Australian Government
Department of Foreign Affairs and Trade

Australian High Commission Property Replacement Project

Tarawa, Kiribati

Statement of Evidence
to the
Parliamentary Standing Committee
on Public Works

Canberra, ACT
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Australian High Commission Property Replacement Project in Tarawa, Kiribati

1. PURPOSE OF WORKS

1.1 Purpose

1.1.1. The purpose of the Australian High Commission (AHC) Property Replacement Project (the Project) on behalf of the Department of Foreign Affairs and Trade (DFAT), is to provide new fit for purpose office accommodation and residential housing for the AHC Mission in Tarawa, Kiribati, located in the Pacific Islands.

1.1.2. The Project will replace the existing Chancery, Chancery Annex (in one of the staff residences) and staff residences of the Mission with purpose built, prefabricated, low maintenance and highly sustainable location appropriate facilities.

1.1.3. The proposed investment will address the rapidly deteriorating condition and high maintenance cost of the existing facilities, which are approaching the end of their useful economic life.

1.1.4. The Overseas Property Office (OPO) is aiming is to develop a best practice design and construction model to be able to undertake similar upgrade and replacement works for future Australian facilities and missions within the Asia-Pacific region.

1.1.5. The proposed scope of the Project is to deliver the replacement of the following AHC facilities at Tarawa:

a. Head of Mission (HOM) Residence - 4 bedrooms;

b. Deputy Head of Mission (DHOM) Residence - 3 bedrooms;

c. Senior Administration Officer (SAO) Residence - 3 bedrooms;

d. Second Secretary 1 Residence - 3 bedrooms;

e. Second Secretary 2 Residence - 3 bedrooms;

f. Chancery (office working accommodation for maximum 31 staff); and

g. All associated demolition, civil and landscaping works.

1.2 Objectives

1.2.1. At a high level, DFAT's specified objectives for the Project are:

a. **Fit for Purpose.** Property facilities should be fit for purpose. Embassies and consulates should be functional, comfortable, secure and accessible to meet the needs and requirements of mission and consular activities, as well as hosting other Agency government functions on an as needs basis. There should also be flexible facilities capable of adapting to representational requirements over time, and of providing a similar quality of accommodation and working environment to all staff irrespective of function. The design of the facility should encourage appropriate interconnections, networking and interchange between staff.

b. **Staff Retention.** Property facilities should support the attraction and retention of Australian based (A-based) staff. DFAT has difficulty attracting and retaining A-based staff for postings across the Pacific. Facilities need to offer a safe and suitable living and working environment for staff to deliver key Australian aid programs within the region.

c. **Improved Whole of Life Costs.** Reduced operating and maintenance costs over an extended building life span (nominally 25 years). Buildings and sites will be economical to operate and maintain and will use equipment and materials that are durable, dependable, and suitable. Designs will be based on life-cycle analysis of options that consider long-term operations and maintenance concerns.

d. **Sustainability.** Buildings and grounds should incorporate sustainable design and energy efficiency, and these features should be integrated into their design. Construction, maintenance, and operations practices should be sustainable. Particular attention should be given to the climate and site conditions.

e. **Programme**. Earliest commencement of construction works, preferably at start of 2020, is to minimise site disruption to the Mission and its staff and create operational efficiencies.

f. **Local Labour**. Involvement, as appropriate, of local labour to increase capability and capacity within the region for local industry. The Project will aim, with the help of the building contractor, to ensure local engagement of labour and trades where possible as a priority.

g. **Outlay Cost**. Provides a value for money solution that is within the budget parameters.

h. **Ease of Delivery**. Provides a delivery methodology that minimises the construction time required in-country. This is to account for the risks associated with the logistical challenges of building in-country, including the limited available medical facilities, onsite accommodation and lack of general amenities.

2. NEED FOR THE WORKS

2.1 Role of the Department and Overseas Property Office

2.1.1. The purpose of DFAT is to help make Australia stronger, safer and more prosperous by promoting and protecting Australian interests internationally as well as contributing to global stability and economic growth. DFAT's priority functions are to keep government communications secure, Australia's global property assets in good order and ensure the security and health of its staff.

2.1.2. Australia's step-up in engagement with the Pacific was one of the highest priorities of the 2017 Foreign Policy White Paper, launched on 23 November 2017. One of the White Paper's five central foreign policy goals commits Australia to a more ambitious and intensified engagement in the Pacific in order to support a more resilient region.

2.1.3. The OPO supports the department's operations by providing a safe, secure and functional work environment within a portfolio of owned and leased domestic and overseas properties. A key OPO global objective is to maintain Australia's overseas property assets in good order, ensuring the security and welfare of staff and visitors, and to project a positive image of Australia to the host nation. To that end, OPO is responsible for developing an ongoing program of construction and refurbishment of building services and maintenance of the overseas estate.

2.1.4. The Pacific Islands estate across 14 Pacific posts is valued at $131 million and represents approximately 4.5% of DFAT's total property portfolio and although it currently accounts for approximately 20% of DFAT's total maintenance budget, the remoteness of the Pacific Islands, lack of skilled labour, material availability and industry means building materials and labour need to be imported in order to effectively manage and complete works.

2.2 Description of Kiribati and Tarawa

2.2.1. The Republic of Kiribati (pronounced *KIRR-i-bas*) is an island nation located in the central tropical Pacific Ocean. The country consists of a population of 112,000 spread across 33 islands over a range of 3,500,000 square kilometres. Although Kiribati has significant marine resources, the exploitation of which has produced a growing revenue stream, underpinning its modest economic growth, it is one of the world's poorest countries due to its overall limited viable natural resources.

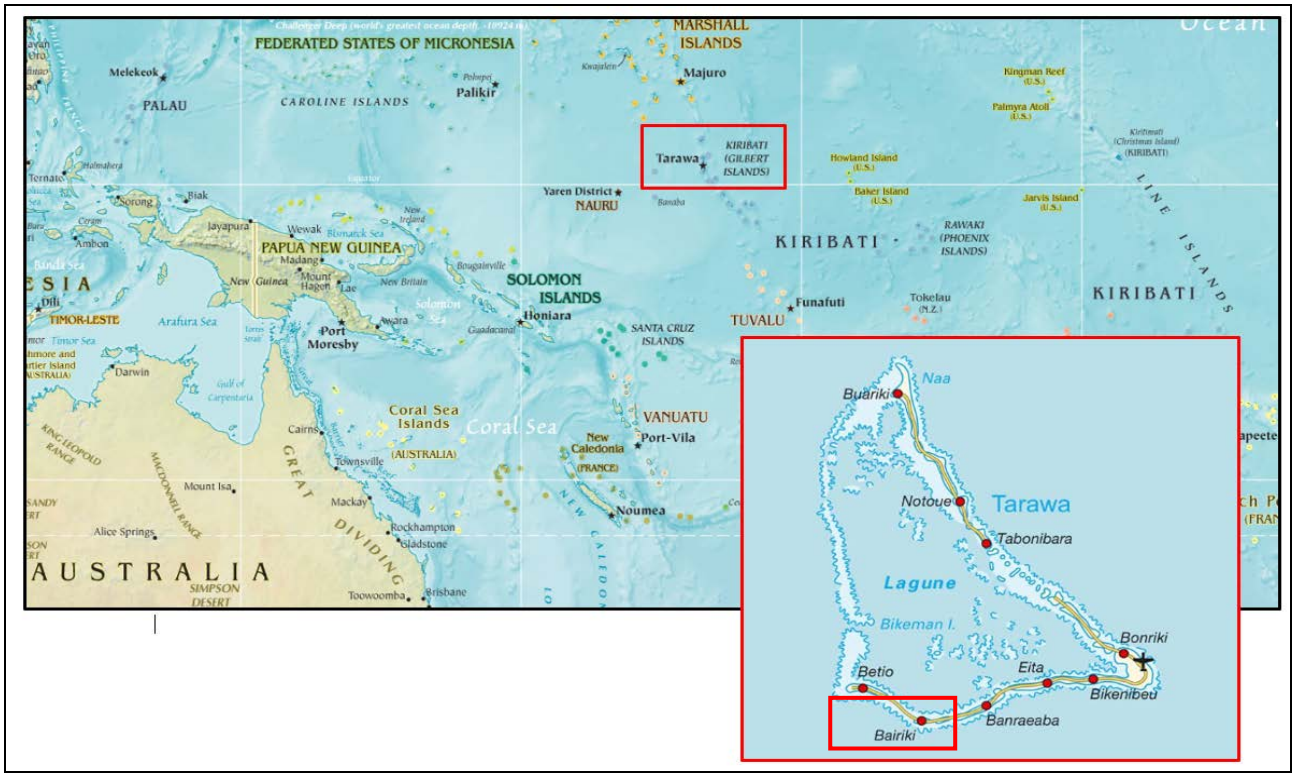

Figure 1 - Oceania Map (The Geographic Guide, 2019)

2.2.2. The island of Tarawa located within the Gilbert Islands, is the capital of Kiribati, is a key strategic location for DFAT, and as such requires an ongoing Australian presence to support economic growth, stability, and sustainable development. Tarawa is a densely

populated atoll, with a population of approximately 50,000 people within a 500 square kilometre area. Due to the remote location and the fact that the atoll is only three metres above sea level, life in Tarawa offers many challenges to its residents and people. These challenges include the requirement to have many resources including food and other bare essentials shipped in to supply the region.

2.2.3. Overall, the geographic isolation, a narrow resource base and limited private sector activity have contributed to Kiribati remaining one of the least economically developed countries in the region. Youth unemployment is high and the increasing population density in the capital, Tarawa is placing significant pressure on basic services and aging infrastructure with the added impacts of climate change an ongoing concern for the low-lying atoll nation.

2.3 Australian Mission Programs in Kiribati

2.3.1. The DFAT Pacific Regional aid program, currently delivers several key aid programs in Kiribati that are vital in supporting the country's economic and sustainable development. Australia is one of the largest aid donors to Kiribati with aid comprising about 20% of total Official Development Assistance (ODA) within the Pacific.

2.3.2. The Australian Government provided an estimated $27.4 million in total ODA to Kiribati in 2018-19, with a further commitment of $27.3million in 2019-20. This aligns with Australia's aid policy, the Kiribati Development Plan 2016-19 and the Kiribati 20-Year Vision 2016-36. This is being delivered through aid programs that are focused on improving and providing the following:

a. Basic education and opportunities for further education and employment;

b. Productivity and employability for young women and men by providing opportunities to develop workforce skills both in domestic and international labour markets;

c. Reducing incidence of diarrhea and other diseases through better sanitation and water management by funding the South Tarawa Sanitation Improvement Sector Program; and

d. Strengthening capacity to administer the national health system and respond to national health threats.

2.3.3. The Australian Government is also providing a strong commitment through the Pacific Labour Scheme which enables citizens of Kiribati and other Pacific island countries to take up low and semi-skilled work opportunities in rural and regional Australia for up to three years. These initiatives allow workers to build their skills and send remittances home to support their families.

2.4 Capacity to Attract and Retain Staff

2.4.1. To support Australia's ongoing presence within Kiribati and provide critical in country support to DFAT's Pacific Regional aid programs, the AHC at Tarawa has five A-based staff. This is supplemented and supported by permanent positions for between 18-21 local staff.

2.4.2. The A-based staff comprise:

a. High Commissioner / HOM;

b. First Secretary / DHOM;

c. SAO;

d. Second Secretary 1; and

e. Second Secretary 2.

2.4.3. DFAT has difficulty attracting and retaining A-based staff for postings across the Pacific. Tarawa is classified as a Category E hardship post based on its remote location and very limited access to amenities and services. Staff may be accompanied however it is a no child post due the limited medical, educational and community services available. Other than the HOM and DHOM, all A-based staff posted to Tarawa are currently unaccompanied. This increases the mental health and wellbeing risks to staff, due to limited contact with family and loved ones during their posting cycle. The remote and isolating environment, including the lack of acceptable facilities for visitors, limits the ability of family and friends to visit. This means the best, and sometimes only, option for acceptable and safe onsite accommodation is the existing DFAT supplied housing. The consequence is that there is regularly very limited uptake of posting positions on Tarawa.

2.4.4. Overall, the current AHC facilities at Tarawa do not meet the requirement to provide reasonable quality and functional working accommodation for all staff and appropriate

living quarters. This is exacerbated because there are only three houses available for Mission employees, with one staff member currently living in the Australian Defence Force compound and another in a below par rented dwelling.

2.5 Impacts to Operational Outcomes

2.5.1. The current facilities are located on four parcels of land spread across six leased sites. All six sites are in the Bairiki area of Tarawa and are administered under long term land lease arrangements with the Government of Kiribati for the specific purpose of delivering the Mission's function. The rental property market on Tarawa is very limited and the properties that are available are generally poor quality. This introduces a level of risk to the Mission's operations as there is no guarantee of the standard or availability of ongoing rental accommodation for posted staff. As such, DFAT is required to provide permanent facilities that are fit for purpose for the Mission.

2.5.2. Overall the key issues with the working and residential accommodation are:

a. **Office Accommodation (Chancery).** The Chancery is not large enough for existing accommodation requirements and has no room for growth with the current arrangement impractical and not functional; and

b. **Residential Accommodation.** There are only three houses available for Mission employees against the requirement for five houses and the current state of the building are not considered fit for purpose. A fourth house, which has been temporarily repaired after extensive termite damage, is currently being used as a Chancery Annex but is located approximately 300 metres from the Chancery.

