for the stand-alone infrastructure project and park upgrades, the Council would provide a cost estimate that incorporates the cost of undergrounding into the cost of the project.

With town centre upgrades, residents can request that the funding that would normally be used on a town centre upgrade (which usually includes footpath improvements, roading improvements and other landscaping measures) is used on an undergrounding project. Residents groups could also apply to the Contestable Fund to combine the budget from the town centre upgrade to the Council subsidy. Any additional costs would need to be met by residents.

⁶ All private service cables must be underground before all poles can be removed.

At times, planned Council works do not lend themselves to easy efficient and economical alignment with undergrounding in terms of best engineering or traffic practice. Factors that will determine the feasibility of combining an underground project with a planned infrastructure project or open space or park upgrade are:

- timing of residents approach with Council projects (e.g. residents should approach the Council well in advance of planned project)
- logistics of engineering with existing underground infrastructure
- potential delay to Council projects
- short-term and long-term impact of project such as:
 - potential increase in costs of maintaining, repairing or replacing underground infrastructure (e.g. storm-water pipes, gas lines, water mains)
 - traffic disruptions caused by future repairs and maintenance
- the environmental and heritage significance of the area
- the perceived public benefit as determined by whether the project area is located on or contains:
 - main roads
 - suburban centres/shopping centres/town centres
 - heritage sites
 - tourist routes and sites
 - high use pedestrian areas
 - recreation areas
 - scenic areas.

As stated above, the Council will consider attaching the funding from planned infrastructure projects to both resident initiated projects and approved Contestable Fund projects. Council officers will determine the feasibility of conducting an undergrounding project in conjunction with a previously planned infrastructure project.

REASONABLE CONDITIONS FOR APPEARANCE OF OVERHEAD CABLES

The Council recognises that overhead cable networks are a long term reality but it aims to limit the negative visual impact of overhead cables that remain. The Council will seek to establish reasonable conditions of appearance to ensure that as overhead cables are repaired, maintained or replaced, their appearance is controlled by a code of practice or set of reasonable conditions.

As owner of the road reserve, the Council can impose reasonable conditions on how the utility operators use the road reserve. The conditions can cover the appearance, size and location of their overhead and underground cable networks.

The reasonable conditions will initially be agreed to (in consultation with utility operators) through additions to the Council's *Code of Practice for Working on the Road*.

APPENDIX 1

UNDERGROUNDING OF OVERHEAD CABLES GUIDELINES FOR RESIDENTS INITIATED PROJECTS

This document sets out the Council's guidelines for residents' initiated undergrounding projects. The Council will take a facilitation role with resident initiated projects. If interested residents follow the process outlined in the guidelines, the Council will assist them by:

- initiating discussions with the relevant utilities
- obtaining costing and project information
- developing a project proposal that includes
 - project definition
 - cost estimate
 - funding proposal
 - contingencies
- co-ordinate the commissioning of project
- providing a financing mechanism to residents in agreement that can be paid back over time through targeted rates (subject to the Annual Plan).

The Council will consider providing funding to resident initiated projects when they correspond to planned Council infrastructure projects. In these situations, the Council will incorporate the costs of undergrounding into the overall infrastructure project costs. The Council will only initiate a combined project when cost savings can be identified and the combined project does not create significant delays to the planned works. The Council will also encourage the utilities involved to contribute funding to resident initiated projects.

The guidelines will be reviewed on an ongoing basis. The Council can not force utility companies to underground existing legally established overhead cables (even if an external party provides the funding) so residents initiated projects will be reliant upon the co-operation of utility companies. The guidelines to resident initiated projects are outlined below.

GUIDELINES

The objective of the residents initiated programme is to assist residents in undergrounding overhead cable networks in their areas where residents are prepared to fund the undergrounding themselves or where a third party (e.g. utility operators) is prepared to do on their behalf.

Stage 1: Prepare an Expression of interest

- 1) Residents (groups of residents concerned or Residents Associations) prepare an expression of interest indicating they would like existing overhead cables to be undergrounded. The expression of interest must contain at least the following information:
 - clear description of the streets or parts thereof involved in the project. This must be done using aerial photographs obtainable from the Council's geographic information system on request
 - a list of residents that agree in principle to contribute funding to the project and a nominated contact representative for residents. The Council will only facilitate projects where 8 or more properties agree to underground. Residents should be aware that expected costs range between \$6,000-\$10,000 per property
 - the contacts of a nominated representative to act as a point of contact between the Council and residents.

