

An aerial photograph of a tropical coastline, likely in Rarotonga. The image shows a winding path of turquoise water bordered by lush green islands and peninsulas. On the left, a peninsula is densely packed with small buildings and palm trees. The water transitions from a shallow, clear turquoise near the shore to a deeper blue further out. Several small boats are visible in the water. The sky is a pale, hazy blue.

Rarotonga Development Guide

June 2024

Acquiring a section or thinking about developing your land?

Whether your project is clearing land, building a single room home or a multi room tourist accommodation, there are impacts that can negatively impact our environment, our neighbours, our own development, public infrastructure and the economy.

A single small development may not have a large impact but if many small developments do not follow best practices or the law, they will together produce a large negative impact.

Much of the environmental degradation today is due to the cumulative impacts caused by development. We now know how we can prevent or minimize impacts from development by better planning our developments and how we live.

This booklet is intended to inform all developers on the processes involved in developing land and constructing buildings, about installing utility services and to encourage best practices that protect people, property and the environment.

- Section 1: Best Practices.....
- Section 2: Land Map Review Process.....
- Section 3: The Permitting Process.....
- Section 4: Utility Connections.....



Best Practices

Prior to development, land was covered in naturally occurring native grasses, vines, shrubs, trees and leaf fall. Low lying areas served as flood zones which helped cleanse flood waters. This would have formed a healthy, well-functioning ecosystem.

Plants, trees and leaf fall provide a shield between erosion causing rain, water moving across the land and wind. Without this vegetation cover and support, soil is at risk of being eroded and the marine environment is at risk of being contaminated with soils and nutrients from land. An added pressure on the marine environment is the loss of low lying areas through in-filling that would normally intercept stormwater. In many places, we have changed the landscape to direct stormwater straight into streams and the lagoons.

Soil loses its nutrients when eroded. Topsoil (the top layer) is rich in microorganisms and organic matter and is where most of the Earth's biological soil activity occurs. You might have noticed how it takes much longer for grass to grow on recently excavated areas. During excavation in some

countries topsoil is placed in a separate pile to be placed back on top when excavations are complete. Once topsoil is lost, it takes decades for the newly exposed layer of soil to become enriched.

When high volumes of sediments and nutrients get washed into fresh and salt water environments, they degrade water quality. This means that the health of the ecosystems for water based plants and animals is reduced. Plants, corals and aquatic animals will die or move away if they can and something else may replace them such as algae. This is a reaction to a change. Change in the environment has flow on effects that impact on other living things, including humans and their economies.

Everyday practices also contribute to how healthy our environment and our living spaces are. Practices like how we treat our rubbish, what products we use at home and even how we landscape our yards. This section provides best practice tips that help us be more sustainable in our developments and everyday living.

Beneficial planting

Keeping or planting lots of shrubs and trees on your property and on stream and beach banks goes a long way to reducing environmental degradation and helping manage flooding and erosion. Vegetation protects soil, supports the soil structure, and facilitates rainwater infiltration through root systems. Soil should never be introduced in areas that are sandy as if it were to be washed into the lagoon, it would create problems. So always consider planting according to your sections soil type.

Our native animals rely on food and shelter from our native trees so it is important that we make native tree and shrub planting part of our landscaping. We can either leave them in place or if they are removed, replant again.

An invasive plant species is an introduced one that out-competes native species by growing faster and bigger, blocking out sunlight and space from native trees. Overtime, native trees die out and food sources for native animals are reduced. Know what invasive plants look like and avoid planting them on purpose and eradicate them when they appear. Contact Ministry of Agriculture and Cook Islands Natural Heritage Trust for more information

Trees to avoid



Albezia



African Tulip



Starburst Bush

Rainwater harvesting and infiltration

With the onset of climate change, we have to manage a larger volume of rainfall than we have had to in the past. A simple way to control the effects of heavy rainfall is to capture it and plant lots of trees to enable natural infiltration into the ground.