2.6 Chancery

2.6.1. The existing Chancery is not large enough to support the Mission's function. The lack of capacity within the existing Chancery has been addressed through the conversion of a two-bedroom house into a Chancery Annex. This has resulted in the Chancery staff being split across two offices in Bairiki village. The requirement to work within a makeshift office and as a separated workforce has a material negative impact on the operation of the Mission, creating inefficiencies and inconvenience for staff. The loss of an additional residence also means that key living accommodation for staff has been further reduced,

exacerbating the already growing shortfall of appropriate accommodation for A-based staff.

2.7 Residential Accommodation

2.7.1. The current OPO estate in Tarawa was constructed in the 1980s and early 1990s with minor refurbishments undertaken in the late 1990s. Condition audits confirm that the assets are reaching the end of economic life. Aged building assets such as these typically have higher operating costs related to cooling, ventilation, lighting, and resulting repairs and maintenance. The maintenance costs on older assets are exacerbated by the climate and the proximity to the sea.

2.7.2. Continuing to repair these buildings on an ad hoc basis no longer represents value for money as the buildings are beyond economic repair. The level of deterioration is significant which is likely a result of the harsh climatic conditions resulting from the equatorial maritime influence. This has resulted in significant corrosion to exposed metal work, particularly gutters and roofing. Additionally, termite damage to the timber structures within all buildings has been an ongoing issue and has required considerable remediation. Concrete slabs have deteriorated as the water table has risen and water ingresses into the slabs. This will continue to worsen as the water works through cracks in the concrete and into the building frames. This issue will have a material impact on the long-term viability of the buildings.

2.7.3. Overall, the poor condition of the Tarawa properties does not reflect favourably on Australia's role as a lead partner in the Pacific region. The buildings should be welcoming, modern and reflect Australia's strategic interest and depth of long-term relationships in the region.

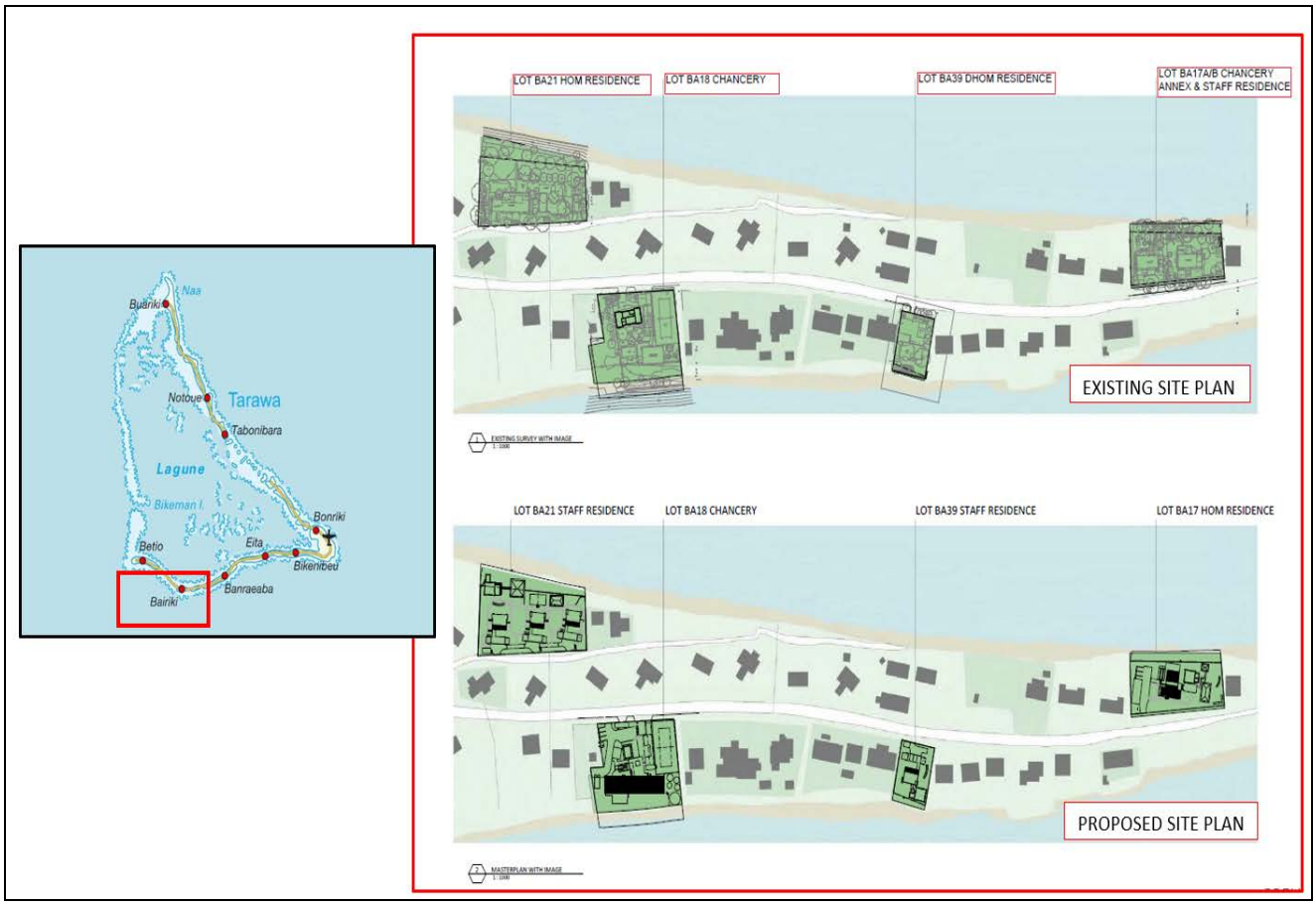

Figure 2 - Existing Site Plan v Proposed Site Plan (James Cubitt Architects, 2019)

3. OPTIONS ANALYSIS & ASSESSMENT

3.1.1. The existing facilities are not suitable for the Mission's operations from either a capacity or a condition perspective. In May 2016, OPO undertook a feasibility study and draft business case that evaluated and assessed three options to address the current unsatisfactory state of the facilities.

3.1.2. The three options considered were:

a. Option 1 – Do nothing;

b. Option 2 – Refurbish and extend; or

c. Option 3 – Demolish and construct new.

3.2 Option 1 - Do Nothing

3.2.1. This option involves continuing with the current arrangements and maintaining the buildings in their current form. Option 1 makes OPO liable for increasing maintenance costs and the provision of buildings which are not structurally sound or appropriate for the unique climate and remote location. This option would likely result in a future requirement to approach the market for replacement properties in an urgent and ad hoc manner. The only advantage of this option is the avoidance and delay of a significant capital investment.

3.2.2. The "do nothing" option would be considered a temporary solution because the level of deterioration is significant due to the harsh climate conditions, including exposure to regular ongoing high humidity and heat loads all year round and salt intrusion from storm and rising sea waters / tidal surges. Continuing to repair the existing buildings on an 'ad hoc' basis no longer represents value for money as the buildings are beyond economic repair and would eventually need to be replaced in the long term.

3.2.3. Across all the buildings, the "do nothing" option will still require the following maintenance works to be completed in the next two-year timeframe, but will not mitigate the requirement for buildings to be replaced:

a. Further structural bracing to counter termite damage;

b. Replacement of guttering and roofing across all buildings;

c. Exterior works including repainting to the Chancery and residences;

d. Replacement of air conditioning units;

e. Replacement of internal floor tiling, particularly within the HOM residence;

f. Replacement of window treatments;

g. Replacement of fixtures and fittings within each of the buildings, particularly within the bathrooms and kitchens;

h. Full electrical upgrade;

i. Hazardous material removal;

j. Replacement of furniture; and

k. Full plumbing upgrade.

3.2.4. Overall, the "do nothing" option does not fundamentally meet the key objectives of the project in that it will not address the significant challenges in attracting and retaining A-based staff, resolve the current capacity issues and housing limitations or provide safe living and office accommodation for staff. This option is not operationally or functionally sustainable for DFAT and as such is not recommended to proceed further.

Advantages:	**Disadvantages:**
The advantage of this option is: a. The avoidance of a significant capital investment.	The disadvantages of this option are: a. Ongoing lack of adequate office space within the Chancery to support the Mission's operations; b. Inability to increase staff to respond to any decisions from the Australian Government to increase capacity and staff; c. Facilities will continue to deteriorate and will eventually require replacement urgently; d. Increased safety concerns from exposed asbestos, sagging and electrical issues; e. Uncertainty over the availability of accommodation into the future due to deterioration of buildings and an ongoing inability to attract A-based staff; and f. Two Mission staff currently residing in rented dwellings will not be provided OPO houses.

3.3 Option 2 - Refurbish and Extend

3.3.1. The "refurbish and extend" option involves addressing the current the living and working accommodation shortfall by:

a. Refurbishing and upgrading all the existing buildings to "as new" condition;

b. Extending the Chancery by building a new Channery Annex adjacent to the existing Chancery (i.e. on the Chancery site); and

c. Acquiring an additional block of land from the Kiribati Government to build one new staff house, to bring the total number of houses to five.

3.3.2. The full refurbishment of the current facilities will require each building to be stripped back to enable replacement and rectification of the structural damage caused by termite infestations and/or corrosion to structural steel and concrete reinforcement. The building fabric to each (i.e. external and internal cladding) will need to be replaced along with all electrical wiring, plumbing and internal finishes. The overall size and functionality of each building would generally be retained and reinstated such that refurbished buildings are effectively new versions of the original occupying the same sites.

3.3.3. Alternative temporary rented accommodation will need to be obtained to house staff whilst each residence is being refurbished. Likewise, some form of temporary alternative or supplementary office accommodation will need to be obtained to enable the existing Chancery to be refurbished whilst maintaining operations and security. It is unclear if and/or how this could be achieved.

3.3.4. Overall, the option of refurbishing and extending the existing facilities, whilst marginally less costly then the full replacement option, will result in significantly less functional (and smaller) facilities, involving substantial disruption to the Mission's operations. Accordingly, it will result in poor value for money and is not the preferred option.

Advantages	Disadvantages
The advantages of this option are: a. The capital cost will be lower than providing all new facilities;	The disadvantages of this option are: a. Overall functionality, size and quality of the facilities is significantly less than

Advantages	Disadvantages
b. The Chancery site will have capacity to accommodate all staff with some growth capacity; and c. All A-based staff will be housed in OPO owned properties of good and equitable standard.	that achieved through the replacement option; b. The refurbished buildings are effectively new versions of the original occupying the same sites without the design quality, inherent environmental and sustainable design and/or lower maintenance cost of the replacement option buildings; c. An additional block of land needs to be acquired to provide the same number of staff houses as the replacement option; d. Upgrading buildings of poor inherent standard will result in poor value for money; e. The need to rent additional housing and office accommodation during the works; and f. Significant disruption to the operation of the Chancery to enable building works with no clear methodology for maintaining security having been identified.

3.4 Option 3 - Demolish and Replace

3.4.1. The “demolish and replace” option would involve demolishing all existing structures and replacing them with new buildings which will be purpose designed and built to meet the Mission’s operational needs, including capacity for future growth. The new facilities will have a design life of 25 years providing high quality low maintenance accommodation into the future.

Advantages	Disadvantages
The advantages of this option are: a. Provides purpose-built accommodation to suit the Mission's requirements including capacity for future growth with the Chancery design; b. The new facilities will have a design life of 25 years providing high quality low maintenance environmentally sustainable accommodation into the future; c. Provides five houses (compared to three existing) and all Chancery accommodation on land currently owned / occupied by DFAT; and d. The replacement work can be undertaken in stages with minimal disruption to the Missions operations.	The disadvantages of this option are: a. It is the highest capital cost option; b. The proposed staging of the work requires one staff member to relocate to rented accommodation for up to one year; and c. The existing Chancery internal fitout will need to be temporarily modified to accommodate the OPO staff who currently occupy one of the disused staff houses. This will be a relatively tight squeeze for staff over a six to eight month period until the new Chancery is ready for occupation.

3.5 Recommendation & Cost Analysis

3.5.1. A cost analysis has been undertaken for Option 2- Refurbish and Extend; and Option 3 – Demolish and Replace. Option 1 – Do Nothing was not considered further as it did not address the key issues with the existing deteriorating facilities, retention of staff and overall presented a risk to the DFAT's duty of care.

3.5.2. The Cost Planner, WT Partnership, has completed a comparative cost assessment of the two relevant options as follows:

Costed Options	Houses (Total Area)	Chancery (Total Area)	Total Size (All Buildings)	Cost $m
Option 1 – Do Nothing	1,191 m^2	368 m^2	1,559 m^2	N/A
Option 2 – Refurbish & Extend	1,661 m^2	568 m^2	2,229 m^2	16.365
Option 3 - Demolish & Replace	2,420 m^2	440 m^2	2,860 m^2	19.656
Difference Option 2 & 3	**759 m^2**	**(128) m^2**	**631 m^2**	**3.291**

Table 1 – Cost Comparison of Option 2 vs Option 3

3.5.3. **Option 3 - Demolish and Replace** is considered to provide the best value for money. The key reasons for this include:

a. As detailed in the options analysis above, Option 3 achieves the project objectives and provides greater functionality, amenity and operational efficiency than Option 2;

b. The higher cost of Option 3 is accounted for by the larger building area of the houses, which need to be bigger than the existing houses to achieve the functional objectives, particularly in relation to helping improve staff retention and attraction; and

c. The Chancery under Option 3 is smaller and more efficient than can be achieved through Option 2.

3.5.4. Overall, Option 3 will provide the best solution that will enable the Mission to move forward with a high degree of certainty.

4. PROJECT IMPLEMENTATION

4.1 Scope of the Works

4.1.1. The Project involves the demolition of four existing residences and the Chancery, with the construction of five new high efficiency, low maintenance residences and a new Chancery.

