INTERPRETATION PLAN ○ BARING HEAD ○ ŌRUA POUANUI

POWERHOUSE

FINAL 04-09-18

Pre-requisites

- Leave ALL exisəng wiring, conduits, cabinets, key plaques, coat hooks, cupboards etc
- Keepers kept the seğlement buildings immaculate and well maintained. We should conənue this.

  Repaint the Shelter Room (1) in a light colour to provide fresh first impressions

  Repaint the O ce and external corridor

  Repaint the Workshop but leave most of its entry corridor unpainted (this will become part of the display)

  No need to paint generator room? Note it originally had lino flooring. Clean thoroughly and re-line ceiling. Maintain the smell of diesel.

- Lights to be on sensors for dayəme hours only
- Entry doors self-closing and weather-əght

Display

Props

typewriter, old charts, tools, old manuals, instrucəon books etc, painəng dropcloth, cans

Furniture

o ce chair, woodwork bench

Audio

generator motors (synched to pull cord?)
morse code with staəon call sign (radio beacon)
Radio comms, perhaps replaying the Brothers Island sta joke

Smells

diesel in generator room (hide a rag?)
fresh wood chips and sawdust in workshop
fresh paint in corridor into workshop

Lights

CO2 graph, Cloud of Doom, NIWA, Room 1
Original lighthouse flash sequence, Room 1
Opəon to top-light the Lighthouse displays if room is too gloomy

Audio-visual

Potenəal for Storeroom to have a projecəon or hologram
Potenəal for O ce to have oral history AV

Language

Where appropriate and/or feasible, Maori headings, sub-headings or bi-lingual text

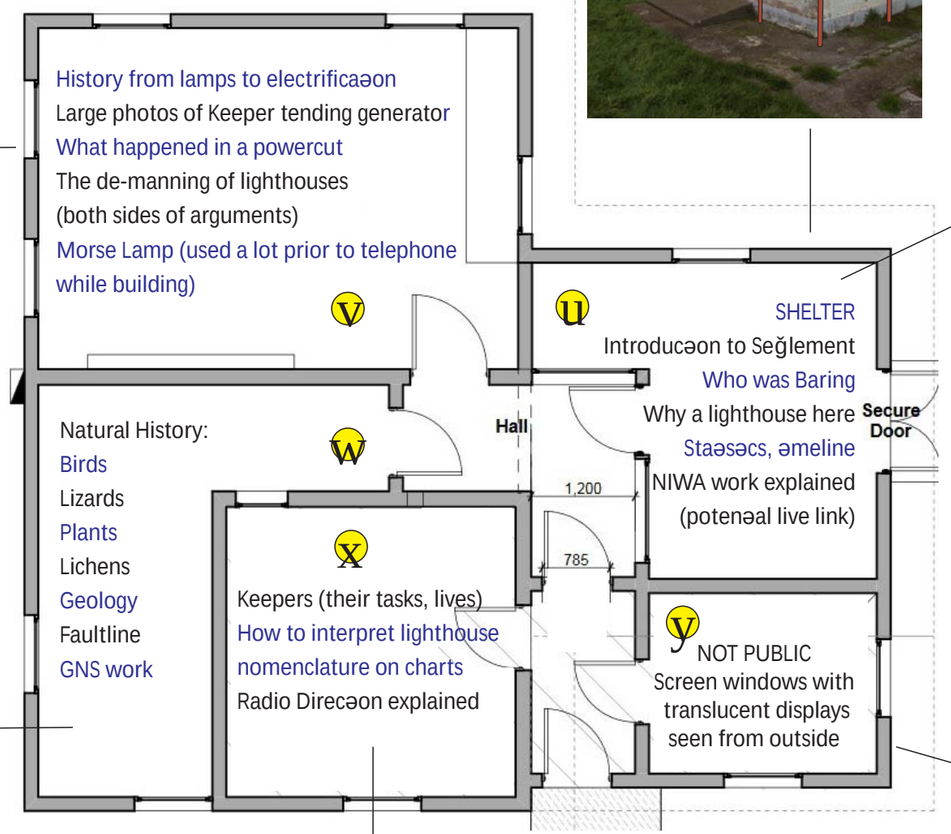
NOTES FROM STEVE O.NEILL
14.5 years
Last keeper

Engine room. This had the power boards and was also where the light was turned on and o every day. The Lister powered alternator was in there also and was a back-up to the mains power.

