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Attorney-General's Department

Report for Silver City Residential Expansion

Outline Development Plan

May 2010

INFRASTRUCTURE | MINING & INDUSTRY | DEFENCE | PROPERTY & BUILDINGS | ENVIRONMENT

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1. Introduction

The site subject of this Outline Development Plan (ODP) forms all of that area delineated within Figure 1, an area to the west of Silver City and east of the Christmas Island Phosphate conveyor belt. The site is currently zoned 'Residential Development' under the provisions of the Shire of Christmas Island Town Planning Scheme No. 1 - District Zoning Scheme (Figure 2).

Section 4.5 of the Scheme states that *"the Council may require the preparation of an Outline Development Plan for **all** or **part** of the site before recommending subdivision or approving development of land zoned 'Development' under the Scheme."*

On this basis, the Shire of Christmas Island has advised under cover of letter dated 7 August 2002, the need to prepare an Outline Development Plan for all that area zoned 'Residential Development' which includes the Unallocated Crown Land.

GHD Pty Ltd has been commissioned by the Attorney-General's Department (AGD) to prepare an ODP for a portion of the 'Residential Development' site. This ODP will identify the development potential to enable a coordinated approach to the future subdivision of this area.

Upon approval of the Outline Development Plan, the provisions contained therein will apply to the land as if its provisions were incorporated into the Town Planning Scheme, with such provisions being binding and enforceable. There is, therefore, no subsequent requirement to rezone the site through an Amendment to the Town Planning Scheme at this time.

A previous ODP was prepared in 2003 that covered the area subject to this ODP as well as the wider surrounding area to the north where Department of Immigration and Citizenship (DIAC) housing is now situated. The previous ODP proposed a residential density of R17.5, or 14 single residential lots, for the subject site for this ODP, with vehicular access from Pak Lam Loh to the north east and Seaview Drive to the west.

Upon presentation to the Shire of Christmas Island (the Shire) for approval, the Shire recommended various amendments be made to the 2003 ODP. These changes focussed primarily on the inclusion of text relating to the preparation of a stormwater management study and a traffic impact assessment. Preliminary consultation with the Shire regarding this ODP indicated that a traffic impact assessment would not be required due to the reduced area under consideration.

The following will be addressed as part of this Outline Development Plan:

- Key opportunities and constraints including land tenure, topography, land use, environment, hydrology, roads and services;
- The planning context for the ODP including relevant strategies, scheme provisions and policies, neighbourhood structure and how the proposed development / subdivision is to be integrated into the surrounding area;
- Proposed land uses;
- The proposed indicative lot pattern, nominated residential density code/s;
- Estimates of projected lot yields, dwellings and population;

- Provision of major infrastructure including drainage, sewerage, water supply, and other key infrastructure services;
- The proposed road network, bicycle and pedestrian networks, vehicular access and parking; and
- The likely timeframe and staging of subdivision and development.