Lease No	Existing Buildings	Proposed Buildings
BA18 & BA18A	Chancery	New Chancery
BA21	HOM Residence	New 3 x Staff Residences
BA 17 A	SAO Residence	New HOM Residence
BA 17 B	Chancery Annex	
BA39	DHOM Residence	New DHOM Residence

Table 2 - Existing Buildings vs Proposed Buildings

4.2 Key Challenges of Construction in Kiribati and the Pacific

4.2.1. The key challenges to constructing and maintaining properties in Kiribati and the Pacific are significant, with lack of contractor and construction material availability, high shipping costs and challenging environmental factors contributing to these difficulties.

4.2.2. Due to a lack of construction material availability in the Pacific, almost all equipment, materials and products of a primary and non-primary nature are imported, with high taxes, transport and handling costs. Several factors combine to make shipping service to the Pacific expensive. These factors include remoteness, low trade volumes; imbalances in trade with imports far outweighing exports; and widely varying port facilities with generally inadequate funding for their operation and maintenance.

4.2.3. The lack of availability of skilled labours in country means imported skilled labour, required for management, speciality and administrative services is at a high cost. Supervision is typically provided by Australian or New Zealand expatriates and therefore

supervision ratios are low. Low local labour rates often result in high absenteeism and low reliability.

4.2.4. Kiribati is extremely vulnerable to several environmental factors including the impacts of climate change. When designing infrastructure for these regions there is often competing priorities on any design solution. Factors leading to these competing design solutions include:

a. Vulnerability to changes in sea level from effects such as the El Niňo Southern Oscillation (ENSO) cycle and Global Warming;

b. Susceptibility of storm surges and land erosion;

c. Proximity to the ocean resulting in in a highly corrosive marine environment; and

d. High prevalence of termite infestation and resulting damage.

4.2.5. Consideration of these environmental factors and appropriate design solutions to account for them is crucial to the success of any infrastructure project within the Pacific.

4.3 Innovative Planning and Design Concepts

4.3.1. The Commonwealth, represented by the OPO, undertook a two-stage tender process for the selection of a Design and Construct (D&C) contractor with Early Contractor Involvement (ECI) for the Project. Refer to **Section 5.2** for further information on the contracting delivery approach.

4.3.2. Reeves International was selected as the preferred contractor to deliver the works based on an experienced team familiar with the challenges of delivering works within the Pacific and Kiribati. Reeves International has the benefit of already having established its construction operations in Tarawa.

4.3.3. As part of the Project, Reeves International have partnered with the design team, Unitised Building (UB) to develop a flexible façade and structural system that is adaptable to the buildings that will be constructed in this Project.

4.3.4. The UB panel system is a unique system of precision manufactured prefabricated floor, wall and façade panels. Each panel consists of lightweight steel elements encased in a

cementitious infill. The panels are designed to lock rapidly together with minimal back-propping to create a building's superstructure and interface with a building's chosen façade specifications and bathroom pods.

4.3.5. The UB design solutions include prefabricated bathroom 'pods', which will be shipped complete as these elements comprise the most critical construction challenges for finishing trades, waterproofing and plumbing. The bathroom pod design can be readily sized to allow for a contractor to handle on the island, using existing lifting equipment, without loss of amenity. Bathrooms pods are Australian factory fitted with plumbing, electrical, fittings and finishes and design integrated into the dwellings. Removing this element off site, de-risks any project especially in remote regions where skilled labour and the availability of acceptable amenities is limited.

4.4 The Key Features of the UB Panel System

4.4.1. The key features of the UB panel system for the Project are as follows:

a) **Minimal site works.** Panels are pre-finished off-site and include, conduits for electrical and sprinklers, insulation and fire protection linings and plasterboard wall finishes. The panel's lightweight composite structure reduces a projects carbon footprint and building weights. Its inert structure eliminates the need for chemical treatment for termites, mould and fungus.

b) **Corrosion Resistance.** The UB prefabricated system's structural steel is encapsulated in cementitious material, providing resistance to corrosion and rodents. All exposed steel structural elements are treated with coatings similar to those used on marine bridges to ensure longevity. This includes having an initial protective finish of hot dipped galvanizing and finished with numerous protective coatings. Roof sheeting, gutters, downpipes will utilise aluminum or stainless pre-painted steel specifically designed by providing ultimate corrosion resistance and weatherability alongside severe coastal environments.

c) **Termite Proof.** The main structures of the buildings are corrosion protected steel on concrete footings neither of which are affected by termites. The use of timber has been limited preferring the use of products such as 'Modwood' or 'Ezywood' for aesthetically appealing, recycled material, timber-like decking without susceptibility

to termites. The use of timber in traditionally finer elements such as stairs and railings has been avoided.

d) **Maximum floor area space.** All columns and shear support are fully embedded within the panel footprint, maximising floor area space.

e) **Safe, rapid installation.** Proprietary connection systems facilitate rapid and safe installation due the requirement of limited to formwork stripping and no back-propping or curing time.

f) **Maximum design flexibility.** The UB panels can be readily integrated into a wide variety of facade types and building types (including concrete elements, lightweight cladding or complete curtain walls).

4.4.2. The innovative building approach will offer DFAT a new way of offering quality, fit for purpose building design that will work for future construction projects within the Pacific region. This innovation of using a prefabrication solution presents a great opportunity to deliver new buildings and infrastructure where minimal on-site construction time is critical due to the lack of skilled local labour, minimal medical facilities and limited primary and non-primary materials in country.

4.5 Key Design Objectives

4.5.1. The key design objectives being incorporated as part of the design process is as follows:

e. Contemporary architectural design;

f. Sustainable design and material use;

g. Light and reflective exterior finishes to minimise heat loads;

h. Airtight building envelope;

i. Cross ventilation to habitable rooms;

j. High ceilings to living and entertaining areas;

k. Outdoor entertaining zones;

l. Elevated about NGL captured views;

m. Fans used to assist with air circulation, including balconies;

n. Natural ventilation provided, controlled by occupants;

o. Roof overhangs and shading devices incorporated;

p. Natural light provided to all habitable rooms;

q. Double glazing to windows;

r. Shared spaces considered, whilst providing privacy for primary occupant;

s. Captured sea breezes;

t. Corrosion resistance; and

u. Termite proof

4.6 Head of Mission

4.6.1. The HOM residence will be located on Site BA17 on approximate 2,000m^2 of land. The current design will consist of four bedrooms, four bathrooms, guest amenities, lobby, formal dining room, swimming pool and carparking.

4.6.2. The HOM residence is required to accommodate representation functions associated with the role of the HOM. The HOM is used for many diplomatic functions and the orientation of the property has been positioned to maximise the views of the lagoon and capture the breezes but to also minimise the solar impact to the east and west facades - the use of passive design principles assists in reducing the over reliance on air-conditioning and in turn operational costs.

4.6.3. The building is a T-section in plan with both a ‘representation’ and ‘living’ wing providing the two functions of the residence. The formal side includes the main entry lobby, reception and amenities on the ground floor and the upper floor provides additional amenities, formal kitchen and dining room. It is important the HOM residence has the functionality for representational events and activities. The HOM is required to host regular diplomatic functions and activities as part of their role and relationship building in the region. As part of this, the HOM residence has been designed to have the capacity to accommodate both Australian and diplomatic representatives when visiting the Mission and region, providing a suitable and appropriate accommodation option.

4.6.4. On both levels the formal areas are connected via a secure and covered link to the residence itself which provides on the ground level small staff quarters and ancillary residential functions, in addition to a large multi-function room which can serve a multitude of purposes subject to the specific needs of each HOM posted to Tarawa. The upper floor provides the 'home' within the house. Its long narrow footprint facing north, south ensures plenty of indirect natural light and enables views to the lagoon to be retained. An open plan kitchen serves the main living and dining space with small balconies provided at each end of the wing.

4.7 Staff Residences

4.7.1. The BA21 site compound is the largest of the four sites and is proposed to accommodate three x 3-bedroom staff houses. The houses are raised approximately three metres above the ground level enabling cars to park undercover adjacent the entry of each property.

4.7.2. Due to its size, BA21 has also been master-planned to accommodate staff recreational facilities including, 12 metre x 3 metre swimming pool (with shaded area), recreational pavilion (with maneaba style roof incorporating a bar, store and male and female change rooms). Due to the lack of recreational facilities available on the island, including the high humidity and heat in the region, the inclusion of a swimming pool provides a location appropriate communal space and activity for staff to enjoy. This is part of the trying to achieve the objective of increasing staff retention and attraction.

4.7.3. The landscaping and pathways connect all the facilities within the site. Food gardens strategically located along the pathways are also provided to assist staff in having access to fresh fruit and vegetables, a highly sought-after commodity in Tarawa.

4.7.4. The site planning offers each residence a sense of privacy and separation which is important when working in such a small environment as Tarawa. The residences are visually separated by landscaped courtyards, with the footpaths weaving through to provide access to the shared facilities sited on the northern portion of the property. This ensures the recreational pavilion, pool and maneaba are well connected and benefit from the views and breezes of the lagoon.

4.7.5. The design for the staff houses is based on the premise the properties sit approximately three metres above ground ensuring views of the lagoon are maintained and breezes

captured. The houses are centred around a courtyard space allowing the living / dining / kitchen to be physically separated via bridge links from the accommodation wing. Two bridge connections are provided to enable separate access to the bedrooms noting the houses may be required to accommodate High Commission visitors due to the limited accommodation in country.

4.7.6. The inherently tropical design maximises the use of passive design principles and assists in reducing the over reliance on air-conditioning. The residences offer a bold and distinct statement but one driven by the understanding of its tropical location. Light colours are used throughout to help minimise heat loads and a combination of ‘under-crofts’ and overhangs help protect the building from the heat and inclement weather. This is in turn supported by the thermal efficiencies of the modular housing materiality, that through its off-site fabrication can achieve a level of quality and certainty less achievable within the harsh environment of Kiribati. Louvres are used throughout to encourage cross ventilation.

4.8 Deputy Head of Mission

4.8.1. Site BA39 is the smallest of the four sites and is proposed to accommodate one three-bedroom staff house (nominally the DHOM residence). The house is a replica of the standard three bed residences proposed for site BA21 with the same principals applied.

4.9 Chancery

4.9.1. The Chancery compound will facilitate 28 staff and includes a drop-off point, carparking for up to seven cars (two undercover), a central maneaba, storage shed, rainwater tank and the Chancery itself. The site, which includes the original Chancery to be demolished as part of the works, will retain the existing entertainment pavilion and associated amenities. An existing tennis court will be retained.

4.9.2. The arrival process allows staff and visitors to bypass the central maneaba which can be used as an informal meeting and function space. The maneaba remains an important cultural and ‘built’ social structure within Kiribati society and its prominent inclusion on this site reinforces the respect and importance of the relationship between Australia and Kiribati - it grounds these projects within the Kiribati context.

4.9.3. Equitable access is provided into the main building and public spaces, with the Chancery itself utilising an external perimeter veranda space linked to a covered deck to the south of the site. This space will provide an external and more private breakout area for staff. The use of recycled composite timber products for the decking around the veranda provides a sustainable approach whilst allowing the inclusion of timber aesthetic within a termite ridden environment.

4.9.4. The modular design for the new Chancery provides a simple response to the site and conditions. The building is based on a single level rectangular form orientated to maximise the north south facades. This ensures indirect natural light throughout, reducing the demands of artificial lighting. Whilst the Chancery is required to be fully air-conditioned, large overhangs protect the glazed facade, allowing the retention of views (particularly those of the ocean) and minimising the solar impact to the east and west facades, in turn improving the operational efficiency of the building. As with all the designs developed for this project sustainability has been at the forefront of the process. Through the implementation of both passive design principles and technology the design outcomes have sought to deliver on DFAT's recognition of whole of life costings and the responsibility of establishing benchmarks for appropriate, considered and sustainable design in the Pacific. The modular approach offers a contemporary response to the tropical conditions. Light colours are used throughout, whilst the buildings materiality provides the necessary robustness. Contrary to the preconceived expectations surrounding modular buildings, the Chancery redefines expectations, providing a high-quality outcome, developed to withstand the demands of its location.

4.9.5. The layout ensures security separation from the public and controlled spaces and the adaptability of the design presents opportunities for reducing or increasing the buildings size when considering the concept beyond Tarawa.

4.10 Bedroom option consideration

4.10.1. The project undertook a value management exercise to determine the requirement for the number of bedrooms for the living accommodation. Due to the poor quality of accommodation on Kiribati, the allowance for guest accommodation and the option for a study for accompanied posts was considered optimal and more functionally appropriate. The two-bedroom option provided minimum savings comparatively to the three-bedroom

option, with a maximum saving of only 0.8%. Overall the three-bedroom option provides better value for money, greater flexibility, functionality and opportunity for future and expansion for the mission.

4.11 Heritage Considerations

4.11.1. There are no heritage considerations identified for this Project.

4.12 Stakeholder Consultation

4.12.1. The Project has undertaken numerous local stakeholder consultation activities as part of the development of the Project. The OPO has met with the local government of Kiribati and the Ministry of Infrastructure and Sustainable Energy to discuss the Project and brief them on the proposed demolition and construction activities and the necessary approval processes. The Project has been well received with no major issues or concerns raised by local stakeholders. The current Australian Mission has also been informed of the Project and will continue to be involved as the Project progresses.

4.13 Zoning, Approvals and Land Acquisition

4.13.1. The Kiribati real estate market is highly restricted by government policy with transactions subject to a leasehold system. Foreign ownership of land in Kiribati is currently not permitted, with DFAT having a long-term leasing arrangement for up to 65 years in place for the existing facilities. The Project will obtain all necessary land development, building and environmental approvals required in Kiribati.