The Morse Lamp (Aldis) was kept in the Engine Room, in a cupboard. It was səll there when I leƉ the staəon. When I joined the service in 1970 we had to pass exams in Signalling, Semaphore, Morse Code, First Aid and Radio Telephony.

WELCOME - Informaəon sign facing arriving walkers
plus ENTRY signage for Powerhouse

Fuel store. The lawnmower and other larger implements were also stored there. The fuel was petrol for the mower and diesel for the Lister engines (The generator and also the water pump at the Wainui River).

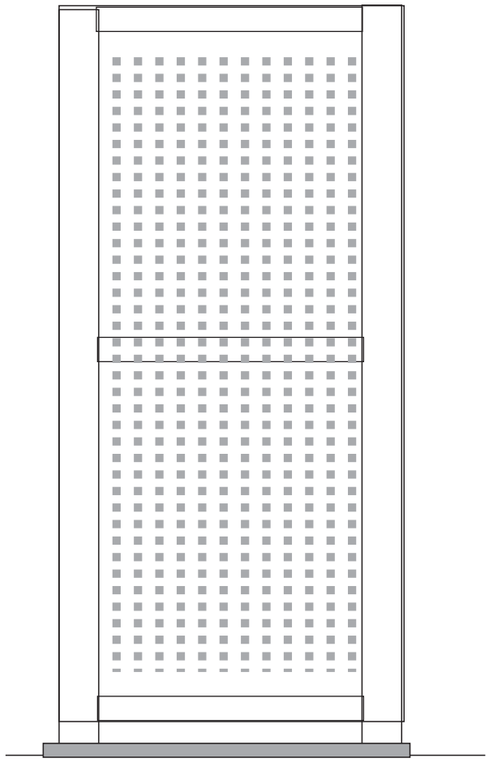


Workshop. It had a woodworking bench and shadow boards for tools.

O ce. My desk, phone, radio telephone, radio beacon, and all of the staəon files were in there.

store-room, with cupboards lining the wall on the leƉ hand side as you go in. There was most things required for the staəon maintenance stored in there. Paint, methylated spirits, tap washers, nails, screws, hinges, light bulbs, fence wire etc.

POWERHOUSE



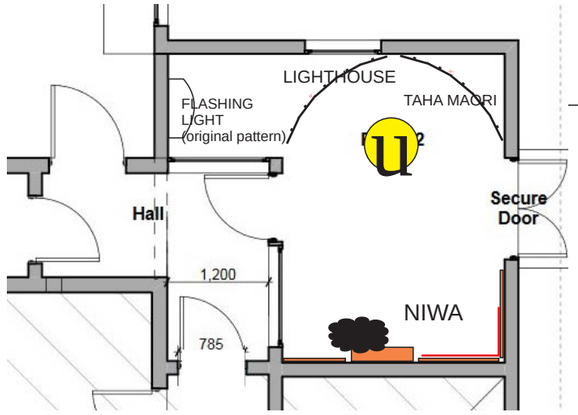
POWERHOUSE

Come on in
and explore the
history of
Baring Head

Open: Daylight hours

This building housed the Lighthouse Keeper's O ce and Generator Plant which kept the Lighthouse and the Radio Direcəon Beacon operaəonal

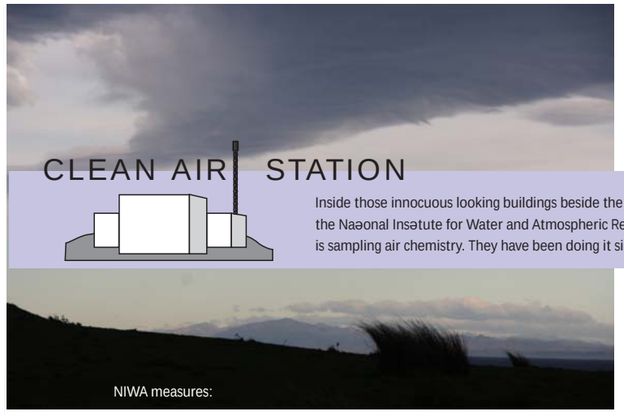
Freestanding sign next to entrance doors
on concrete base.
Metal frame clad with perforated aluminium
panel to opəmise wind resilience.
Vinyl text.
Approx. 1000 x 2000 o/a



Elements / Themes

NIWA

- Explain what goes on inside the mystery buildings
- Global significance and why THIS locaəon
- The graphs. The urgency. The INDIVIDUAL responsibility to act.
- Potenəal for live feed.



CLEAN AIR STATION

Inside those innocuous looking buildings beside the Lighthouse the Naəonal Insətute for Water and Atmospheric Research (NIWA) is sampling air chemistry. They have been doing it since 1972.