Install a rainwater tank and guttering to capture rainwater off your roof for re-use. Consider installing your tank to allow you to switch to mains water supply during low rainfall periods. Only fill from mains to half of the tank to allow space for rainwater capture. Talk to your plumber for options.

You can manage rainfall that falls on your section by installing engineered solutions or natural solutions. Talk to a drainlayer for options and do some research online. You can make your own natural solution like a rain garden to manage rainfall on your property so that it does not affect your property or others downhill.



Rain Garden

Passive cooling

Take advantage of ways to practically cool your homes at the design stage. Orientate your home to the prevailing wind direction at your section. Blocking sunlight from making contact with your home helps passively cool homes through keeping large trees on your section and having long roof eaves. Insulation in ceilings and walls helps control temperatures in your home, keeping your home cooler in summer. Insulation is readily available on Rarotonga.

Future proofing

Over time development often increases and the changing climate is also something to think about and 'future proof' for.

Consider your buildings proximity to roads. There could be a road widening in the future which could inflict noise into your home. You might like to contribute to public goods such as footpaths, cycle lanes, drainage systems, on street parking or a bus stop in the future.

It is important to road safety to ensure that vegetation does not impede sightlines. When planting your new hedge, consider placing your cuttings slightly inside your boundary, at least 80cm, to ensure when your hedge grows, you will still be able to see when you exit your driveway.

We still want shading along roadsides for everyone to enjoy however, consider planting trees one metre or more inside your boundary to keep roots away from underground utilities and from cracking the road pavement.

If your section is on flat land, by a stream or in a low lying area it is a good idea to build your homes floor level well above ground level in case of flooding. Seek advice from local builders or engineers.

Daily Living

Laundry Detergents

Wastewater from septic tanks in densely populated areas can leak into groundwater and reach the lagoons, sending nutrients from laundry detergents with it. Choose no phosphate containing laundry detergents for your laundry and help reduce nutrient contamination. These options are widely available and usually have “NP” labelled on the packaging.

Sorting of Household Rubbish

The best way to manage rubbish is to:

- Clean and separate rubbish into glass, aluminium and tin cans, and recyclable plastics for roadside collection.
- Items that contain electrical components and hazardous substances should be kept separate and taken to the correct facility for handling.
- Food scraps should be fed to animals or composted.
- Put rubbish that is not recyclable, not hazardous, and not food into a separate bin.
- Never burn or bury plastic or rubber based rubbish.

Visit ici.gov.ck/wastemanagement/recycling/.