4.14 Details of Applicable Codes and Standards

4.14.1. The proposed new facilities will comply with relevant codes and standards including:

a. National Construction Code (NCC 2016) requirements;

b. *Disability Discrimination Act* 1992;

c. Meet or exceed Australian Standard requirements, and where these standards are not used, all departures clearly identified with reasons for departures, i.e. local / international standards are deemed to be more site relevant; and

d. *Kiribati Building Act* 2006 and the National Building Code.

4.14.2. The Project will require Ministry of Infrastructure and Sustainable Energy approval and inspections in accordance with the Kiribati Building Act 2006, to ensure all works are carried out in accordance with Kiribati's National Building Code.

4.15 Acoustics

4.15.1. There are no acoustic considerations identified for this project.

4.16 Environmentally Sustainable Design

4.16.1. The local climate in Tarawa is characterised by continuous hot weather and high levels of humidity, with little change between day and night temperatures. One of the main objectives for the Project is to incorporate the key aspects of environmentally sustainable design using passive house design principles to create greater residential amenity and reduced operating costs across the sites. Passive and active systems will be incorporated into the design with careful analysis and modelling of concepts to deliver best value for money outcomes. This will be achieved by the following principles being incorporated into the design:

a. On site production of energy through solar power and hot water;

b. Use of cooling sea breezes to ventilate the floor void;

c. Provide external shading to all walls and windows through a combination of deep eaves and external louvres to reduce solar gains into buildings;

d. Use 'airtight' methods of construction for the envelope to minimise treated internal air escaping and moist external air entering the buildings;

e. Provide high levels of thermal insulation;

f. Use of light coloured external finishes with appropriate reflective coatings;

g. Use of lightweight materials for the walls and roof;

h. Eliminate thermal bridges in the design and construction of the external envelope including window frames and the use of double glazing;

i. Use of energy efficient ventilation systems with heat recovery and dehumidification;

j. Use of fans to create internal air movement; and

k. All habitable rooms to be capable of natural ventilation through operable windows and doors to provide cross flow ventilation.

4.17 Demolition and Recycling

4.17.1. The Project recognises that sustainability applies to the whole project life, including the early works and demolition. The Project will employ procedures throughout the demolition process to ensure the maximum amount of safe recycling of materials occurs. The existing structures will be dismantled, and materials sorted for reuse by the local community. This will reduce waste as well as provide valuable resources for locals in an environment where construction materials are very difficult to procure.

4.18 Managing Asbestos Containing Materials

4.18.1. The Project is aware asbestos cement sheeting will be required to be safely removed and taken off the island for disposal. The Kiribati Ministry of Environment, Lands and Agricultural Development advise there is a lack of disposal regulations and facilities on Tarawa, and an absence of local labour trained in asbestos containing materials (ACM) handling. The Contractor will include the Pacific-experienced services of an environmental remediation contractor to undertake assessment and International Asbestos Removals for safe removal.

4.18.2. The environmental remediation contractor proposes to train a group of labourers in safe handling and disposal of ACM as part of the project's commitment to capacity building. The Asbestos Safety and Eradication Agency and the Chemicals Management and Hazardous Waste Section of the Australian Government Department of the Environment and Energy has advised that the contractor will need to apply for a hazardous waste permit under the *Hazardous Waste (Regulation of Exports and Imports) Act* 1989 to legally import asbestos into Australia for safe regulated disposal. Additionally, application for transit permission from the Fiji Revenue and Customs Service will be required en route to Australia. The contractor has identified facilities in Victoria to receive the ACMs upon receipt of the permit.

4.19 Provisions for People with Disabilities

4.19.1. Disabled access and facilities will be provided where necessary in accordance with the NCC 2016 and Australian Standard AS1428. Where possible, the use of existing facilities and access has been identified and incorporated in the design.

4.20 Childcare Provisions

4.20.1. There are no childcare provisions identified for the Project due to Tarawa being classified as a Category E hardship. Staff may be accompanied, but without children, due to the limited medical and educational services available.

4.21 Security

4.21.1. Perimeter security will be provided to prevent unauthorised persons and/or vehicular traffic from accessing the grounds and to provide screening of all visitors and vehicles prior to entering the Chancery complex. All sites will be fully enclosed with a perimeter fence or wall.

4.21.2. The perimeter of the site will be protected by a barrier of sufficient strength, design and construction to deter entry. Security lighting and Closed-Circuit Television to the interior and exterior of the sites will be provided in accordance with DFAT requirements.

4.21.3. Construction of the Chancery building will require the incorporation of intruder resistant physical security elements (e.g. doors, locks, walls, roof, glazing) and security technology systems.

4.22 Work Health and Safety

4.22.1. The proposed facilities will comply with the requirements of the *Work Health and Safety Act* 2011 (Cth). The Australian Government is committed to improving occupational health and safety outcomes in the building and construction industry.

4.22.2. All construction sites will be appropriately secured to prevent public access during the construction period. No special or unusual public safety risks have been identified.

4.23 Landscaping

4.23.1. The following general landscaping requirements and objectives are to be applied in the design and construction of all landscape zones within the Project:

a. The landscape treatment will recognise and respond to site topography and constraints including climatic influences, surrounding landscape and built development;

b. Planting will be used to establish microenvironments that provide shading and cooling effects for residents;

c. All decks and terraces will be constructed from sustainable tropical materials resistant to all local insects such as white ants and termites;

d. Pavements are to be designed to be free draining, anti-slip surfaces, with low glare / reflectivity and low heat loading characteristics; and

e. Above ground swimming pools and associated filtration and pump equipment to be provided. All pools are to include underwater lighting and low maintenance finish to simplify cleaning. Each pool will have a slip resistant edge and perimeter surround of minimum 1500mm. An Australian Standard approved pool fence and gate is to be installed to all sides of the pool.

4.24 Associated Plans and Drawings

4.24.1. Please refer to **Appendix A** project drawings and plans.

5. COST EFFECTIVENESS

5.1 Outline of Project Costs

5.1.1. The estimated out-turned cost of this project is **$19.656 million e**xcluding GST.

5.2 Contracting Delivery Approach

5.2.1. The recommended delivery strategy is a D&C contract with ECI. This will enable the Project to be delivered in two stages:

a. Stage 1 – Design development and finalise the delivery agreement (lump sum fee); and

b. Stage 2 – Design, delivery and construction (lump sum price as agreed in Stage 1).

5.2.2. Based on the D&C ECI approach, the contractor is engaged to develop a concept design, project costings and all other reference documents required for project approvals. No guarantees are given by OPO during Stage 1 that the project will progress to Stage 2. Subject to the required project approvals (including PWC approval), the Delivery Phase Agreement, incorporating design development, scope changes and risk considerations is negotiated with the contractor to deliver the scope of works agreed during Stage 1.

5.2.3. This delivery model reduces the Commonwealth design and delivery risk due to the early involvement of the delivery contractor in the process. Considering that the risks are primarily around the logistical challenges due to the remote location and environmental factors, this approach provides maximum flexibility in the construction methodology and opportunity for innovation to be passed onto the Commonwealth.

5.2.4. Reeves International, in association with James Cubitt Architects and UB, have been engaged to provide a turnkey design and construction solution that offers a staged completion of the sites minimising disruption to staff and the operation of the High Commission. Collectively they aiming to deliver an innovative modular prefabricated solution.

5.2.5. The UB prefabricated modular system with integrated prefabricated bathroom pods, was considered best for project due to the numerous challenges and limitations of building within the Pacific.

5.2.6. The advantages of using this methodology over the traditional approach enables the following benefits;

a. **Offsite manufacture.** By enabling the bulk of a building's structure to be manufactured offsite, the UB system is ideal for projects in remote areas and/or which are otherwise constrained by site dynamics and servicing limitations. The system helps overcome issues of local labour force availability and simplifies the logistics of organising tradespeople and material deliveries.

b. **Sustainability.** The unique composite structure uses up to 85% less cement than traditional concrete alternatives, significantly reducing the embodied energy carbon footprint of a building. The controlled manufacturing environment also provides for significant reductions of construction waste and offcuts as compared to onsite construction work.

c. **Faster and lighter.** 30-50% reduction in construction programs and 40% lighter than conventional structures, reducing footing design/costs.

d. **Higher quality.** Controlled factory-based fabrication ensures consistent dimensional control of components.

e. **Enhanced safety:** Reduced live-edge building works.

5.2.7. The residences and Chancery are to be manufactured in UB's facility located in Victoria, Australia and shipped to Kiribati for construction. Reeves International has been shipping materials and equipment into Tarawa for several years and has completed over $25 million in project works since 2015 in Kiribati. It's intimate knowledge and experience in the region, especially in managing shipping capabilities to Tarawa mitigated a key risk of building in the Pacific and Tarawa itself.

5.3 Project Management Services

5.3.1. OPO has engaged a Project Manager / Contract Administrator, TSA Management, to manage the design phase and construction for the Project.

5.4 Governance Structure

a. **A Project Control Group (PCG)** comprising personnel from DFAT and the PM will be established for the

b. **Planning and Delivery Phase.** Representatives for the Contractor will join the team for the delivery phase. The PCG will have the responsibility for providing executive oversight of the Project and the delivery of the works. Key stakeholders will be represented on the PCG as required.

c. **OPO Project Director** has the ultimate responsibility for the delivery of the Project.

d. **Project Manager Contract Administrator** is responsible for the day-to-day management of the Project.

5.1 Construction Schedule

5.1.1. Subject to Parliamentary approval of the Project, construction is expected to commence in February 2020 through to July 2021. The program is included at **Appendix B.**

5.2 Revenue

5.2.1. No revenue will be derived from the Project.

5.3 Local Community Benefits

5.3.1. The level of skilled labour availability within Kiribati is not high. However, the Project has a commitment to developing the capacity of local construction workers through the Kiribati Institute of Technology to provide work placements for final year students studying trades. As such, the Project will use skilled local labour where appropriate without compromising quality. To prevent compromising quality, the mobilisation of skilled expat trade labour will be required to work with local labour to deliver the Project. This will provide a mutually beneficial outcome for Australian and local industry in Kiribati.

Appendix A – Drawings and Plans

EXISTING LOCATION PLAN

1 EXISTING SURVEY WITH IMAGE
1 : 1000

PROPOSED LOCATION PLAN

2 MASTERPLAN WITH IMAGE
1 : 1000

PRELIMINARY
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Rev.	Description	Date	By
P1	FOR INFORMATION	27/05/19	
P2	FOR INFORMATION	09/08/19	DR

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PROJECT:
TARAWA KIRIBATI

TITLE:
LOCATION PLAN

DATE	09/08/19	DRAWN	JCA
SCALE (A1)	1 : 1000	CHECKED	MT
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DRAWING NO.	A0-10	REVISION	P2

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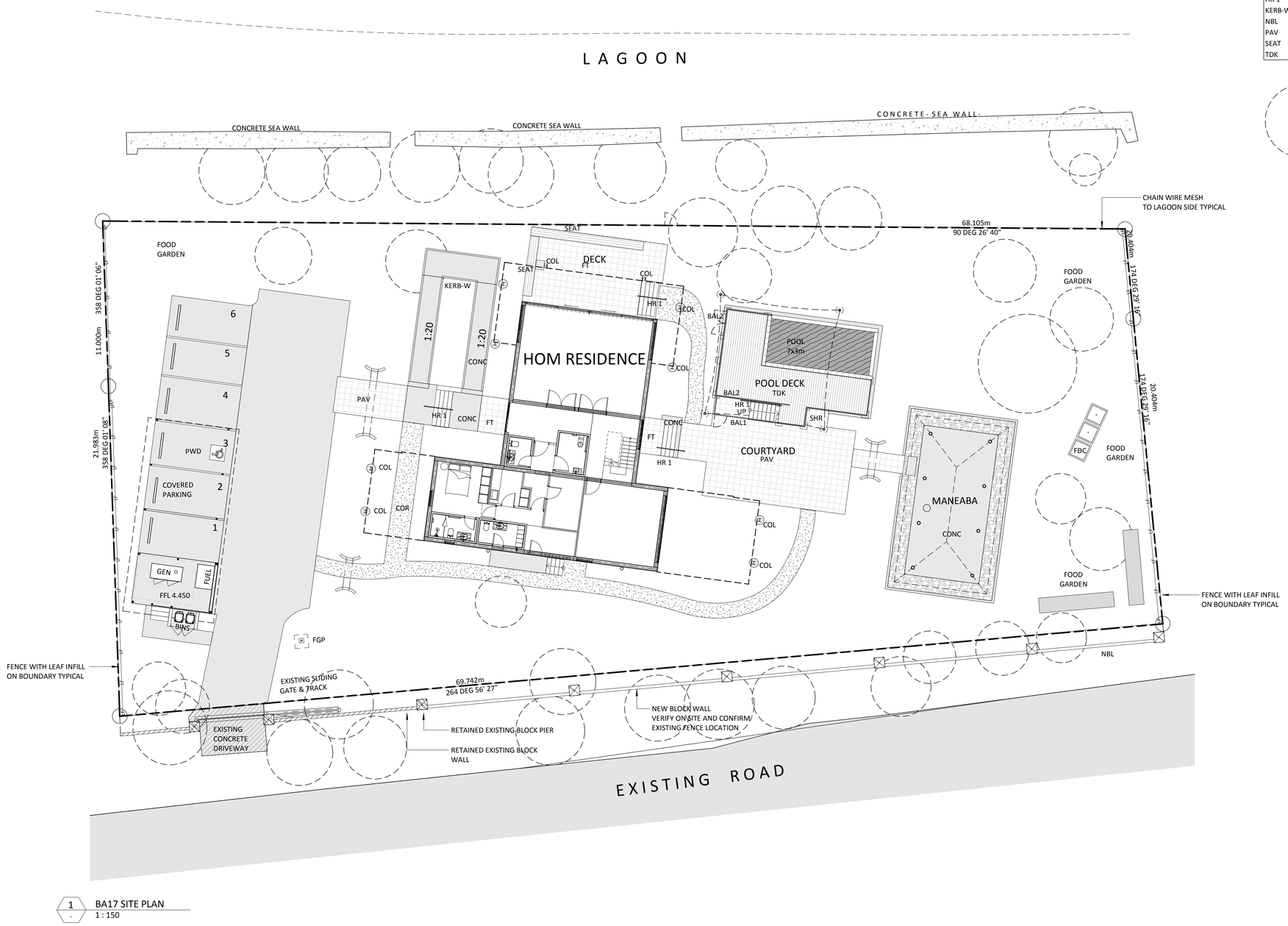