NIWA measures:

carbon dioxide
methane
nitrous oxide
ozone
oxygen
carbon monoxide

Some of these are greenhouse gases (they capture radiant energy from the Earth's surface and release it, causing heaang of the atmosphere).
Do you know which ones these are?

The original mission was to measure the rate of change of CO2. Now the interest is in the total budget - what is being absorbed and what is being produced.

Since the 1980s NIWA has also monitored other gases with highly sensiave equipment.

Why Here?

This was the first clean air tesang staaon in the southern hemisphere. Originally it was located at Makara but there was too much pasture around - and too much methane skewing the results. Much beğer to be here on a cli -top, where incoming southerly wind has been at sea for days.

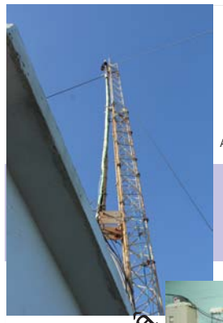
No Farting!

. . . or smoking, or driving, or lighang fires. The machines can pick up these subtle changes in air chemistry. So please behave. The analysts have a hard enough job as it is, figuring out where air pollutants come from.

Wild Stories

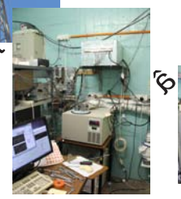
Technicians would visit once a week to check on eequipment but they say a wild pig used to make it tricky for them to reach the buildings. It turned out to like dry ice pellets, so the techos would toss the pig a pellet and make a dash for the building. So far, so good. One day the pig raided the whole bag of pellets. Dry ice is -80 degrees! This, sadly, was the pig's last meal. It was found with 'steam' coming out its ears.

1980 335ppm
1990 351ppm
2000 365ppm
2010 386ppm
2018 403ppm



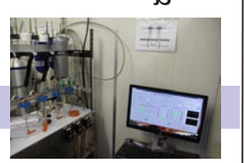
Air is sampled every 1 or 2 seconds

Testing, testing . . .



Air is run through an infrared analyser. CO_2 absorbs infrared light, giving us a way to measure the amount present.

Data is filtered for wind diriecaon. This will inform scienasts of likely spikes of polluaon (such as fires in the Huğ Valley in a winter-əme nor-wester)



More machines extract levels of ozone and oxygen.

Samples are taen back to Wellington for separate isotope analysis in a mass spectrometer.

The many lives of the C in CO_2

The di erent forms of carbon (isotopes) include:

C_{12} (the most common isotope)
C_{13} (only 1% of the total)
C_{14} (radio carbon, naturally present due to sun acavity)

The raao of C_{13} : C_{12} within CO_2 can give us a clue where the CO_2 comes from. Plants and fossil fuels have a raao 2% lower than atmospheric CO_2 sourced from volcanoes or the ocean.

Once greenhouse gases are emitted they stay in the atmosphere for decades

C_{14} spiked aDer Pacific nuclear tesang in the 1960s. Only now is it nearly back to original levels. Luckily the sea is a sink for C_{14}

BLACK CLOUD OF DOOM

Co_2

sea level rise Tokalau 2m

Antarctic ice shelves

CO_2 increase is acceleraang at an unprecedented rate

C isotope raaos idenafy the source. we know it is fossil fuels.

CO_2 di ers in concentraaon between southern and northern hemispheres. It is increasing at the same relaave rate that each hemisphere is burning fossil fuels.

LIVE FEED

SOLVING THE PROBLEM

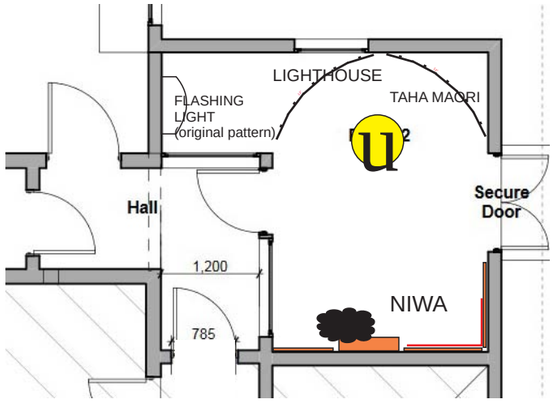
Paris Accord A 2 threshhold has been set.

Who solved previous problems?