Figure 1: ODP Site Area

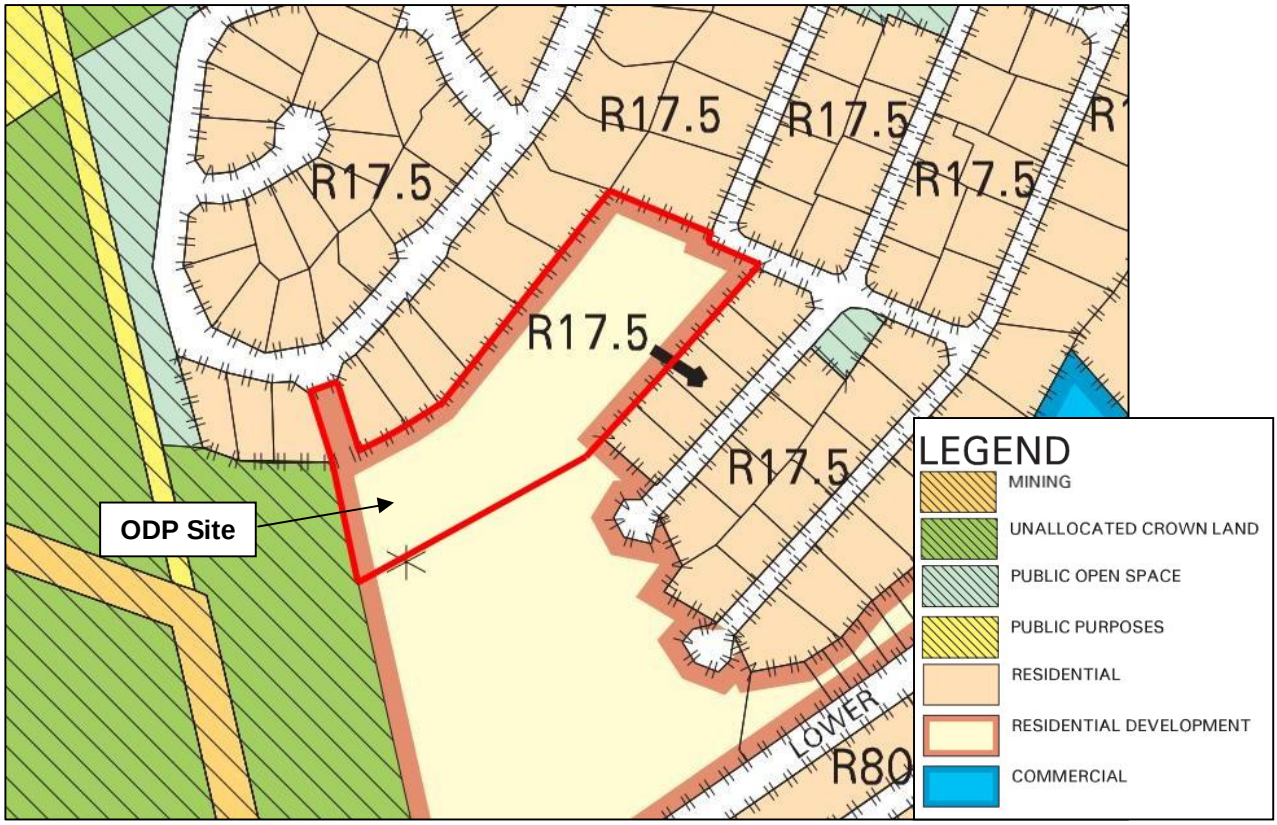

Figure 2: Current Land Use Zoning

2. Opportunities and Constraints

As previously stated, the Shire of Christmas Island has identified the need for an Outline Development Plan over the 'Residential Development' zoned land within the Silver City Area.

2.1 Land Tenure

The ODP site is part of a large distinct land parcel, being held by the Commonwealth as a portion of Unallocated Crown Land.

2.2 Topography/Geology

The ODP site comprises poor, highly reactive phosphate soils, the topsoil being thin and sporadic. The soil is categorised as clay between rock which is very susceptible to differential settlement.

The topography of the ODP site, with contours of between 114m AHD to 126m AHD from north to south respectively, imposes constraints on optimising development potential within the site. Significant earthworks will be necessary to create terraces to allow for realisation of development sites for residential housing as has been used through the Island. This may necessitate extensive retaining walls and/or the use of geofabric to provide slope stability during the early stages of vegetation regrowth.

Current site conditions

2.3 Land Use

The ODP site is Unallocated Crown Land with no active land use within the site. The site provides an opportunity for extending the residential land uses within the local Silver City area.

- The ODP site is surrounded to the north, east and south by development, with only the western boundary of the ODP site abutting Unallocated Crown Land which serves as a buffer to the conveyor belt.
- Residential land uses predominate on the eastern, northern and southern boundaries of the ODP, with an R17.5 density associated with single dwellings on Pak Kam Loh, Jalan Perak and Seaview Drive.

2.4 Environmental

2.4.1 Vegetation

The ODP site is not included in the National Park and has coverage of shrub and secondary growth forest over phosphate deposits and rock outcrops. The Town Planning Scheme designates the site suited for development, confirming the lower priority afforded to the vegetation on this site. Impact on the natural environment will be minimal compared with a site with significant primary growth.