1 / - BA17 SITE PLAN
1 : 150

LEGEND

BAL1	BALUSTRADE - POOL FENCING WITH GATE
BAL2	BALUSTRADE TYPE 2 - TO MATCH RESIDENCE BALUSTRADE
CONC	CONCRETE (BROOM FINISHED)
COR	CRUSHED CORAL
FDC	FOOD CUBE (PROPRIETARY)
FGP	FLAG POLE & FOOTING, LOCATION TO BE CONFIRMED
FT	FLOOR TILES
HR 1	HANDRAIL TYPE 1
KERB-W	WALKWAY KERB TO AS 1428.1
NBL	NEW BLOCK WALL FENCE TO DETAIL
PAV	PAVER REFER TO LANDSCAPE DWGS
SEAT	TIMBER BATTEN SEAT
TDK	COMPOSITE TIMBER DECKING (PROPRIETARY)

EXISTING TREES TO BE RETAINED

Rev.	Description	Date	By
P1	FOR INFORMATION	02/08/19	
P2	FOR INFORMATION	09/08/19	

CLIENT:

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PROJECT:
DFAT HOUSING, TARAWA
KIRIBATI

BA17 HOM RESIDENCE

TITLE:
BA17 - SITE PLAN - GENERAL ARRANGEMENT

DATE	09/08/19	DRAWN	JCA
SCALE (A1)	1 : 150	CHECKED	MT
JOB NO.	18316	APPROVED	PC
DRAWING NO.	A1-10	REVISION	P2

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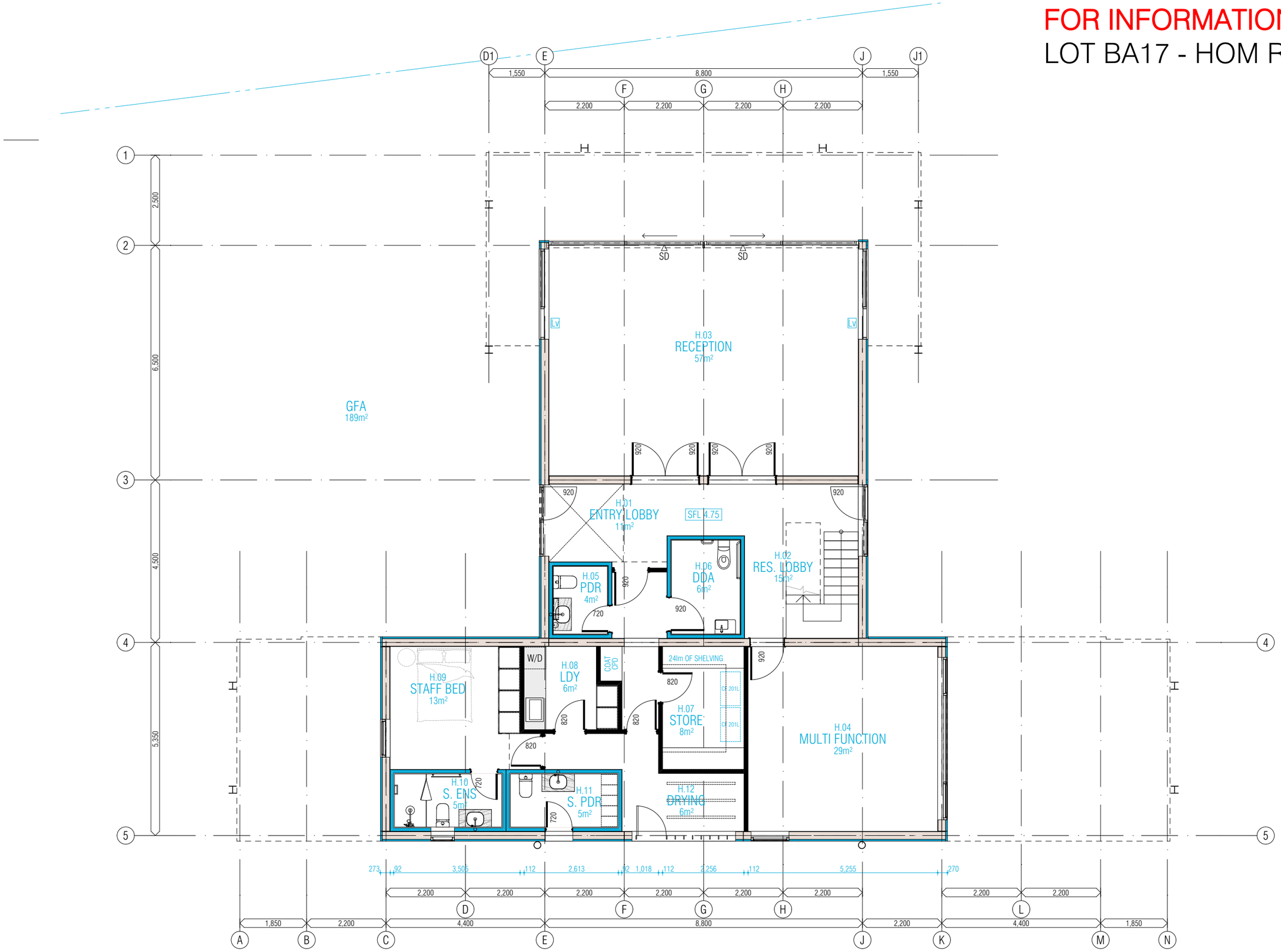

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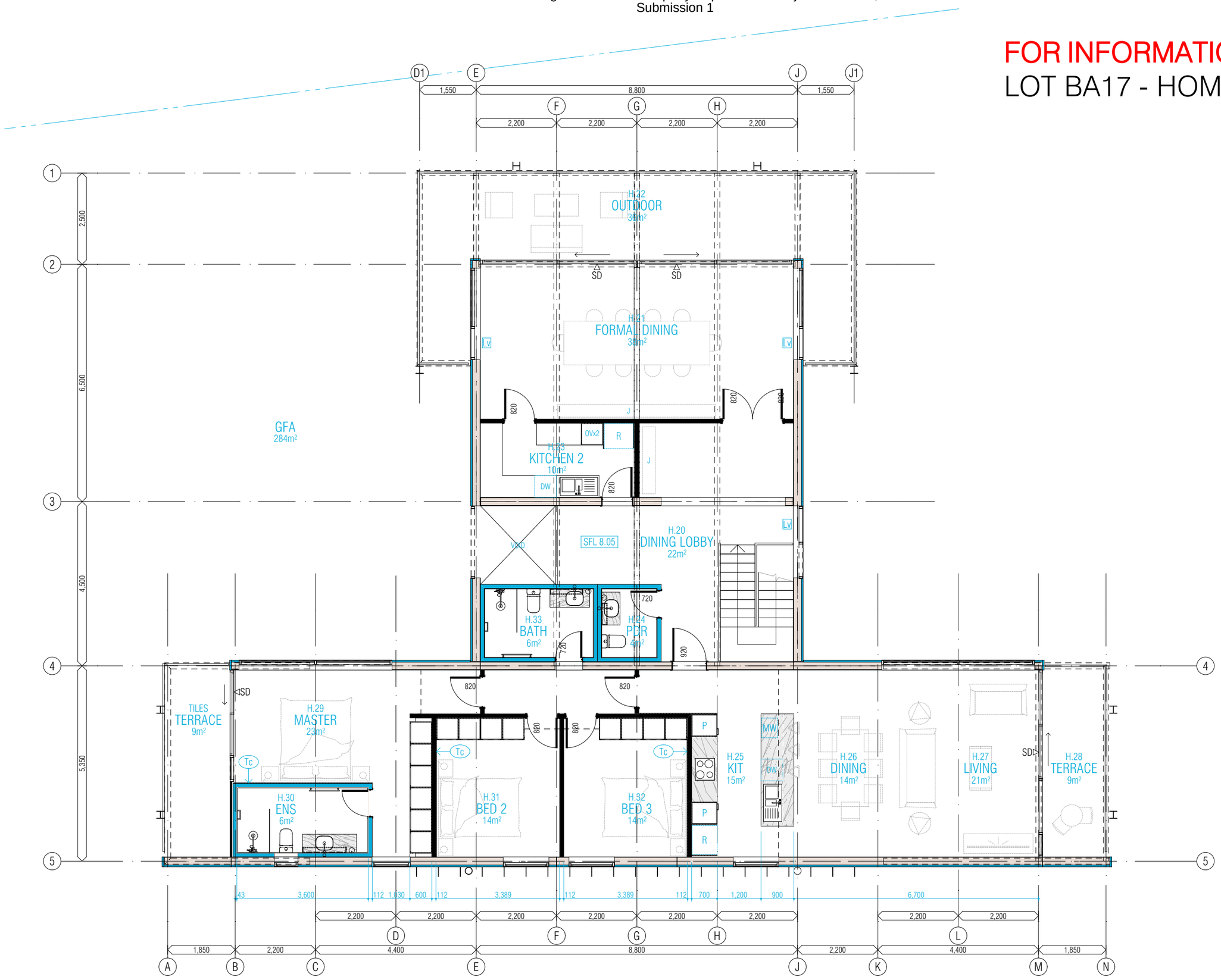
FOR INFORMATION ONLY

LOT BA17 - HOM RESIDENCE



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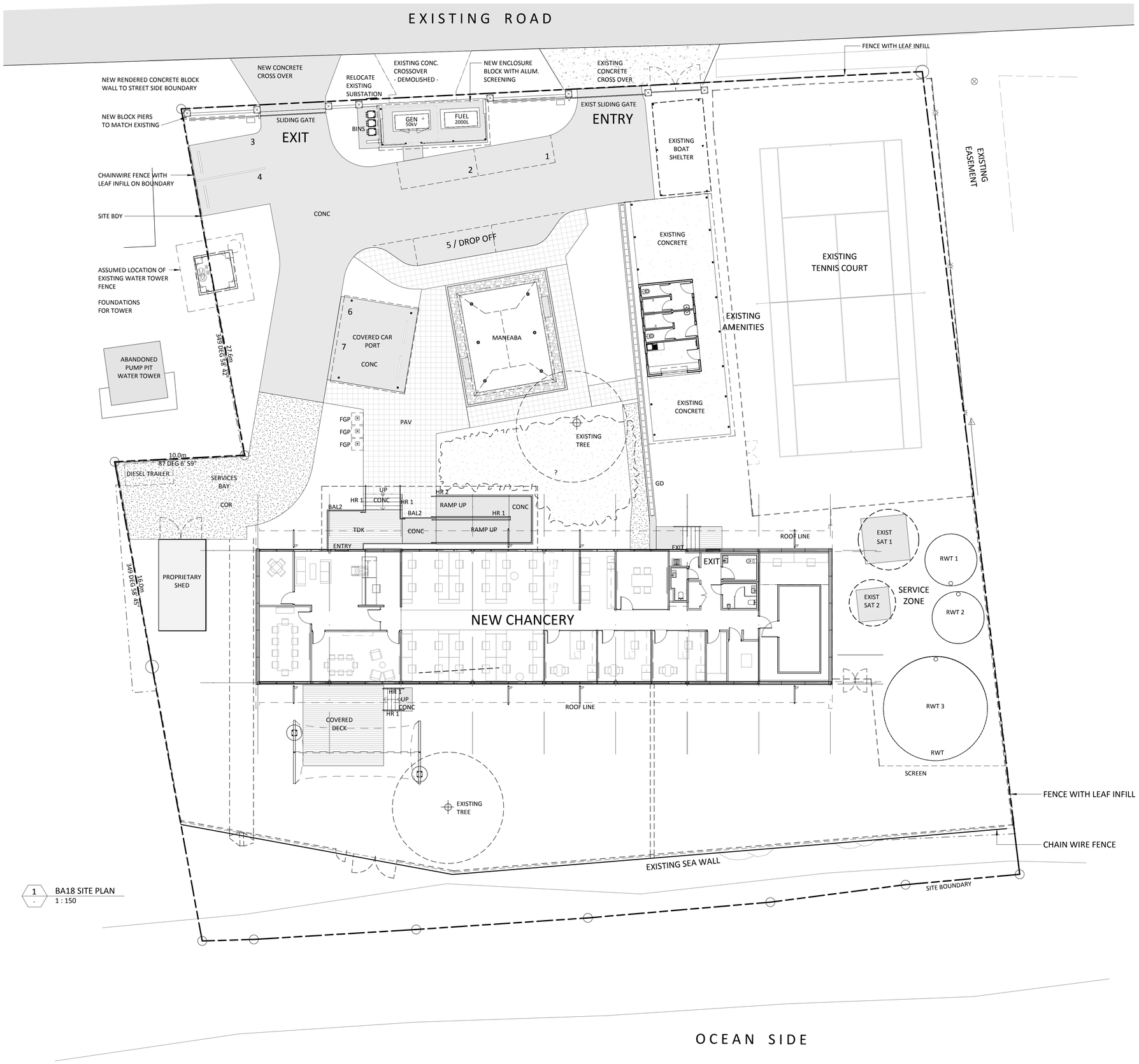