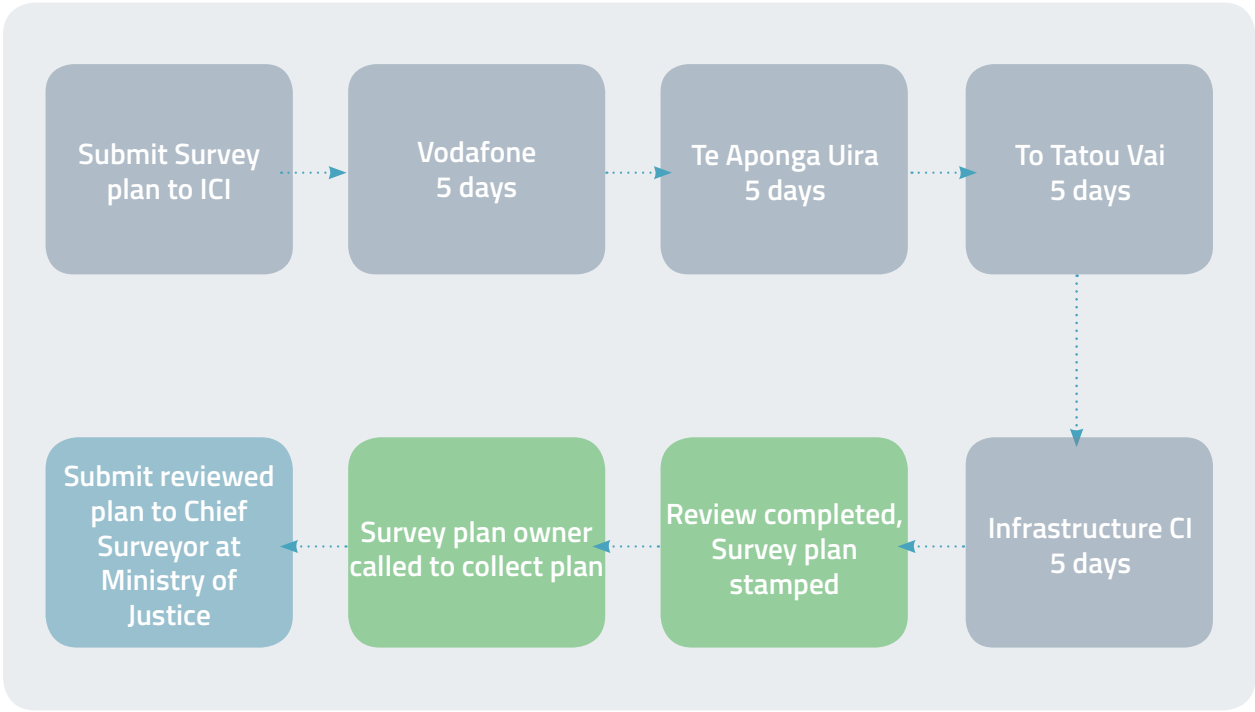
NP Laundry Powder

The Land Map Review Process

To ensure good planning goes into land access, survey plans must be provided to infrastructure managers when the Court is laying out or varying a right of way and before a partition order is made. The infrastructure managers are Te Aponga Uira (TAU), To Tatou Vai (TTV), Vodafone and Infrastructure Cook Islands (ICI).

ICI is the road manager while the other agencies provide electricity, water and telecommunications. This process helps infrastructure managers' plan for the provision of utilities. ICI will check the site and ensure the proposed accessway is in the most suitable location.

Hand in your survey plan (map) to ICI for review by the infrastructure managers. After this process is completed, your survey plan can be submitted to the Chief Surveyor.



The Permitting Process

All types of development proposals need permits. This is to ensure development meets standards and good practices. All proposals must be given to the National Environment Service for review. If your development includes a building you will also need to submit your proposal to Te Marae Ora and Infrastructure Cook Islands.

