

## A brief " Building Description " for the new Ministry of Marine Resources

The new building is usefull, looks good and follows the clients purpose lists very close

Now it uses both that means "fisheries" and "OMIA" site to get a decent environment.

The western like *full* concrete structure is designed to cope with **all** possible impacts

The "roundlike shape" is prepared and able to cope with impacts from every direction.

The "concrete sceleton" has to be casted on site by using a permanent on site building crane and some modern concrete building equipment.

(We have to cast 4 x 2 concrete ceilings up to the height of 16 meters !!!)

Rarotongan Builders are not realy used to *full* concrete technology - that is practiced all over the world by now. We will need some special equipment.

Walls and stairs are designed as precasted concrete elements with open armour ends. - But columns, ceilings with roofoverlaps are casted on site !

The color setting is not final. But it is more then a first proposal by the architects.

It is only quality concrete with can paint on. Two coats every 7 years to renew facade.

The floor plans Ground, 1 st, 2 nd, Roof are the 3rd proposal by the architects that follows as good as possibe the purpose listing given by the client. As it is a public building, there are round windows (diam. 0,7 m) in eyeheight, to enable the public client to look into each room and see if the goverment staff works or is absent and to see, if it might be good to wait on the chairs provided in the corridor as long as there is another public client in the room.

The Building is "round" but there are 97 % straight, means not bended walls Mostly you can put your usual furniture in. - A flowerpot per room is essential !

There is always two windows in one wall section to enable the users of the building to open and close the windows as needed. There will be no air condition that consumes a lot of expensive power.

The roof overlaps enable the building not to heat up because no sun between 40° and 74° can reach the walls (7 hours on Raro)

The sunrays under 40° can reach the walls, but this happens only shortly after sunrise and shortly before sunset in these tropic areas.

The heat insulation layer, made out of 0,5 m topsoil and lawn,

on the public accessible roof (good views for all of you), protects the second floor from heating up during daytime by sunimpact.

The overlapping roofs enable the cleaners to clean the windows from outside which is necessary for a building that is sited so close to the surf of the pacific ocean. (lots of Saltspray from the surf)

The structure of the building is a "western like concrete building" that has to be casted to "one piece" on site. All roofs are connected by two columns and a wall. If the two cylinders ever break by an earthquake impact, they breake exactly where we want. (Sollbruchstelle / german)

All the columns and walls at ground floor level are significant thicker then on all the upper floors, because they have to carry more weight.

This makes the building resistant to any heavy impact like 10 m high "Szunami Waves" "Cylcones" and "Winds of more then 12 beaufort"

As nearly all walls and columns are standing over each other and the basement foundation plate is one piece of max 1,5 m thickness, the building will also resist any possible earthquacke impacts. - OK ?

As no room is deeper than 5 meters and is provided with windows, there is enough daylight to ensure work of goverment staff. - Even the corridors have good natural light quality because they are equiped with floordeep windows on both ends. Round windows diam 0,7 m in eye-height bring in natural daylight and the small glazed gaps between the two building sections bring some direct daylight into the corridors. Like this, the Cook Islanders will always have enough light but not too much glas that the building can heat up. The roofdoors will be mostly open to let warm air out at the highest point of the building. If there is rain, somebody has to go up the stairs and close these two doors !

(frying fish & ships creates a certain tempting smell. As we do not want to make the government staff hungry all day long, we bring that smell up to the roof in a stainless steel pipe to remind the visitors on eating)

During nighttime there should be only small lighting inside the two long corridors and at the entrance where the ministry sign is fixed on the wall. There should be desk-lamps provided for having no toplight on, if there is only someone working long hours. Suitable chairs and desks needed.

The architects put 547 hours of work during 76 days into this 6th proposal (Plus approx. 182 hours of "overnight-rendering" for printable high resolution pictures) - The architects are sure that they did a responsible work that will lead to a suitable, usefull, nice and longlasting concrete building. (75 years)

The architects are willing and able to erect the building within approx.

1,75 years. We are open to further questions, more work and payments.

It all begins with ordering a shipload of cement (dry chalk that never touched much water) for ton prices. The cement has to unloaded dry from ship on Raro !

The lately added sunloover system still follows the idea of having roof overlaps to protect the facades from heating up. - All the drafts are showing the building under a 40° sun. - The metal sunloover-panells will be stainless steel that can be cut by cheaper CO2 Industyrlasers. - Holding arms with a thickness of approx. 12 mm and sunlooverplates with holes diam. 100 mm in a thickness of approx. 6 mm. All parts are fixed with stainless steel screws. - The proposed system will suit the purpose very well and provide a beautiful pattern of sun and shadow on the facade that appears, moves, disappears (at noon) appears, moves and disappears (at sunset).

The building has been enlarged to offer the O.M.I.A an office within. Therefore we enlarged the circle the main columns are on by half a meter. Depending how one count the building won 10 to 14 %. - Finaly there is a certain need to install a three chamber septic tank that will not be easy to implement. This item is burried in the ground and occupies approx. a bit more then 100 sqm. As we have to overcast the existing foundations of the O.M.I.A shed there is a certain need to think about the septic tank for sewage / greywater very early to keep the amazing water quality at Avatiu Harbour as nice as it is. - Rarotonga should stay a beautiful bioparadise !

So far the building description on 21 th June 2005

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