NUCLEAR TESTING? scienasts + poliacians

OZONE HOLE? industry + poliacians

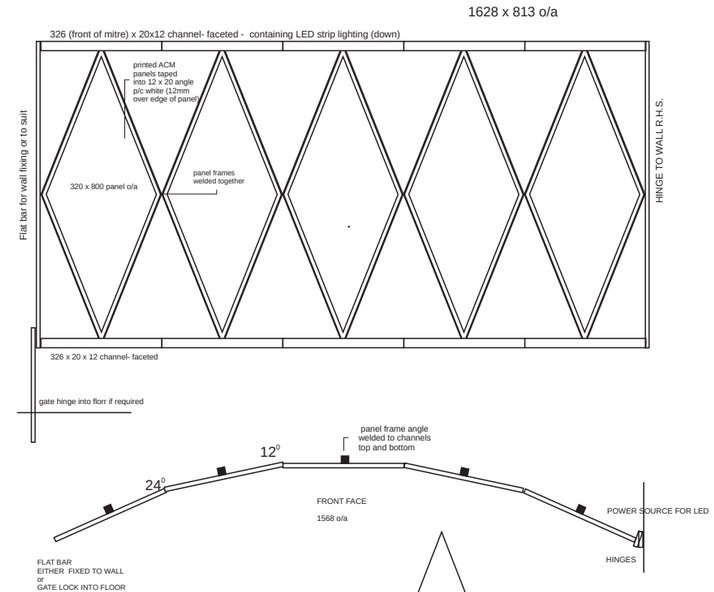
GREENHOUSE GASES . . .
It'll take ALL of us!



Elements / Themes

LIGHTHOUSE

- Poǧed history of this lighthouse *(more detail in outside 'Wheel' display)*
- Explanaəon of THIS building in context of electrificaəon, automaəon, radio direcəon finders
- Local place names mostly relate to The New Zealand Company Directors or associates:



LIGHTHOUSE

Opened in 1935, the first electrified lighthouse in New Zealand

One of two diesel National engines charged the generator and batteries

Radio direction beacon installed 1937

Light was a flashing bulb with fixed lens

Lister engines installed in 1960s

Mains powered from 1950

Automated in 1989

De-manned in 1989

LED light 2005

Visible 10 nm

SETTLEMENT

Two keepers required from 1935

Head Keeper lived in House 1

Assistant Keeper lived in House 2

Only one Keeper required from 1961

The children raised here bused to school in Wainuiomata

BARING HEAD

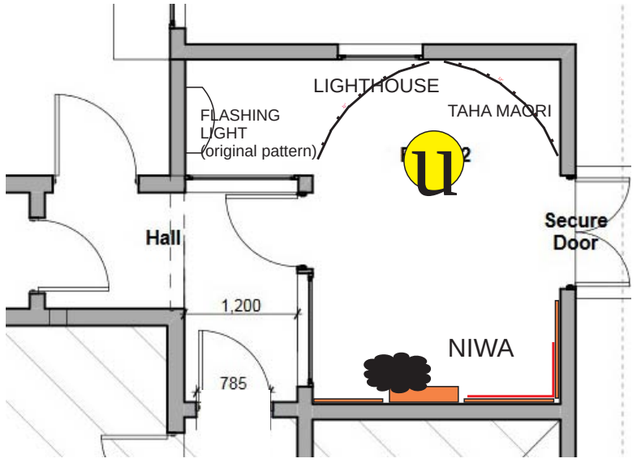
The New Zealand Company's first colonial settlers arrived in Port Nicholson (Wellington) in 1840

Baring was born into an American banking family who 'banished' him to London; he became an MP and a Director of the New Zealand Company

Sinclair was a Company Director

Fitzroy was a Governor at the time of colonial settlement

Palliser was a naval patron and friend of Captain Cook (the Cape was named during Cook's first voyage)



Elements / Themes

TAHA MAORI

- Brief history of seğlement
- Use the burial to reflect on natural hazards
- What sustained the latest populaəon?

ORUA POUA NUI

This headland is Oruā-poua-nui or 'Pouanui's retreat'.

An ancient Rangitane pā Parangarahu was located on a nearby spur in Fitzroy Bay.

More recently Parangarahu Village was located near the bottom of the road down into Fitzroy Bay.

Ngāti Ira lived there, then (by 1840) Te Ātiawa who fished and grew crops on the marine terraces.

.

The trig point above Oruā-poua-nui is Para

The rock outcrops below the headland are Te Wera, named to commemorate a murdered warrior.

Maori translation on this side

MYSTERY MĀORI

As foundations were dug for the lighthouse a Māori burial was uncovered.