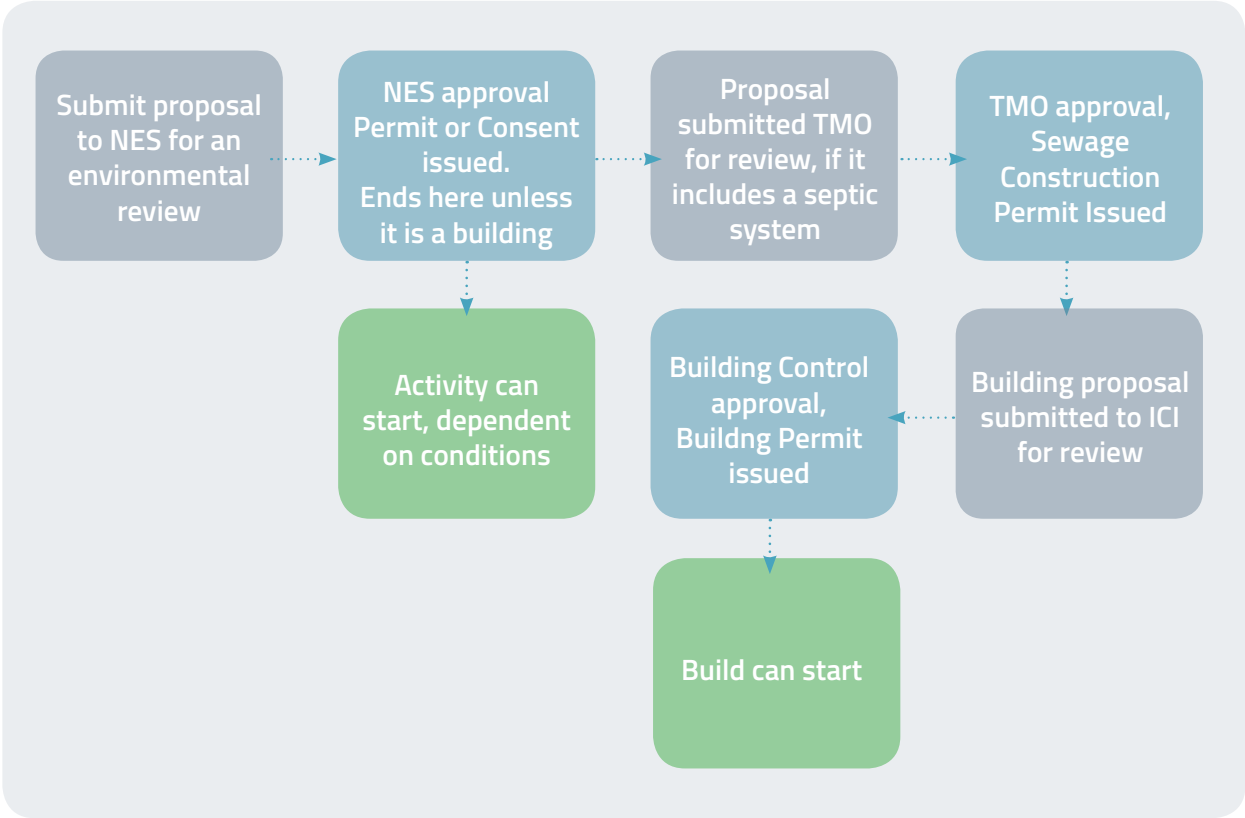
This section provides an outline on the permitting process and the requirements at each step.

Step 1: Seek an Environmental Permit or Consent

Step 2: Seek a Sewage Construction Permit (if your proposal includes a septic system)

Step 3: Seek a Building Permit (if your proposal includes a building)

This flowchart shows the general process for gaining approval for development





Takuvaine wetlands

Photo source: National Environment Service.

Step 1

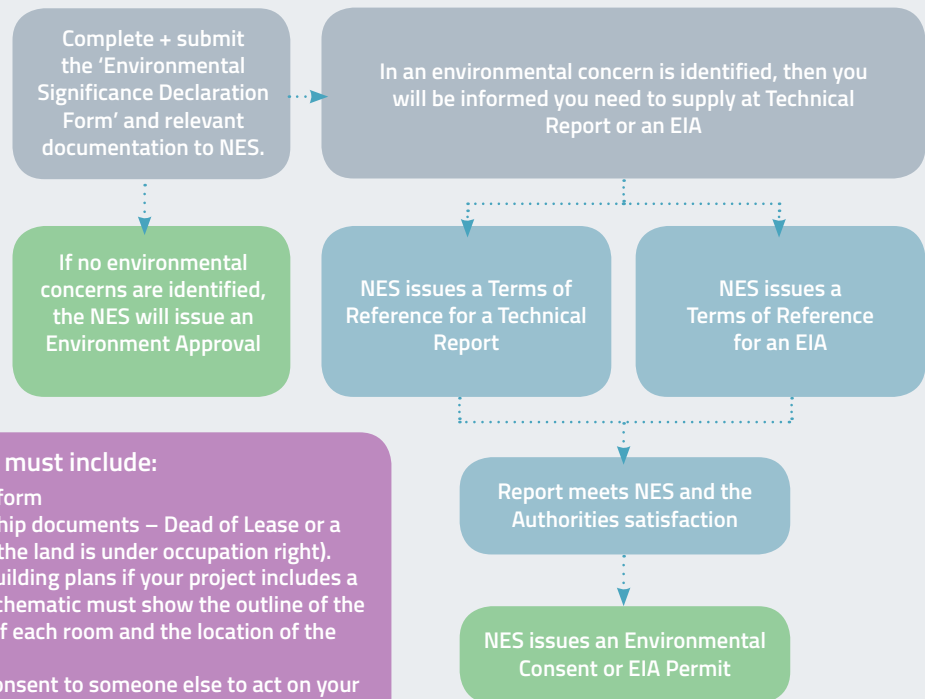
National Environment Service (NES) | Permits and Consents

It is important that all land development plans are passed through the NES to ensure that any activities that may cause damage to the environment and the vicinity of the site are identified and managed. The process begins with an Environmental Significance Declaration (ESD) which you can also complete online at environment.gov.ck/esd-form-online/.