2.4.2 Heritage

Christmas Island has a vast and diverse cultural heritage with many sites and pieces of infrastructure of significant heritage value to the community. Many of these places are registered on the Commonwealth Heritage List (CHL), which comprises natural, Indigenous and historic heritage places on Commonwealth land. Entries on the CHL are protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

There are no heritage concerns within the ODP, with the incline to west being the closest significant listing. Any future development within the ODP may require referral to the Federal Minister for the Environment, Heritage and the Arts. Development throughout the ODP should reflect the local architectural style of the Island as far as is practical.

2.4.3 Social

The realisation of residential development within the ODP site provides an opportunity for expanding the Island's supply of residential accommodation and thus addressing a social need on the Island. There is currently an urgent need for residential accommodation on the Island and the proposed residential lots will contribute to alleviating this problem.

This site will also serve a social need for family housing on the Island with the locational opportunities of the site allowing for development adjacent to established residential areas and associated amenities.

2.5 Hydrology/ Drainage Management

The ODP site is affected by significant stormwater discharge from surrounding areas, particularly from the south and from the east at Pak Kam Loh where a drainage channel traverses the site. This channel from Pak Kam Loh, provides drainage for major storms for the existing developed area east and south of the site. The safe collection and conveyance of these overland stormwater flows presents a unique constraint to development of the site. Additional hydrological/drainage constraints include the local climatic conditions and the relative impermeability of the phosphate soils, both of which prevent the retention of drainage on site.

In 2002, GHD were commissioned to undertake a stormwater management study for Christmas Island. Agreement was reached with the Shire, Environment Australia and Parks Australia on priority stormwater management projects, with the area in the vicinity of the ODP site, being identified as a priority area where measures are required to mitigate contribution of sediment laden and nutrient-rich stormwater emanating from these sites.

Notwithstanding the compensation basin at the end of Lower Poon Saan Drive, the priority projects identified in the vicinity of the ODP site included:

- Compensation basin located within Unallocated Crown Land adjacent to the incline.
- Incline drainage structures to capture sediment.
- Upgrade of the Pak Kam Loh outlet at the eastern side of the ODP site.

Other projects are included in this list that aim to manage stormwater and ameliorate sediment discharge.

Whilst there is an opportunity to incorporate infrastructure for water quality treatment within the design, it is considered that the development should not bear the cost of treatment for surrounding areas and that downstream treatment with the Unallocated Crown Land will be adequate and more efficient.

The implementation of such infrastructure is typically considered by the Western Australian Planning Commission (WAPC) as part of the subdivision process, with construction taking place in order to obtain clearance. Notwithstanding, subdivision of the ODP site could be undertaken as a Crown Land subdivision, determined by the Department of Regional Development and Lands and not WAPC, with no such infrastructure conditions.

2.6 Roads

The ODP site is serviced by a network of existing roads with direct access to Pak Kam Loh. The relative location of the ODP site provides opportunities for integrating with the existing transport network in the area.

The width of the existing roads in the vicinity of the ODP site is considered sufficient to accommodate additional traffic volumes arising from the development of the ODP site for residential purposes.

The following issues are highlighted:

- Access between Pak Kam Loh and the ODP site is from an elbow junction which poses some traffic management and safety issues. Remediation of this junction, possibly through changing the priority and constructing a conventional T intersection i.e. the priority route becomes new road-Pak Kam Loh (southwest to northeast); and
- An informal track traverses the site to provide a rear access to five properties on the northern side of Jalan Perak. The track is contained within Crown Land and has no formal status. Four of the properties have alternative front access from Jalan Perak, with one house accessible only from this rear access. Shire approval for this property has previously been granted.

Current elbow junction

Informal rear access track

2.7 Utility Services

All services are available to the ODP site including water, sewer and power. It is anticipated that any future development within the site will necessitate extension of services from Pak Kam Loh and possibly Jalan Perak.

Utilities do not represent a significant constraint to the realisation of development within the ODP area, with the capacity of the existing infrastructure considered capable of supporting the level of development proposed.