Who was this?
A Rangitane who died in the tsunami that razed entire villages along the South Coast in the 1600s?

A Ngāti Ira who fought for survival when Te Ātiawa warriors arrived in the 1820s?

Perhaps it was one of Te Ātiawa who had sold crops of wheat and corn to the new pakeha settlers. Had they been caught in a land-slide during the huge 8.2 Mw 1855 quake or its 10m tsunami?

Maori translation on this side

KARAKA & CORN

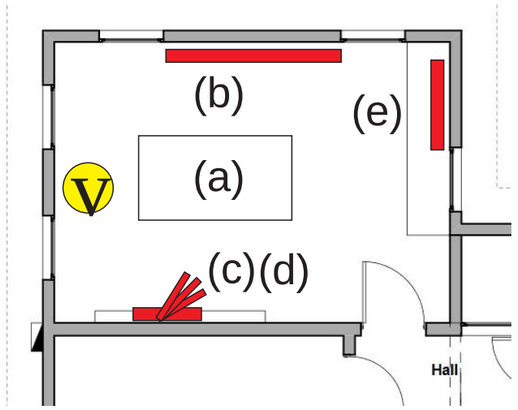
Did you notice the groves of karaka in the Wainuiomata Valley as you came in?

Karaka is not native to Wellington - it has been introduced by northern Māori settlers as an orchard tree. The fruit's flesh is edible but the toxic kernels must be prepared correctly before use.

It would have been much easier to grow the *pākehā* corn for the same end result - plus you could sell them the corn.

The sandy beach terraces, protected from the strongest winds by the cli s above, made excellent gardens.

Maori translation on this side



Elements / Themes

GENERATOR ROOM

- History of electrificaəon
- Switching of the light (roof mounted valve)
- Mains power and power cuts
- The eventual full automaəon and demanning

(a) Photo re-creaəon of original

Using clear acrylic box printed with relevant views of generator etc. Use acrylic flue to apply any text required to explain the equipment.

(b) History of electrificaəon of lighthouses in NZ

"It is only recently that science has brought about an electric light bulb which has the same penetraəng rays as the incandescent oil light."

How was this light kept going? First diesel generator . . .

"Mrs Riddiford then entered the power-house accompanied by Miss Rosemary Riddiford, and under the direcəon of Mr Wilson, head keeper of the light, pressed the buğon which set into moəon one of the two 8 1/2 horse-power Diesel engines and started the light."

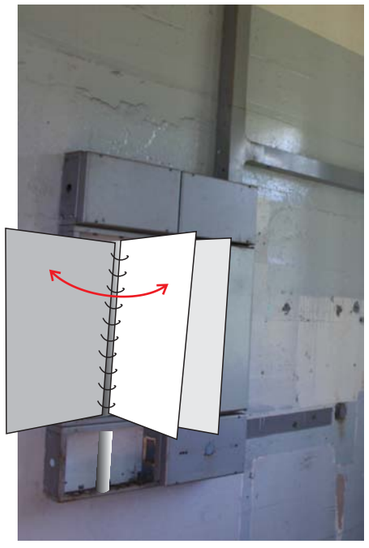
"Two engines drove the generator, responsible for charging 56 2-volt bağeries. If one engine breaks down the other automaəcally kicks in. If the bağery output drops the engines are started and work in relay to recharge the bağeries. The switchboard on which every electrical control is set out faces the engines in the engine room."

and later mains power. . . .

"Power cuts were not uncommon in very bad weather, gorse fires on the Coast Rd, and possums electrocuəng themselves and shorəng out the power supply. If this happened the alarms would go o , the engine would start up and immediately send power to the house and lighthouse. I would make sure everything was running ok and try to idenəfy the problem with the power cut."

(c) Morse lamp - *'book' set into distribuəon board*

[Opening Night] Using the large morse lamp and key mounted in the power house , Mr Wilson called up Beacon Hill aƉer darkness had fallen and asked the man on duty there how the light looked. The reply was "all right".
Shortly aƉer 8p.m. the Rangaəra's lights were seen as the ship passed out of the heads on her way to Lyğleton. . . . Mr Wilson signalled the ship by Morse Lamp and asked how the light looked.
Rangaəra: "The light looks very well."