1 BA18 SITE PLAN
1 : 150

LEGEND

BAL2	BALUSTRADE TYPE 2 - TO MATCH RESIDENCE BALUSTRADE
CONC	CONCRETE (BROOM FINISHED)
COR	CRUSHED CORAL
FGP	FLAG POLE & FOOTING, LOCATION TO BE CONFIRMED
GD	GRATED DRAIN
HR 1	HANDRAIL TYPE 1
HR 2	HANDRAIL, KERB RAIL & BALUSTRADE
PAV	PAVER REFER TO LANDSCAPE DWGS
RWT	RAINWATER TANK
TDK	COMPOSITE TIMBER DECKING (PROPRIETARY)

EXISTING TREES TO BE RETAINED

Rev.	Description	Date	By
P1	FOR INFORMATION	02/08/19	
P2	FOR INFORMATION	09/08/19	

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PROJECT:
DFAT HOUSING, TARAWA
KIRIBATI

BA18 NEW CHANCERY

TITLE:
BA18 - SITE PLAN - NEW CHANCERY

DATE	09/08/19	DRAWN	JCA
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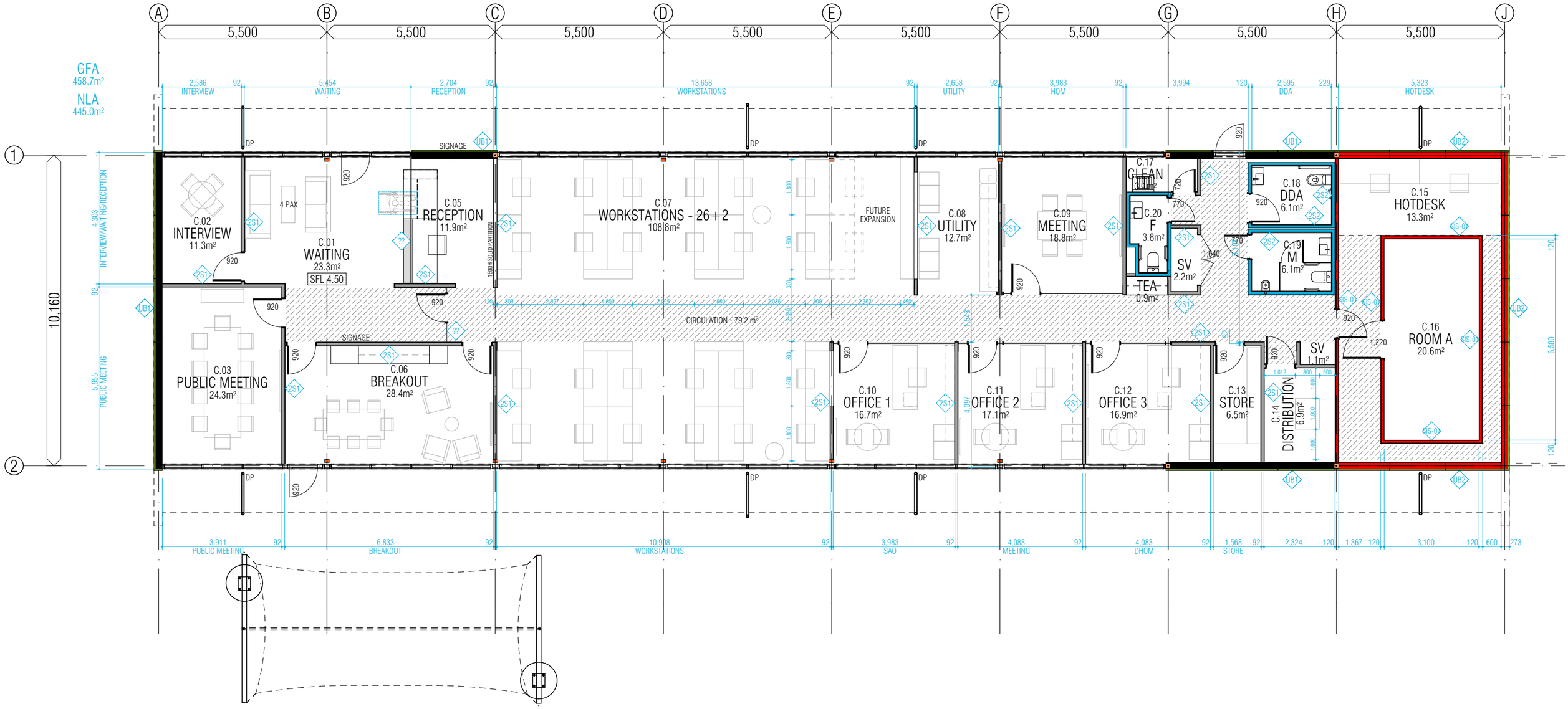

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UNITISED BUILDING CONSULTING (AUST) PTY LTD ABN 144 824 537

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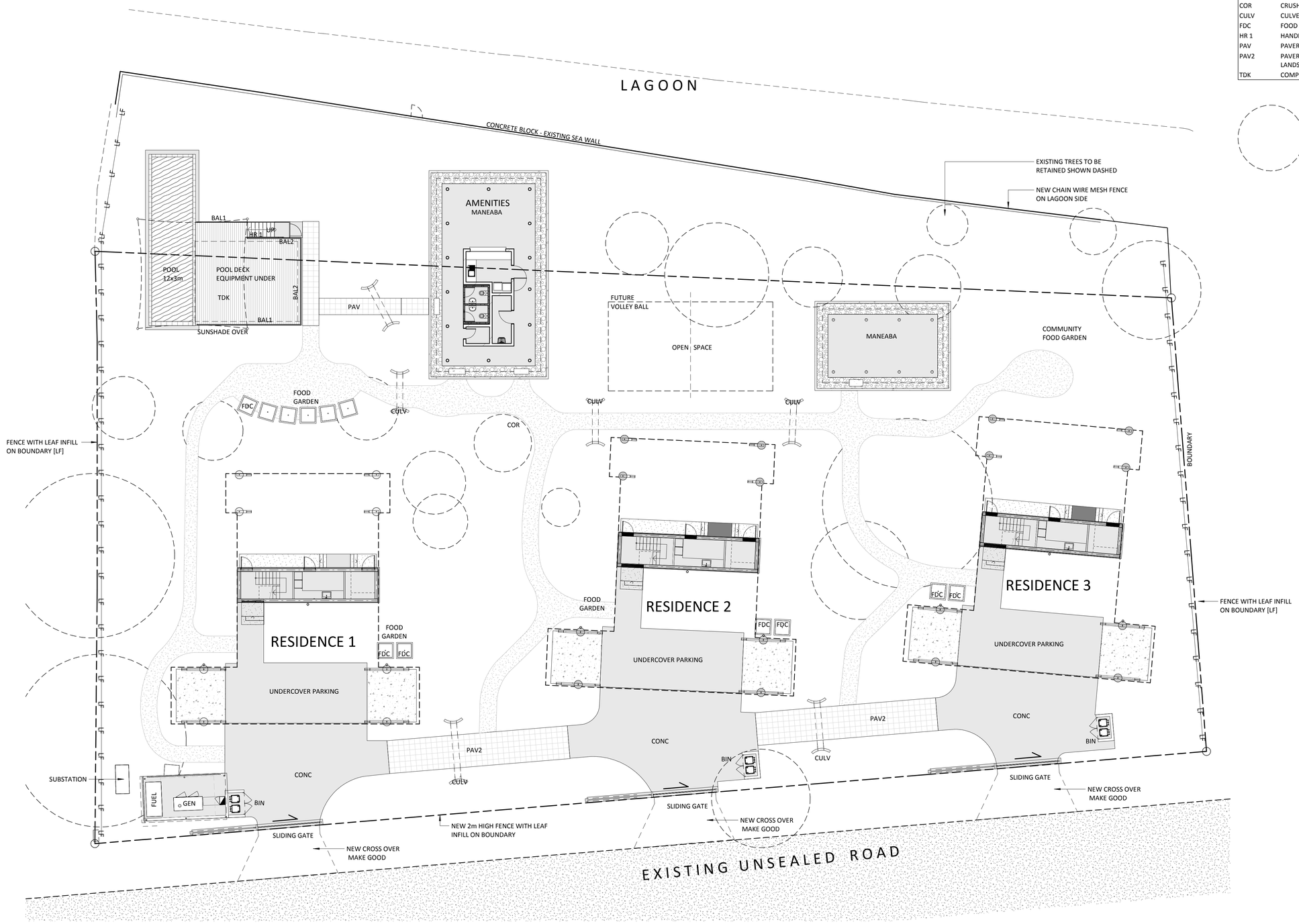

1 BA21 SITE PLAN
1 : 150

LEGEND

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BAL2	BALUSTRADE TYPE 2 - TO MATCH RESIDENCE BALUSTRADE
CONC	CONCRETE (BROOM FINISHED)
COR	CRUSHED CORAL
CULV	CULVERT - REFER CIVIL
FDC	FOOD CUBE (PROPRIETARY)
HR 1	HANDRAIL TYPE 1
PAV	PAVER REFER TO LANDSCAPE DWGS
PAV2	PAVER (TRAFFIC CLASSED) REFER TO LANDSCAPE DWGS
TDK	COMPOSITE TIMBER DECKING (PROPRIETARY)

EXISTING TREES TO BE RETAINED

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P1	FOR INFORMATION	02/08/19	
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PROJECT:
DFAT HOUSING, TARAWA
KIRIBATI

BA21 STAFF RESIDENCES

TITLE:

BA21 - SITE PLAN

DATE	09/08/19	DRAWN	JCA
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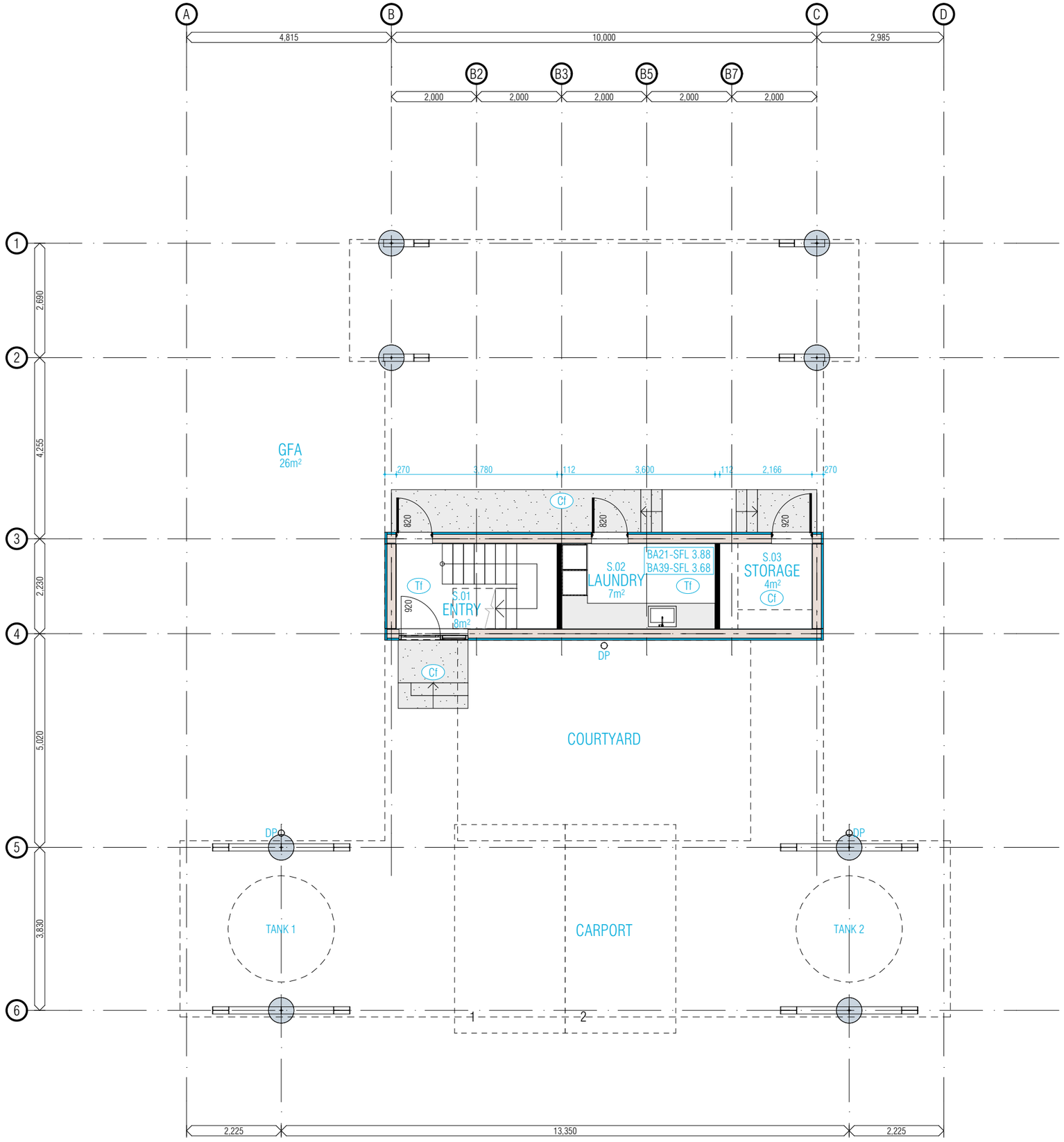