3. Outline Development Plan

3.1 Planning Context

3.1.1 Shire of Christmas Island Town Planning Scheme No. 1

The Christmas Island Town Planning Scheme No. 1 identifies the ODP site as being within the "Residential Development" Zone. The aim of this zone is to "*set aside land for a range of urban purposes including residential, tourism and commercial development depending on the capability and suitability of the respective sites."*

There are no development standards for land zoned 'Residential Development' under the Scheme. The Scheme however contains provisions requiring the preparation and adoption of an Outline Development Plan prior to subdivision and/or development proceeding on land zoned 'Development'.

It is considered that the proposed ODP fulfils the requirements of the Town Planning Scheme, with adoption of the ODP by Council and the WAPC negating the requirement to prepare an amendment to the Town Planning Scheme,

"*the provisions of the ODP apply to the land as if its provisions were incorporated into the Scheme and these are binding and enforceable in the same way as corresponding provisions in the Scheme". (TPS 1,* 4.5.16(a))

The ODP will establish the framework within which all future development shall be undertaken.

3.1.2 Subdivision

The ODP provides an opportunity for the subdivision of the site to create separate titles consistent with the proposed zones. Each of the 15 lots within the site have the potential to be created as Green Titles. At this time, it is not known if the subdivision will be determined by the WAPC or the Department of Regional Development and Lands (DRDL) as a Crown Land subdivision.

3.1.3 WAPC Development Control Policies

The WAPC Development Control Policies aim to ensure that residential lots created as a result of subdivision are adequately provided with a suitable level of amenity, services and access.

Notwithstanding that arrangements for the administration of the ODP land area are yet to be determined, with the possibility that DRDL are the decision-making authority, the ODP has been prepared to allow for compliance with the requirements of the relevant WAPC Development Control Policies.

3.1.4 WAPC Policy No. DC 2.2

- *"Development is in accordance with the Residential Planning Code assigned to it by the Town Planning Scheme"*. The ODP proposes a residential density of R17.5, and as such, all future development will be in accordance with nominated densities;
- *"Development is located in an area suited for subdivision"*. The ODP site is located adjacent to the Poon Saan and Silver City areas, both predominantly residential neighbourhoods. The Town Planning

Scheme has identified the ODP site as being suited to residential land uses which is compatible with the neighbouring residential land uses;

- "*Development is located within a system of vehicle and pedestrian movement consistent with the principles of the Commission's policy on Residential Road Design"*. The ODP site provides for vehicular access to Pak Kam Loh in a manner which is consistent with this policy in terms of design, safety and access;
- *"Development is served by a suitable level of community services, schools, retail facilities etc"*. The ODP site is located adjacent to the residential and commercial node of Poon Saan and Silver City where community services are available;
- *"Development is screened from the effects of any adjacent land uses that may affect the amenity of the residents"*. The urban form on Christmas Island does not traditionally implement screening between properties and this has been carried through to the ODP site where boundary screening is unlikely to be implemented.

The policy also makes provision for connection to reticulated sewer and underground power, both of which will be implemented in the development of the ODP site.

3.1.5 WAPC Policy No. DC 2.3

This policy requires that 10% of the gross subdividable area of a conditional subdivision is given up free of cost to the Crown for Public Open Space. It is considered, however, that this requirement may be reconsidered for the ODP site given that the ODP site abuts a significant area of Vacant Crown Land and is relatively close to a variety of other open space including the Christmas Island National Park and POS on Seaview Drive. This issue will be addressed at the time of determination of any subdivision application.

3.1.6 Residential Design Codes

The Residential Design Codes of Western Australia (R Codes) are applicable to residential land within the Shire of Christmas Island. The development of land within the ODP site shall conform to the provisions of these Codes. The purpose of the Codes is to provide a comprehensive basis for the control, through local government, of residential development throughout Western Australia.

Applications for Development Approval associated with development within the ODP will ensure the realisation of residential development within the ODP site in accordance with the objectives of the Residential Design Codes.

3.2 Proposed Land Use, Density and Lot Pattern

The Outline Development Plan (see Figures 3 and 4) prepared for the subject site aims to confirm a residential use for the site and nominates a suitable residential density and subdivision layout. The proposed R17.5 residential area has the potential for subdivision to create 15 individual residential lots averaging 738m^2 (indicative lot sizes range from 700m^2 to 884m^2). The lot sizes and shapes reflect the existing character of development on the Island where possible.