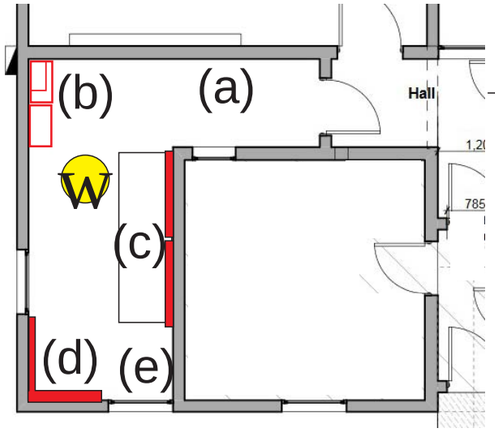


(d) Sun valve - *'book' set into distribuəon board*

Mounted on the roof.
Two bulbs, one transparent one dark, filled with ether.
When daylight falls, the acəon of the light on the ether causes the valve to operate mechanical switching on the light in the tower.
Similarly, when darkness gives way to light again, this device turns o the light.

(e) De-manning lighthouses through NZ. A poğed history of gradual automaəon.

Relate the stories of stress, the fights and lobbying.
Use monthly reports to illustrate the search and rescue aspects



Elements / Themes

WORKSHOP

- Natural History presented as a workroom environment
- Emphasise the Keeper's constant maintenance acəviəes by having a 'painter' working on unpainted secəon of the corridor - seen through O ce window.

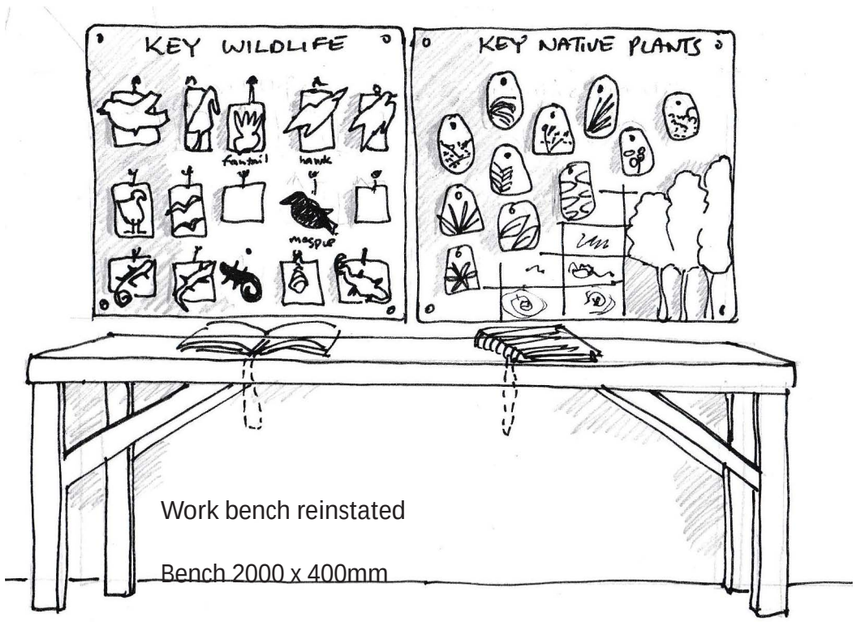
(a)

Painter
Wall-mounted semi-3D person with paint pot and roller.
Leave this porəon of wall unpainted.:
There can be a wriğen story about this kind of acəvity on the O ce window above the desk (and the painter is seen through the window)

(b)

Shadow board for tools
(seen from hallway, this sets the themaəc up for the rest of the room)

Paraphenalia with 'surprises'