There are three types of environmental sign off which relate to the level of complexity of your development. These are:

1. Tier 1: Environmental Approval
2. Tier 2: Environmental Consent
3. Tier 3: Environmental Impact Assessment Permit

If your development involves activities on sloping land, in a wetland, at the coast, in the lagoon or by a stream, you will likely need an Environmental Consent or an EIA Permit.



Tips

For more information, check out Factsheets 2 to 5 at environment.gov.ck/communications/

- Factsheet 2: Environmental Compliance – Main Activity Tiers
- Factsheet 3: Environmental Approval (Tier 1)
- Factsheet 4: Environmental Consent (Tier 2)
- Factsheet 5: Environmental Impact Assessment Permit (Tier 3)

National Environment Service contact details

Phone: 21256

Visit: environment.gov.ck/applications-permits/

Next Step: Sewage Construction Permit



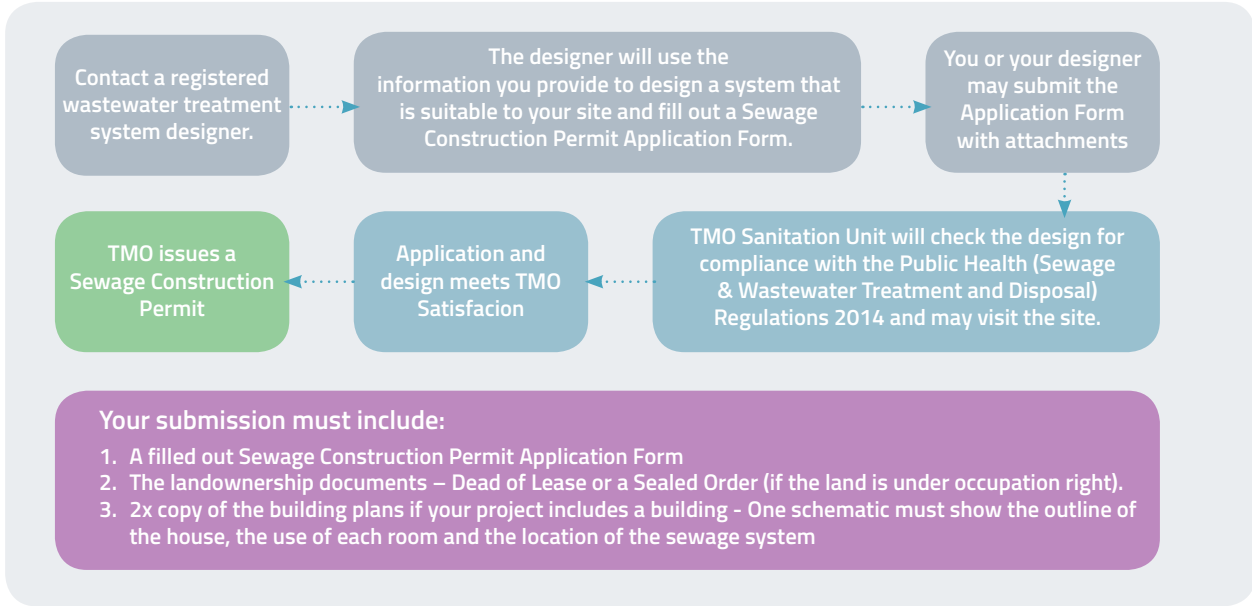
Step 2

Wastewater treatment system installation

Photo source: Infrastructure Cook Islands

Te Marae Ora | Sewage Construction Permit

It is important to ensure your wastewater treatment system is designed, installed and maintained by qualified and experienced servicemen. Wastewater systems protect our health and the health of our water underground and in the lagoon. Te Marae Ora are the regulator for wastewater treatment systems and have a register of designers, installers and systems that are approved for work and use in the Cook Islands.