The variability of the local site conditions, particularly the severe topography, has necessitated an indicative lot design which accords with the contours, minimising the impact of development where

possible. A terrace formation of development will be required to be adopted together with retaining walls, reflective of site constraints and Island-wide practice.

Use of retaining walls and terracing near the site

A dedicated road through the site will provide linkage from Pak Kam Loh and will provide a reserve for utilities. A cul-de-sac at the end of this road has been positioned so as to allow for the future connection of the road south to Seaview Drive if required. A Right of Way has been provided to maintain current vehicle access arrangements to lots fronting Jalan Perak to the east of the site.

A public access way between Lots 7 and 9 provides an opportunity for pedestrian linkage between Jalan Perak and Seaview Drive. This linkage could be extended westwards from the edge of the proposed subdivision to incorporate the 'Incline' infrastructure and the heritage values that are present in this area, as well as the pedestrian access though to Murray Road near the Shire of Christmas Island administration building. This linkage could provide direct pedestrian access from the lower part of Murray Road, along the Incline, through the proposed subdivision and into Silver City and Poon Saan.

3.3 Projected Lot Yield, Dwellings and Population

Based on current ABS 2006 Census statistics, the proposed 15 single residential lots could result in an additional 30 people (2.0 people per dwelling).

3.4 Provision of Major Infrastructure

As identified previously, the ODP site is well serviced with power, water and sewerage infrastructure. Any future development of the site would require extension of services and relocation of drainage infrastructure as outlined in Figure 5.