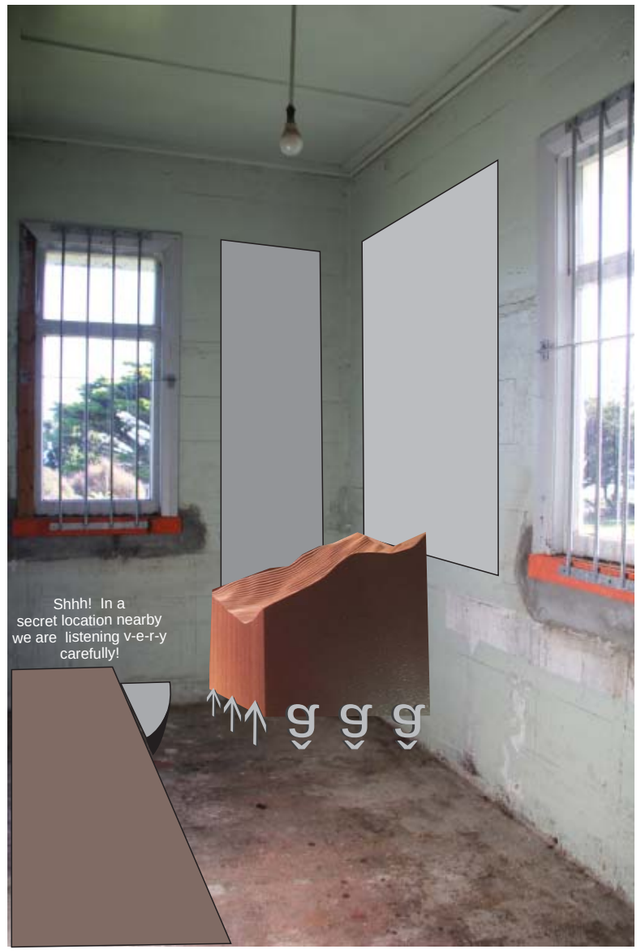


(c)

Shadow boards for biota idenəficaəon with 'handwriğen' names (English/Maori/scienəfic).
Tags of clear acrylic, printed, securely fastened (with 'shadow' on board).
'Manuals' with further detail and stories on benchtop.

Birds: include hawk, falcon, tui, bellbird, swallow, lark, pipit, kingfisher, magpie, shelduck, starling . . .
Lizards: common skink, copper skink, common gecko, spoğed gecko
Plants: shrubs around seğlement; lichens; trees
(could include karaka with story)

"Manuals" can include hot əps such as:
how to tell a skink from a gecko - habitat preferences
how to tell a falcon from a hawk
how to tell a lark from a pipit
what do lizards eat
what are the rare plants (and why)



(d)

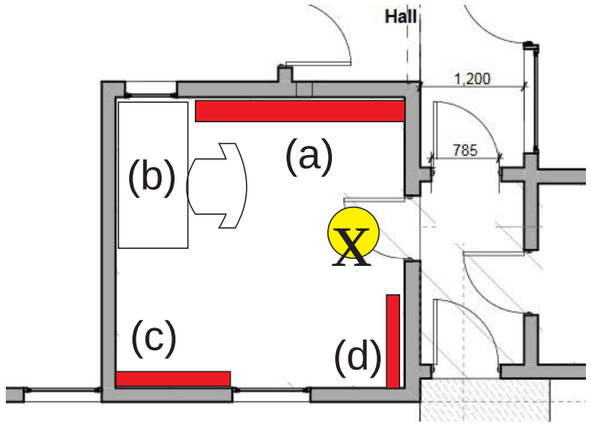
Geology
Wall-mounted display which includes:-
Things to Noəce around Baring Head
Detecəve work - terraces, faults
Sea level change plus upliD
What is causing the upliD?

3D laminate model of terraces, with dates and saw blade for faultline; arrows (legs) indicate degree up upliD

(e)

Shhh! In a
secret location nearby
we are listening v-e-r-y
carefully!

GNS - floor mounted panel
'Listening' to P and S waves
Sensiəvity of seismograph
Seismic network from Sth island to here, to VUW, to Avalon
Speed of data transmission can be faster than the earthquake waves.
Also GPS data (measuring displacement) is being transmiğed.

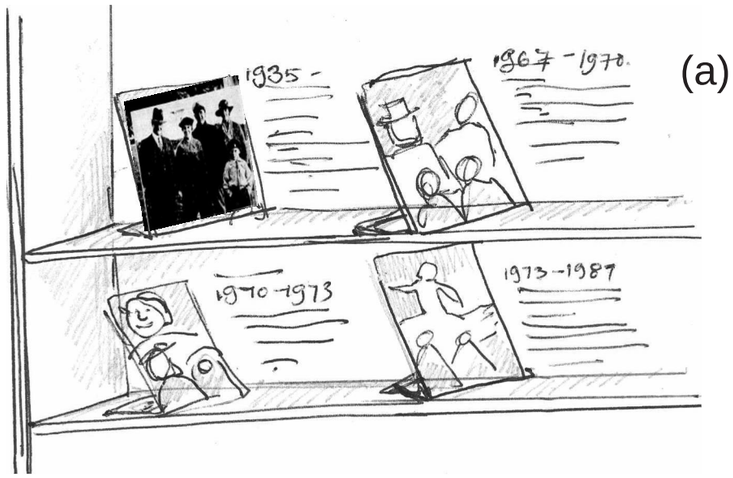


Elements / Themes

OFFICE

- The Keepers
- Navigaəon chart - lighthouses explained
- Radio Direcəon Beacon operaəon

Re-establish an o ce se ǩ ng with desk, chair and bookshelves

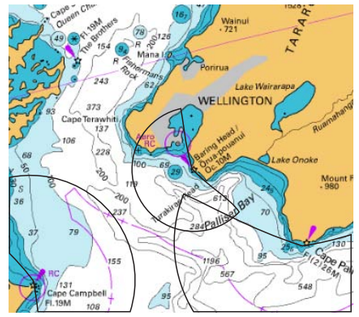


(a) Use shelving to display photographs of the families. Have quotes from them that help portray how they lived here (especially the women and children).