EXTERNAL FINISHES

- Ba — BALUSTRADE
- Cs — CEMENT SHEET CLADDING / SOFFIT
- Cf — CONCRETE FINISH
- G — GLAZING
- Lv — OPERABLE GLASS LOUVRE
- M — METAL CLADDING / METALWORK
- P — EXTERNAL PAINT FINISH
- Pc — POWDERCOAT FINISH ON METAL SOFFIT
- R1 — ROOF - METAL
- R2 — GUTTER & DOWNPIPES - STAINLESS STEEL
- Rn — RENDER - ACRYLIC
- Sd — EXTERNAL FEATURE - METAL

INTERNAL FINISHES

- Gs — GLASS SHOWER SCREEN
- La — LAMINATE
- Mr — MIRROR
- Pf — POWDERCOAT FINISH
- Pt — PAINTED MOISTURE RESISTANT PLASTERBOARD
- Sk1 — SKIRTING - PAINTED MOISTURE RESISTANT PLY
- Sk2 — SKIRTING - LAMINATE FINISH ON MOISTURE RESISTANT PLY
- St — STONE FINISH
- Tc — INTERNAL WALL / CEILING FEATURE PANEL LAMINATE FINISH ON MOISTURE RESISTANT PLY
- Tf — FLOOR TILE
- Tw — WALL TILE

FOR INFORMATION ONLY

LOT BA21 - 3x Staff Residences
LOT BA39 - DHOM Residence

UNITISED BUILDING CONSULTING (AUST) PTY LTD ABN 144 824 537

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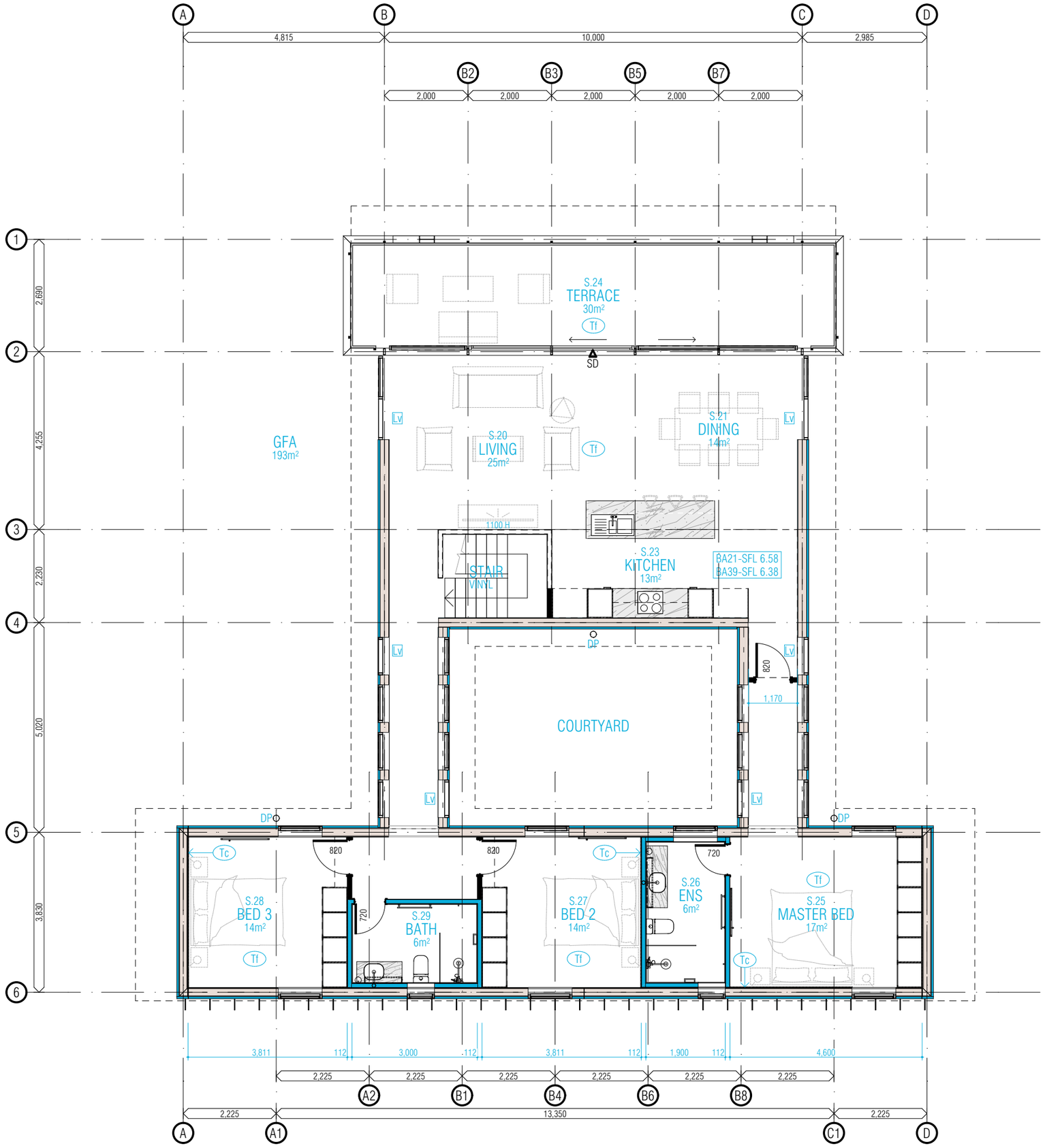

EXTERNAL FINISHES

Ba	BALUSTRADE
Cs	CEMENT SHEET CLADDING / SOFFIT
Cf	CONCRETE FINISH
G	GLAZING
Lv	OPERABLE GLASS LOUVRE
M	METAL CLADDING / METALWORK
P	EXTERNAL PAINT FINISH
Pc	POWDERCOAT FINISH ON METAL SOFFIT
R1	ROOF - METAL
R2	GUTTER & DOWNPIPES - STAINLESS STEEL
Rn	RENDER - ACRYLIC
Sd	EXTERNAL FEATURE - METAL

INTERNAL FINISHES

Gs	GLASS SHOWER SCREEN
La	LAMINATE
Mr	MIRROR
Pf	POWDERCOAT FINISH
Pt	PAINTED MOISTURE RESISTANT PLASTERBOARD
Sk1	SKIRTING - PAINTED MOISTURE RESISTANT PLY
Sk2	SKIRTING - LAMINATE FINISH ON MOISTURE RESISTANT PLY
St	STONE FINISH
Tc	INTERNAL WALL / CEILING FEATURE PANEL LAMINATE FINISH ON MOISTURE RESISTANT PLY
Tf	FLOOR TILE
Tw	WALL TILE

FOR INFORMATION ONLY

LOT BA21 - 3x Staff Residences
LOT BA39 - DHOM Residence

P4

UNITISED BUILDING CONSULTING (AUST) PTY LTD ABN 144 824 537

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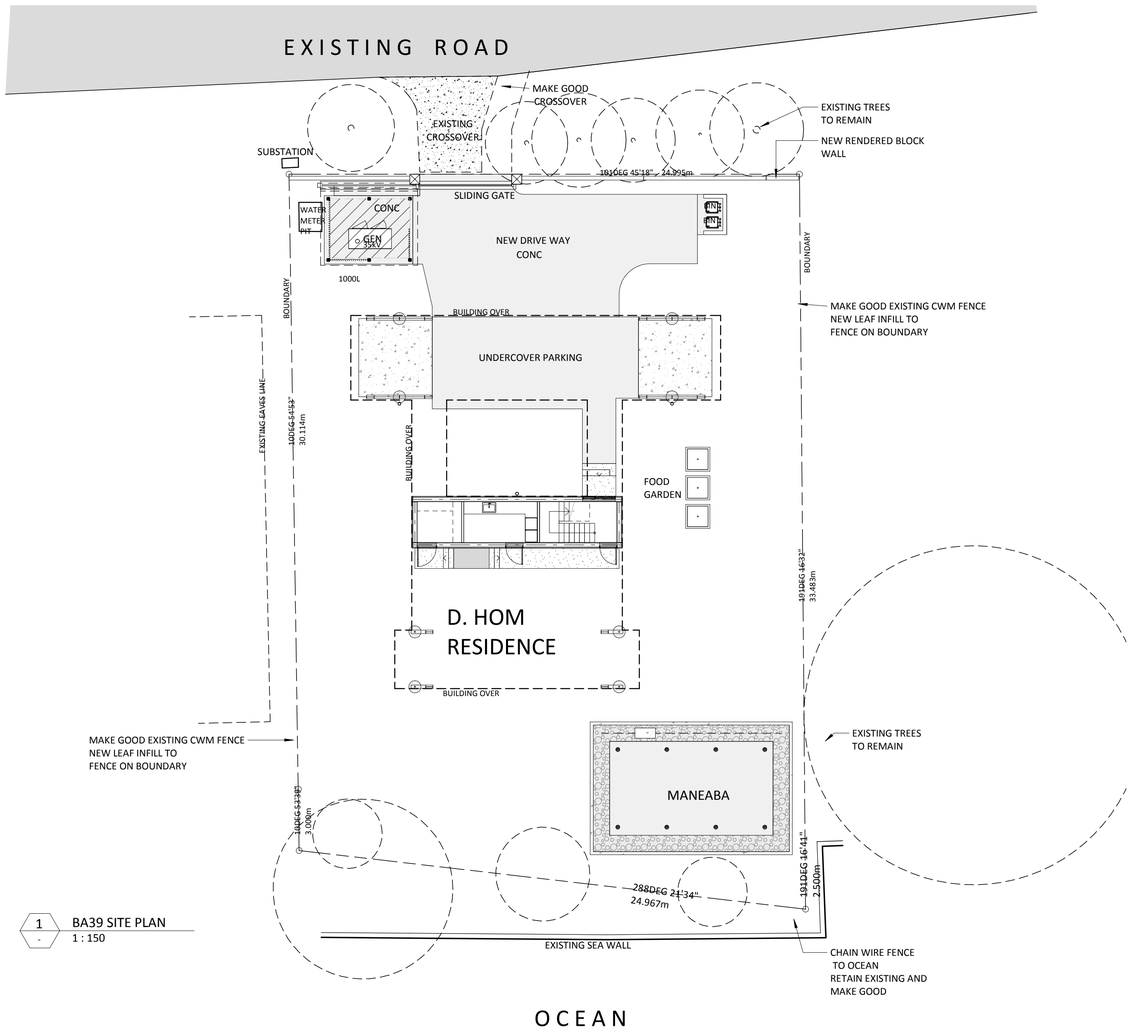
STAFF RESIDENCE - TARAWA KIRIBATI | 06-Aug-19 | LEVEL 1 PLAN | SCALE 1:100@A3 | A822_P5

Rev.	Description	Date	By
P1	FOR INFORMATION	02/08/19	
P2	FOR INFORMATION	09/08/19	DR

LEGEND

CONC CONCRETE (BROOM FINISHED)

EXISTING TREES TO BE RETAINED



1 BA39 SITE PLAN
1 : 150

PRELIMINARY
NOT FOR CONSTRUCTION

CLIENT:

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PROJECT:
DFAT HOUSING, TARAWA
KIRIBATI

BA39 DEPUTY HOM RES

TITLE:
BA39 - SITE PLAN - D.HOM RESIDENCE

DATE	09/08/19	DRAWN	JCA
SCALE (A1)	As indicated	CHECKED	MT
JOB NO.	18316	APPROVED	PC
DRAWING NO.	A4-10	REVISION	P2

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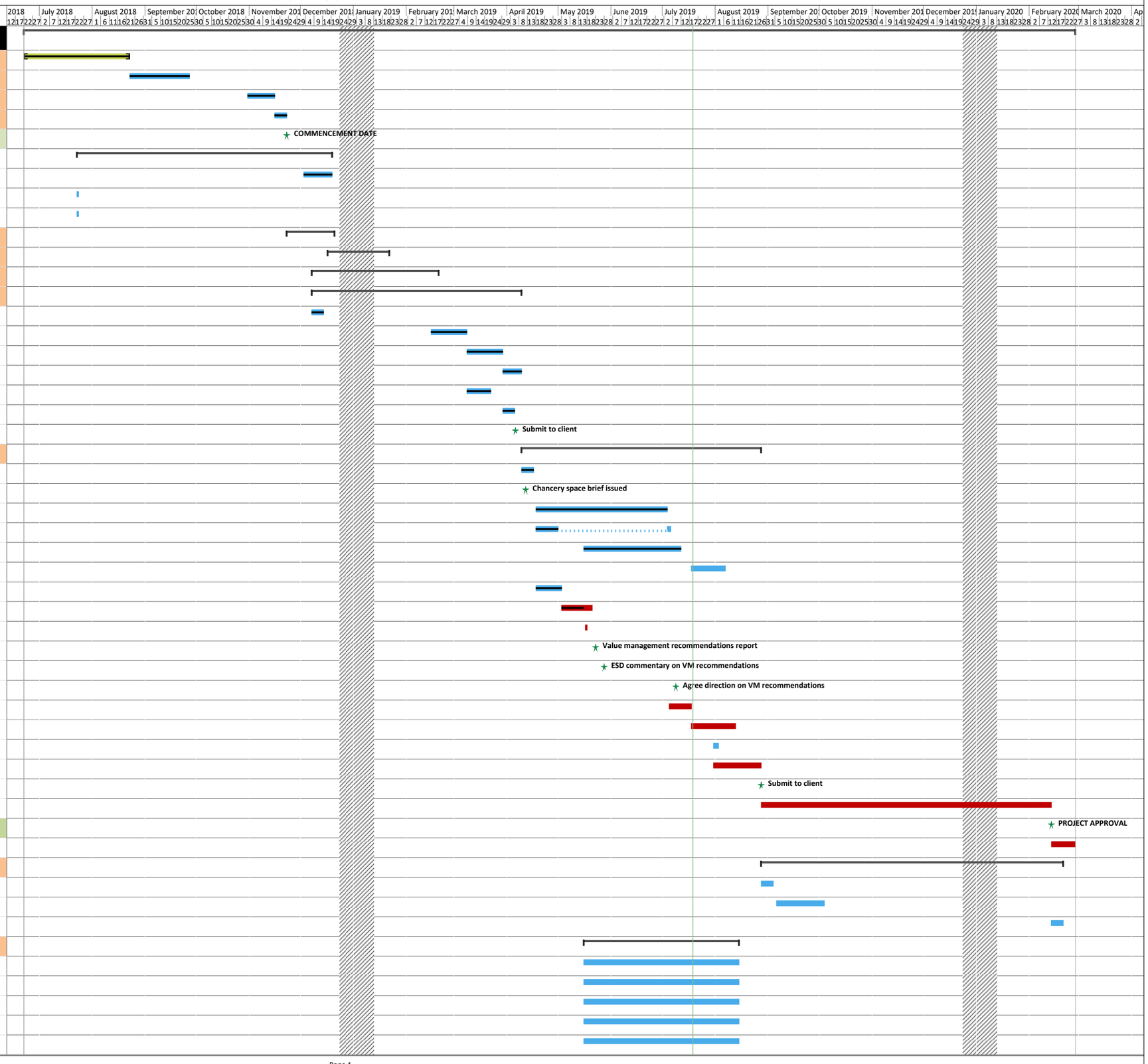
Appendix B – Program