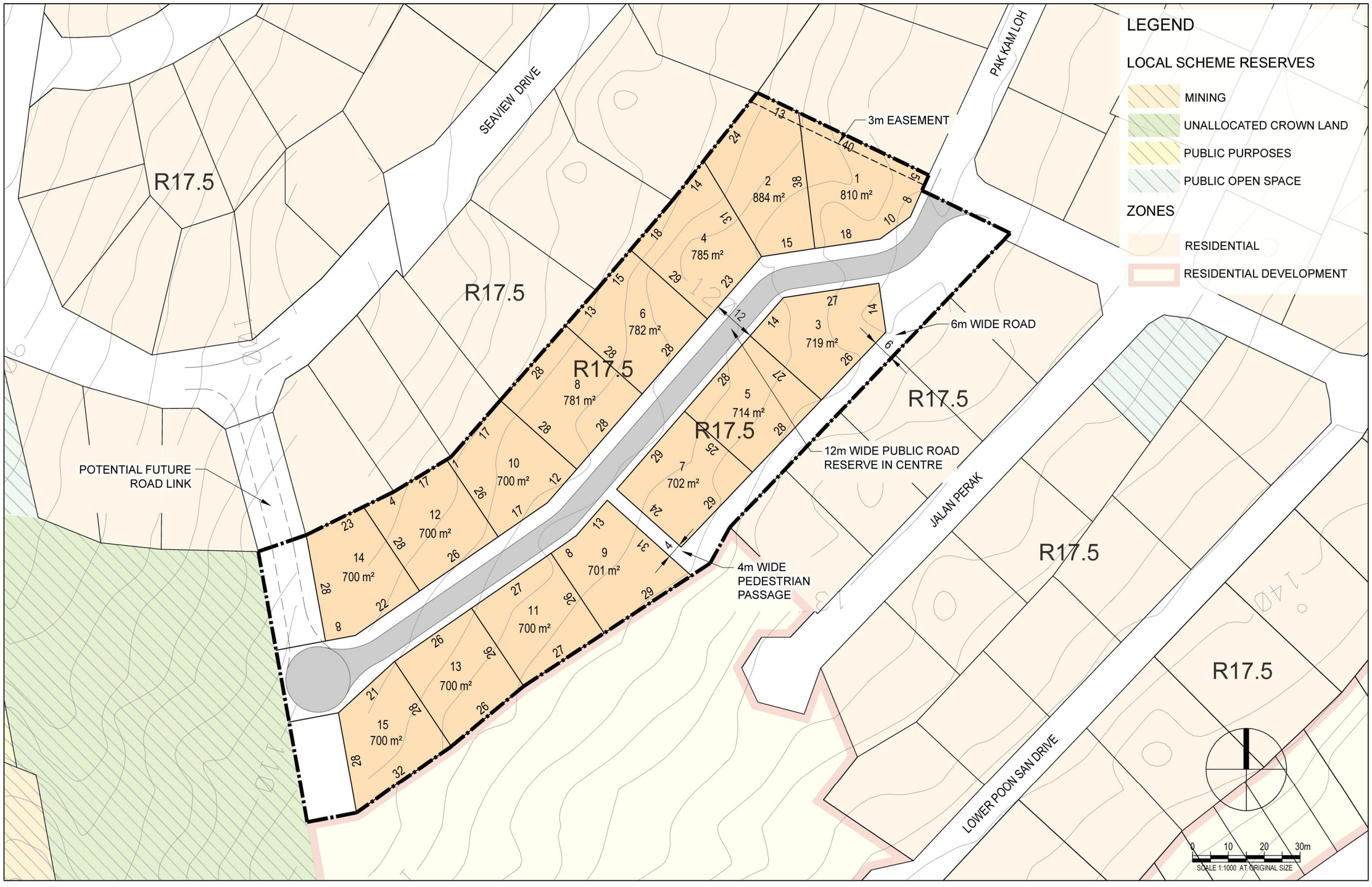

Figure 3: Outline Development Plan