Kept busy by lots of visitors (cf other lighthouses).

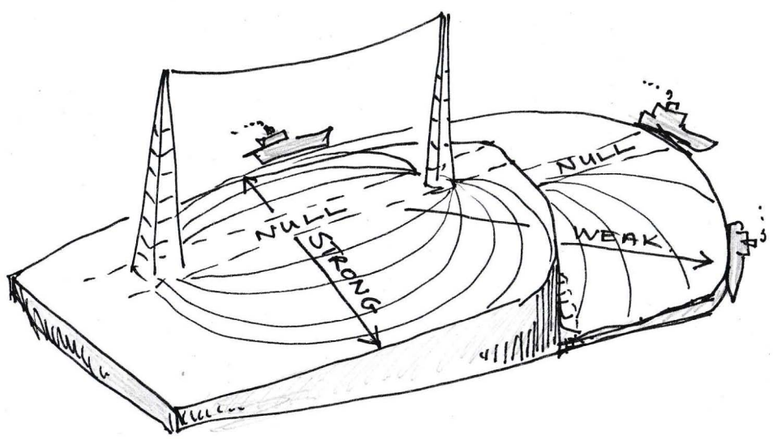
Baring Head was a plum posəng. Relate the joke played on sta by radio about a phony posəng.

(b) Desk-top has Cook Strait chart showing the lighthouses. Explain through 'handwriğen' annotaəons what the code for each light means; draw on the chart the range of each light; context of understanding what a ship would see as it travels through Cook Strait.

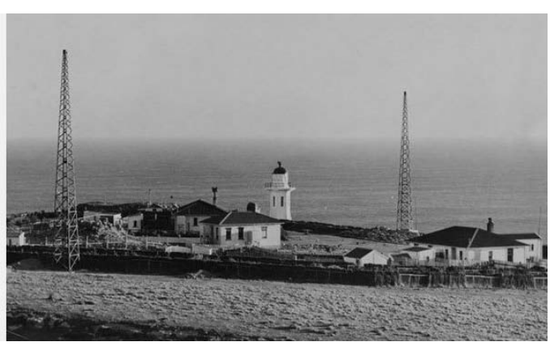


Look at previous light characterisəcs on a pre-1956 chart.

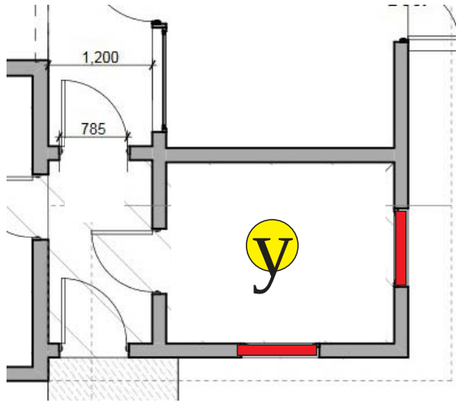
1 nautical mile
1 mile
1 kilometre



(c) Historic photo shows the two tall radio aerials.
Explain how radio direcəon finding works - perhaps a model?
Morse code idenəfies lighthouse: ship can take bearing on 'null' signal, and bearings as it passes.
A brief history of its introducəon to New Zealand.



(d) The Pacific Charger story.
Quote from Paul, assistant Keeper on duty the night it came ashore.
The reasons it ran aground.



Elements / Themes STORE

Opəon 1

O limits to public (use for storage).

Screen the windows by using them as displays seen from the outside.
Printed vinyl of some of the real people
e.g. Steve O'Neill, children peeping out.

Repopulate the building!

A touch of whimsy.

Elements / Themes STORE

Opəon 2

Open to public

Hologram or projected imagery o ering
insight into acəviəes of lighthouse keeper,

e.g. He has had to run the standby motor as
the wild weather has broken the electricity line
(or a possum has shorted the power line)

e.g. gathering together the cleaning materials
needed to polish the glass lens and windowpanes

e.g. He is gathering up storm clothing and binnoculars
to look for a fishing vessel reported missing by police,
with commentary on how vital it is having people
up here at Baring Head with excellent views