Reeves International

TARAWA RESIDENTIAL REPLACEMENT PROJECT
DESIGN PROGRAMME Rev 4

Fri 19/07/19
REV PT2.4
DESIGN PROGRAM

ID	Task Name	Duration	Start	Finish	Actual Finish
1	**PROJECT DESIGN PHASE**	**403 days**	**Fri 22/06/18**	**Thu 27/02/**	**NA**
2	**Tender Submission**	**44 days**	**Fri 22/06/18**	**Wed 22/08/18**	**Wed 22/08/18**
3	**DFAT Tender Evaluation**	**5 wks**	**Thu 23/08/18**	**Wed 26/09/18**	**Wed 26/09/18**
4	**Engagement of contractor**	**12 days**	**Wed 31/10/18**	**Thu 15/11/18**	**Thu 15/11/18**
5	**Commencement date**	**1 wk**	**Fri 16/11/18**	**Thu 22/11/18**	**Thu 22/11/18**
6	**COMMENCEMENT DATE**	**0 days**	**Thu 22/11/18**	**Thu 22/11/18**	**Thu 22/11/18**
7	**Time Impacts**	**107.6 days**	**Mon 23/07/18**	**Wed 19/12/18**	**NA**
8	Masterplan alternatives BA 39 & 17	2.52 wks	Mon 3/12/18	Wed 19/12/18	Wed 19/12/18
9	Expand Annexe to Chancery	1 day?	Mon 23/07/18	Mon 23/07/18	NA
10	Increase Chancery to 8-bay	1 day?	Mon 23/07/18	Mon 23/07/18	NA
11	**Project Implementation Docs**	**20 days**	**Fri 23/11/18**	**Thu 20/12/18**	**Thu 20/12/18**
18	**Site Visit**	**9 days**	**Mon 17/12/18**	**Mon 21/01/19**	**Mon 21/01/19**
23	**Master Plan**	**35.4 days**	**Fri 7/12/18**	**Tue 19/02/19**	**NA**
29	**Scoping study & 30% Concept Design Report**	**70 days**	**Fri 7/12/18**	**Tue 9/04/19**	**Tue 9/04/19**
30	Site plans	5 days	Fri 7/12/18	Fri 14/12/18	Fri 14/12/18
31	Arch plans	15 days	Fri 15/02/19	Fri 8/03/19	Fri 8/03/19
32	Draft eng reports	15 days	Fri 8/03/19	Fri 29/03/19	Fri 29/03/19
33	Draft energy report	7 days	Fri 29/03/19	Tue 9/04/19	Tue 9/04/19
34	Draft lightning Risk assessment	10 days	Fri 8/03/19	Fri 22/03/19	Fri 22/03/19
35	Draft delivery programme	5 days	Fri 29/03/19	Fri 5/04/19	Fri 5/04/19
36	Submit to client	0 days	Fri 5/04/19	Fri 5/04/19	Fri 5/04/19
37	**50% Detailed Design Report**	**97.4 days**	**Tue 9/04/19**	**Tue 27/08/19**	**NA**
38	UB Design	5 days	Tue 9/04/19	Tue 16/04/19	Tue 16/04/19
39	Chancery space brief issued	0 days	Fri 12/04/19	Fri 12/04/19	Fri 12/04/19
40	Security brief resolved	52 days	Thu 18/04/19	Wed 3/07/19	Wed 3/07/19
41	Chancery space brief layout finalisation	8 days	Thu 18/04/19	Fri 5/07/19	NA
42	Chancery layout agreed	41 days	Thu 16/05/19	Thu 11/07/19	Thu 11/07/19
43	Engineers design	14 days	Thu 18/07/19	Tue 6/08/19	NA
44	Architectural & materials schedules	8 days	Thu 18/04/19	Thu 2/05/19	Thu 2/05/19
45	ESD assessment report	12 days	Fri 3/05/19	Mon 20/05/19	NA
46	Value management workshop	1 day	Fri 17/05/19	Fri 17/05/19	NA
47	Value management recommendations report	0 days	Wed 22/05/19	Wed 22/05/19	NA
48	ESD commentary on VM recommendations	0 days	Mon 27/05/19	Mon 27/05/19	NA
49	Agree direction on VM recommendations	0 days	Mon 8/07/19	Mon 8/07/19	NA
50	Interim budget revision & acceptance	9 days	Fri 5/07/19	Wed 17/07/19	NA
51	Chancery & HOM detailed design	18 days	Thu 18/07/19	Mon 12/08/19	NA
52	SID processes	3 days	Wed 31/07/19	Fri 2/08/19	NA
53	Staff res & overall detailed design finalisation	4 wks	Wed 31/07/19	Tue 27/08/19	NA
54	Submit to client	0 days	Tue 27/08/19	Tue 27/08/19	NA
55	PROJECT APPROVAL ASSESSMENT incl PWC processes	21 wks	Wed 28/08/19	Thu 13/02/20	NA
56	**PROJECT APPROVAL**	**0 days**	**Thu 13/02/20**	**Thu 13/02/20**	**NA**
57	100% Detailed Design Report	10 days	Fri 14/02/20	Thu 27/02/20	NA
58	**Delivery Phase Agreement**	**110 days**	**Wed 28/08/19**	**Thu 20/02/20**	**NA**
59	Refine programme	5 days	Wed 28/08/19	Tue 3/09/19	NA
60	Develop delivery phase agreement-in-principle	4 wks	Fri 6/09/19	Thu 3/10/19	NA
61	Execute delivery phase agreement	5 days	Fri 14/02/20	Thu 20/02/20	NA
62	**Kiribati Permits**	**65 days**	**Thu 16/05/19**	**Wed 14/08/19**	**NA**
63	Register Reeves w Registrar's Office	13 wks	Thu 16/05/19	Wed 14/08/19	NA
64	Apply for business license	65 days	Thu 16/05/19	Wed 14/08/19	NA
65	Register for taxes	65 days	Thu 16/05/19	Wed 14/08/19	NA
66	Register with Kiribati Provident Fund (KPF)	65 days	Thu 16/05/19	Wed 14/08/19	NA
67	Building permit application	65 days	Thu 16/05/19	Wed 14/08/19	NA



Reeves International

TARAWA RESIDENTIAL REPLACEMENT PROJECT
DRAFT Delivery Phase Programme Rev E

Fri 19/07/19
REV C

ID	Task Name	Duration	Start	Finish
1	PROJECT APPROVAL	0 days	Thu 13/02/20	Thu 13/02/20
2	PROJECT DELIVERY PHASE	744 days	Mon 23/07/18	Wed 14/07/21
3	Raw material coil lead time	0 days	Tue 15/10/19	Tue 15/10/19
4	PREFABRICATION - BA17 HOM	36 days	Thu 20/02/20	Thu 9/04/20
5	Shop drawings	10 days	Thu 20/02/20	Wed 4/03/20
6	Build components	20 days	Thu 5/03/20	Wed 1/04/20
7	Structural steel	15 days	Thu 5/03/20	Wed 25/03/20
8	Windows	20 days	Thu 5/03/20	Wed 1/04/20
9	Staircase	15 days	Thu 5/03/20	Wed 25/03/20
10	Wall panels	15 days	Thu 5/03/20	Wed 25/03/20
11	Floor panels	10 days	Thu 5/03/20	Wed 18/03/20
12	Roof panels	10 days	Thu 5/03/20	Wed 18/03/20
13	Façade	15 days	Thu 5/03/20	Wed 25/03/20
14	Reeves defects inspection	1 day	Thu 2/04/20	Thu 2/04/20
15	Pre-ship defect rectification	5 days	Fri 3/04/20	Thu 9/04/20
16	SHIP BA17 HOM	85 days	Fri 10/04/20	Thu 6/08/20
19	HOM RESIDENCE ARRIVES	0 days	Thu 6/08/20	Thu 6/08/20
20	PREFABRICATION - BA21 (3 houses)	46 days	Thu 5/03/20	Thu 7/05/20
32	SHIP BA21	85 days	Fri 8/05/20	Thu 3/09/20
35	BA 21 3 RESIDENCES ARRIVE	0 days	Thu 3/09/20	Thu 3/09/20
36	PREFABRICATE CHANCERY	50 days	Thu 26/03/20	Wed 3/06/20
48	SHIP BA18 CHANCERY	85 days	Thu 4/06/20	Wed 30/09/20
51	CHANCERY ARRIVES	0 days	Wed 30/09/20	Wed 30/09/20
52	PREFABRICATION - BA39	35 days	Thu 1/10/20	Wed 18/11/20
64	SHIP BA39	85 days	Thu 19/11/20	Wed 17/03/21
67	BA39 RESIDENCE ARRIVES	0 days	Wed 17/03/21	Wed 17/03/21
68	PROCUREMENT	50 days	Mon 23/07/18	Mon 1/10/18
85	ESTABLISH ACCOMODATION	5 days	Thu 18/06/20	Thu 25/06/20
87	ON-SITE COMMENCEMENT	0 days	Thu 25/06/20	Thu 25/06/20
88	DFAT Chancery accomodation works	4.5 wks	Thu 21/05/20	Tue 23/06/20
89	BA17 DEMOLITION WORKS (2)	22 days	Thu 25/06/20	Fri 24/07/20
94	BA17 SITE ESTABLISHMENT	4 days	Mon 27/07/20	Thu 30/07/20
100	BA17 CIVIL/STRUCTURAL WORKS	14 days	Fri 31/07/20	Wed 19/08/20
117	HOM RESIDENCE - LOT BA17A/B	82 days	Fri 7/08/20	Mon 30/11/20
139	DFAT OCCUPY HOM RESIDENCE BA17	0 days	Tue 10/11/20	Tue 10/11/20
140	HOM moves into BA17	0 days	Tue 10/11/20	Tue 10/11/20
141	BA21 DEMOLITION WORKS (exist HOM)	14 days	Wed 11/11/20	Mon 30/11/20
146	BA21 SITE ESTABLISHMENT	4 days	Tue 1/12/20	Fri 4/12/20
152	BA21 CIVIL/STRUCTURAL WORKS	36 days	Mon 7/12/20	Mon 25/01/21
170	STAFF RESIDENCES - LOT BA21 (3)	84 days	Tue 26/01/21	Fri 21/05/21
191	DFAT OCCUPY BA21 HOUSES (3)	0 days	Fri 21/05/21	Fri 21/05/21
192	SAO moves into BA21	0 days	Fri 21/05/21	Fri 21/05/21
193	DHOM moves into temp accom	0 days	Fri 8/01/21	Fri 8/01/21
194	BA39 DEMOLITION WORKS (1 house)	17 days	Tue 12/01/21	Wed 3/02/21
199	BA39 SITE ESTABLISHMENT	4 days	Thu 4/02/21	Tue 9/02/21
205	BA39 CIVIL/STRUCTURAL WORKS	26 days	Wed 10/02/21	Wed 17/03/21
223	STAFF RESIDENCE - LOT BA39 (1)	72 days	Thu 18/03/21	Fri 25/06/21
244	DFAT OCCUPY BA39 HOUSE (1)	0 days	Wed 9/06/21	Wed 9/06/21
245	BA17 Office moves into Chancery, SAO moves to temp acc	0 days	Tue 23/06/20	Tue 23/06/20
246	BA18 DEMOLITION WORKS (New Chancery site)	8 days	Thu 3/09/20	Mon 14/09/20
251	BA18 SITE ESTABLISHMENT	6 days	Tue 15/09/20	Tue 22/09/20
257	BA18 CIVIL/STRUCTURAL WORKS (Chancery)	22 days	Tue 22/09/20	Wed 21/10/20
275	CHANCERY - LOT BA18	70 days	Thu 22/10/20	Wed 27/01/21
287	DFAT OCCUPY CHANCERY	0 days	Wed 6/01/21	Wed 6/01/21
288	BA18 DEMOLITION WORKS (Redundant Chancery site)	42 days	Wed 6/01/21	Fri 5/03/21
294	Handover certificates, O&M Manuals package	15 days	Thu 20/05/21	Wed 9/06/21
295	PRACTICAL COMPLETION	0 days	Wed 14/07/21	Wed 14/07/21
296	PACK UP EXCESS & DEMOBILIZE	3 days	Thu 10/06/21	Mon 14/06/21