Tips

Safe plants for your disposal bed – Banana trees.



Plants to avoid – Rauti, Hibiscus



Reusing your treated wastewater to water gardens – Talk to your drainlayer/plumber for advice if you would like to circulate your grey water through land disposal pipes for ornamental plants.
For health reasons, treated wastewater should not be applied

Ministry of Health contact details

Phone: 29110

Visit: health.gov.ck/public-health/health-protection

Next Step: Building Permit

Step 3

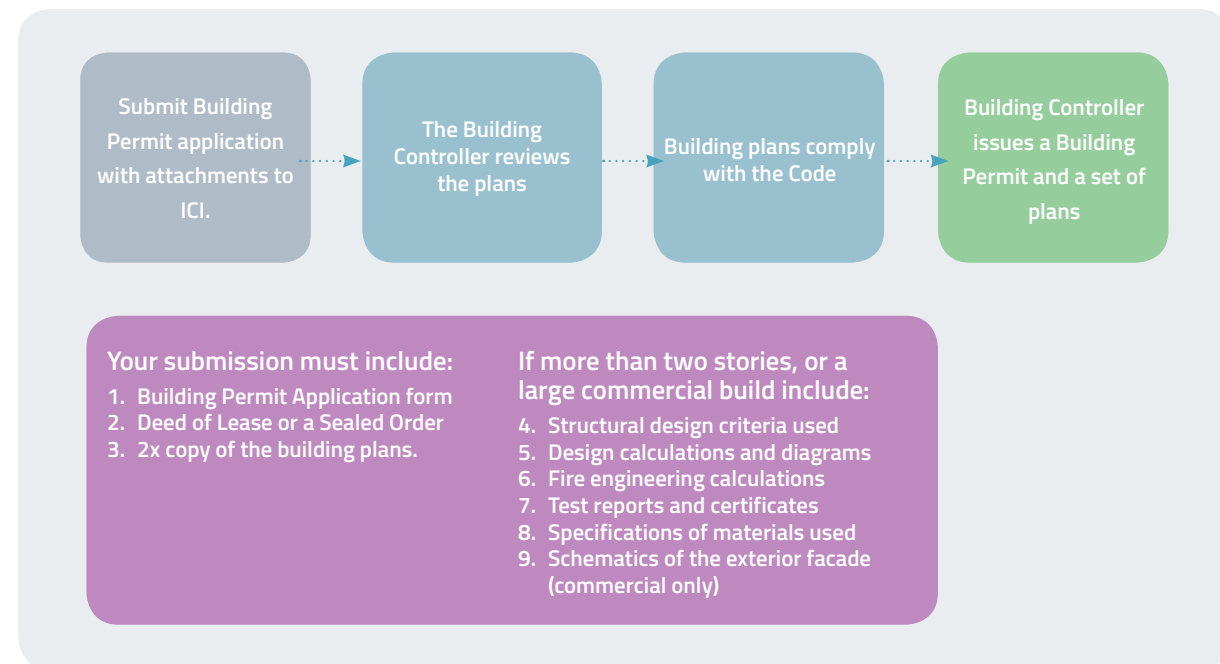
A home build

Photo source: Infrastructure Cook Islands



Infrastructure Cook Islands (ICI) | Building Permit

If you are constructing a building, you must get a building permit from Building Control at Infrastructure Cook Islands. The Building Controller will check whether the plans meet the Building Code to ensure the comfort and safety of future occupants and good overall planning.