Stage 2: Establishing level of agreement amongst affected ratepayers

- 2) If 75% of affected ratepayers from the project area agree to fund the undergrounding project, the Council will have the discretion of imposing a uniform targeted rate to all affected ratepayers in the target area.
- 3) If less than 75% of affected ratepayers from the project area agree to fund the project, the Council will continue its facilitation role if the balance of ratepayers in agreement agree to fund the entire cost of the project amongst themselves. These residents must acknowledge that they will be paying for the cost of those ratepayers that did not agree to pay.

Stage 3: Council liaison with utility companies and costing of the project

- 4) Upon receipt of a satisfactory expression of interest, the Council will contact the utility operators concerned and other service providers (including those within the Council) to:
 - obtain the co-operation of utility operators and service providers to a co-ordinated project to underground overhead cables
 - prepare a cost estimate for the project
 - prepare a funding proposal for the consideration of supporting residents. The Council's preference is that the cost of the project is met by a resident's contribution paid in full "up front" (at stage 4 below). However, where the Council is satisfied that "up front" funding by supporting

residents is not a practical option, the Council will consider paying the entire up-front cost of project and recover the full costs of this (including interest) through a targeted rate on the properties of the ratepayers in agreement only over a period not exceeding 5 years.

- 5) Council officers will formulate a “Draft Project Proposal” containing the following information:
 - project definition
 - cost estimate
 - funding proposal
 - contingencies (to cater for supporting residents who may sell their properties in the interim to people who are not willing to contribute financially to the project). The draft proposal will be discussed with the nominated Representative (and other residents if this considered by Council officers to be necessary) and amendments made as required. A final Project Proposal will then be sent to the Nominated Representative.
- 6) If the Council is planning an infrastructure project or park upgrade that aligns with the proposed undergrounding project, the Council will consider incorporating the undergrounding project in the planned work. The Council will not fund the undergrounding work involved beyond the planned Council project and will only support the undergrounding where this does not increase the cost of the Council’s work. Residents must submit their undergrounding proposals well in advance of the start-date of the planned Council infrastructure project if a combined project is to be considered.
- 7) It should be noted that cost estimates for projects are only valid for a limited period of time due to fluctuations in the cost of labour and resources. Projects would be expected to proceed within a reasonable timeframe in order to avoid any significant changes in project costs.

Stage 4: Resident’s Funding or Written Approvals provided

- 8) In the case of projects to be funded by contributions from supporting residents, the Council shall obtain the required funding from residents.
- 9) In the case of projects to be funded through a targeted rate, the Council will establish which properties are located in the affected area and these properties will be included in the “Final Project Proposal”. These properties will incur the targeted rate to cover the cost of the project within the Annual Plan.

Stage 5: Consultation through the Draft Annual Plan

- 10) In the event residents do not fully fund the project upfront, the Council will consult through the Draft Annual Plan on the setting of a targeted rate to cover the costs of the proposed resident projects.

Stage 6: Commissioning and implementation

- 11) Provided that the Council is satisfied that the requirements of stages 1-4 are met, the Council will then proceed to commission the work.
- 12) If the final contract price exceeds the levels and variances given in the “Final Project Proposal”, additional funding from residents or new written approvals will be required to pay the additional cost. Ratepayers will be refunded if the construction costs are less than projected.

Notes

- 13) If technical defects arise before the warranty period finishes, the contractor will be responsible for correcting the problem. If problems occur after the warranty period, the affected utility operators will have the responsibility of fixing the problem
- 14) All private service lines must be undergrounded before utility poles can be removed.
- 15) The costs of undergrounding projects per property are approximately \$6,000 to \$10,000. The costs are dependent on the following factors:
 - property density
 - soil and rock type
 - nature, extent and condition of the existing overhead cables
 - condition and design of footpaths and roads
 - extent to which utility operators are prepared to contribute to the particular project
 - extent to which the Council is prepared to contribute to the particular project
 - number of properties that would benefit and whose owners agree to fund the project
 - difficulty of undergrounding cables to properties
 - type of reinstatement (e.g. grass berm versus sealed footpath)
 - extent of streetlighting