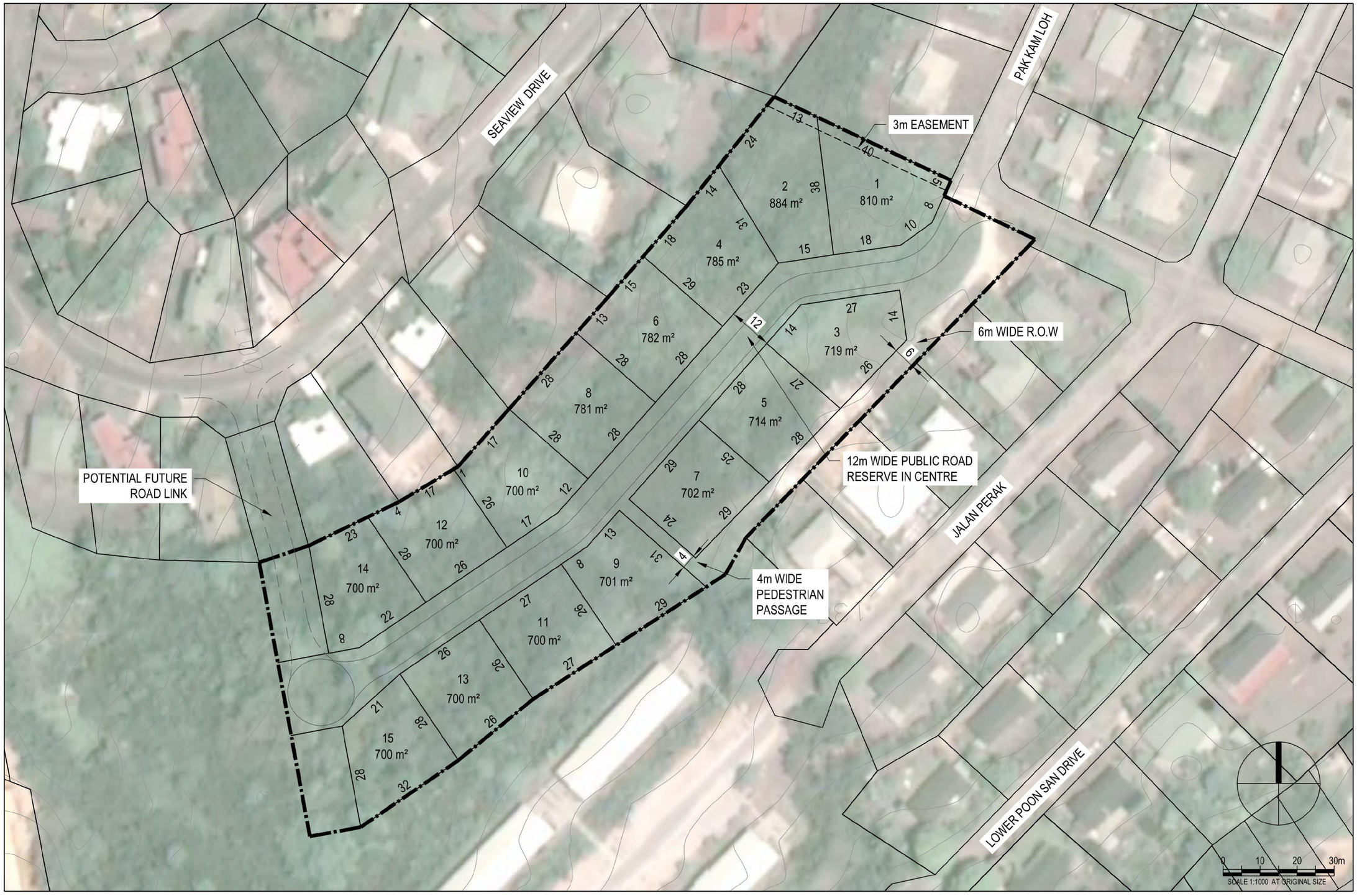

Figure 4: Outline Development Plan (with aerial photo)