Your building plans must show your compliance with the 'Planning Requirements' in the Building Code. These are:

- | | |
|---|-------------------------------------|
| 1. Minimum acceptable floor levels for the site | 4. Building setback from boundaries |
| 2. Vehicle access provision | 5. Maximum building height |
| 3. Parking provision | 6. Emergency vehicle access |

Tips

Install Insulation



Orientate to prevailing wind



Build well above ground level



Infrastructure Cook Islands contact details

Phone: 20321
Visit: ici.gov.ck/building-permits/



Utility Connections

You will need to contact utility providers for connections to power, water and telecommunications.

If your utility connections require the cutting of a sealed road, you must obtain a Road Excavation Permit from ICI. Visit ici.gov.ck/road-excavation-permits/.

Talk with the infrastructure managers to find out if new utility supplies can share the same trench. It is best to install all your utility lines at the same time to save on costs and cutting the road seal

Water Connection

1. Visit or contact To Tatou Vai (TTV) for an application form
 - Provide the location for your water connection (Oire, Tapere, Section number), and the type of connection requested (e.g. domestic).
2. To Tatou Vai will inform you of specific requirements
3. Next you will need to:
 - Confirm payment for your new water connection
 - Purchase materials from suppliers
 - Arrange a contractor for your trenching

Note: Contact a plumber for your indoor plumbing

Tips

Harvest rainwater
off your roof



Take shorter
showers



Reuse dishwater
for plants



Turn off the tap while
brushing your teeth



Purchase appliances
with a 3 or higher water
rating



To Tatou Vai contact details

Phone: 24479

Visit: totatouvai.gov.ck

Power Connection and Wiring

External – Installation of power main line and connection of service main cable

1. Provide the location of your premises along with a surveyed site plan of your project to Te Aponga Uira (TAU) who then undertake a Technical Assessment to prepare a quote.
2. Once the quote is accepted, an Agreement for Supply of Electricity and Related Services is signed and fees paid.

Note:

- TAU only installs the main line up to the last pillar box near your boundary and connects the service main cable.
- A Cook Islands registered electrician will be required to carry out installation of the service main cable.

Te Aponga Uira's contact details

Phone: 25257

Visit: teaponga.com/new-connection/

Internal – Wiring your house

1. Contact a registered electrician who will prepare an electrical plan with you. You can find them in the phone book or online.
2. Your electrician will apply for an Electrical Wiring Permit at ICI.
3. When approved, your electrician will be issued an Electrical Wiring Permit and can begin installing wiring in your building and install the service main cable.

When your electricians work is found compliant, the Electrical Inspector issues a Completion Notice and informs TAU that your property is approved to be supplied with electricity. TAU will then turn on power to your building.

Tips

Turn off lights in unused rooms



Install LED lights



Switch off appliances on standby



Choose energy efficient appliances



Insulate your buildings



Telecommunications connection

Phone & Broadband Connections

- Contact Vodafone and advise requirements including location, new or existing building, and if known, if premises had an existing service previously.
- A site visit will be conducted by Vodafone technicians.
- Upon completion of site visit, requirements on installation of service will be advised to customer.
- Customer to complete application form and select monthly plan for services required.
- Payment of installation fees are required prior to service being installed.
- If you are a new customer to Vodafone, credit checks will apply.

Business Connections

- Contact Vodafone for requirements for all services.
- Fibre and GPON services available.
- Business solutions designed for your business needs.

Vodafone Cook Islands contact details

Phone: 29680

Visit: vodafone.co.ck

Checklist

Everything you need to start your project

Detail	New building on an undeveloped section	Building on a developed section	Excavation, vegetation clearance only
NES Approval	✓	✓	✓
TMO Approval	✓	✓	
ICI Approval	✓	✓	Check with ICI.

This guide can be used as development advice for in the Pa Enua.
See your local Environment and Health Officers, and Island Administration for permit requirements.

This guide was developed in partnership between:
Infrastructure Cook Islands, National Environment Service, Ministry of Health,
To Tatou Vai, Te Aponga Uira, Vodafone Cook Islands, Cook Islands MetService,
Cook Islands Natural Heritage Trust, Ministry of Agriculture, Ministry of Justice