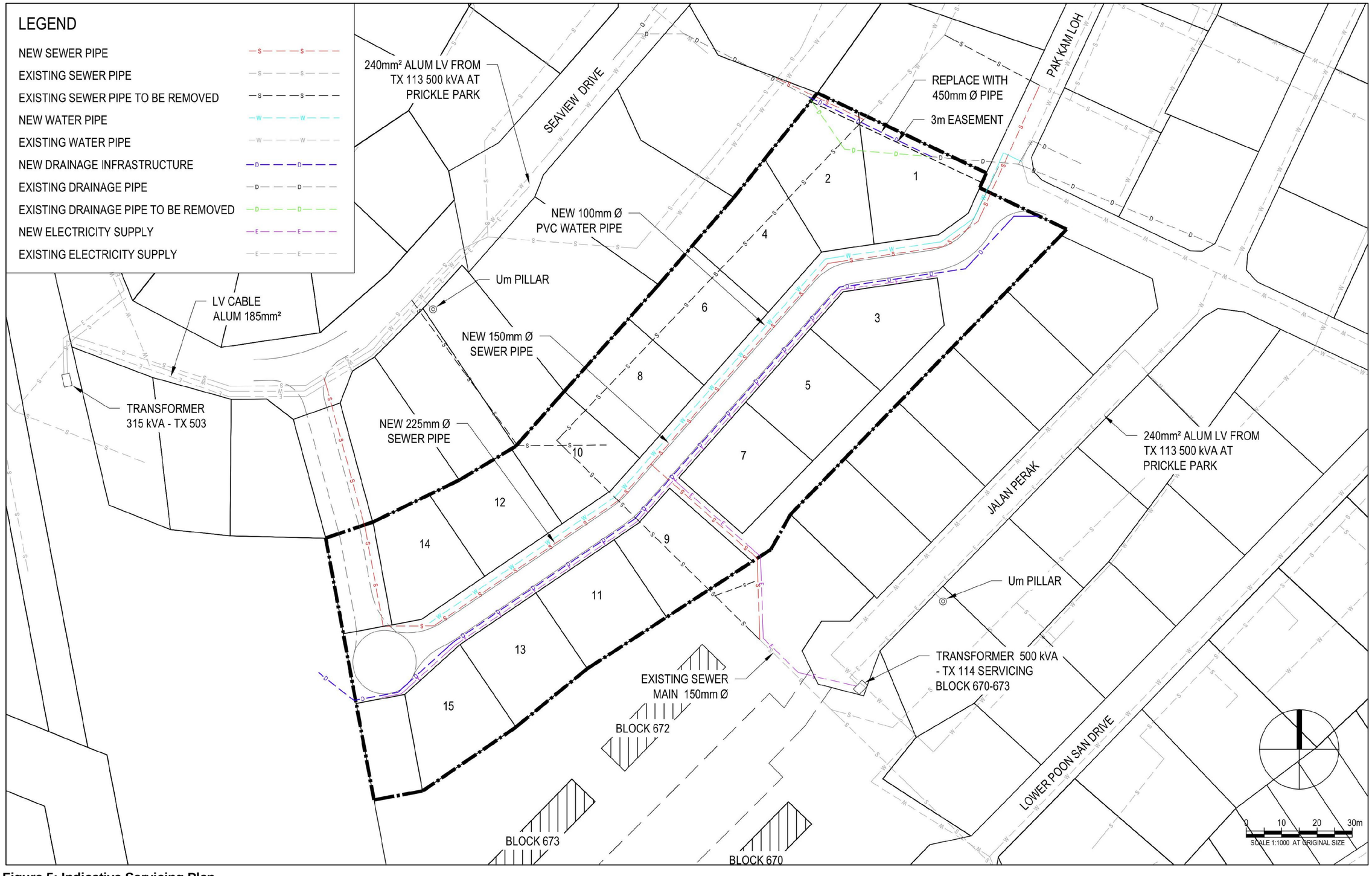

Figure 5: Indicative Servicing Plan

3.4.1 Drainage

A drainage model was prepared as part of the work done by GHD in 2003. As part of the preparation of this ODP, that drainage model has been interrogated to assess options for drainage management at the site. Modelling suggests that the stormwater discharge carried by the channel from Pak Kam Loh can be safely accommodated in a road side channel. Stormwater from this channel will discharge to the Unallocated Crown Land immediately west.

A conceptual design for drainage has been developed by modifying the drainage model that was developed during preparation of the Christmas Island Drainage Management Plan. The analysis has been undertaken without undertaking a review of the assumptions that are built into that model. It should be noted that in order to assess the performance of the drainage system the model uses IFD (Intensity, Frequency, Duration) data for Darwin and adopts various parameters for the upstream catchments.

The existing model was run for the 5 yr and 100 yr ARI (Average Recurrence Interval) rainfall events to develop predictions of peak stormwater flows through the site. The drainage model of the existing system predicts that the design storms will generate combined peak flow through the site of approximately 4.7m3/s (100 yr ARI) and 3m3/s (5 yr ARI). It should be noted that the existing natural channel and overland flow paths carry more that 90% of the peak flow during the 5 yr ARI event.

The proposed drainage arrangements for the development were built into a revision of the predevelopment model to predict flow depths during 5 yr and 100 yr ARI rainfall events. Key aspects of the proposed system are as follows:

» Due to the magnitude the predicted peak flow entering the site from the upstream catchment, a road side channel is proposed to safely convey water through the development. The model predicts that a trapezoidal channel with (1m base, 0.5 metre deep, 1:1 side slopes) along the north side of the new access road will have sufficient capacity to contain the 100 yr ARI event.

» The pavement of the new road will be drained to the road side channel by a pavement cross fall toward the drain and regular kerb breaks.

» Overland flow paths to be established along the rear boundary of the northern lots to convey runoff from those lots.

» To limit impacts to the existing pipe network and avoid flooding in the north-east corner of the site, it will be necessary to replace a portion of the existing 600 mm dia pipe with a new 450 mm pipe.

Careful consideration of road levels at the eastern end of the development will be necessary to ensure that peak flows can safely enter the proposed channel. This may require localised regrading of the existing road. Likewise, outlet structures and downstream flow will need to be properly considered during the preparation of the detailed subdivision design.

3.4.2 Water

The proposed subdivision area lies within the Poon Saan catchment. The highest point in the subdivision is 125m RL and the lowest levels are at 100m RL. The demands of the Drumsite Tank catchment is currently 13.5L/s (average day peak week demand). With the increase in demand created by the proposed 15 lots, there is an additional 0.13 L/s average day peak week demand generated which can be sufficiently supplied by the Drumsite Tank. With an annual demand from the Poon Saan area of 200

kL per person per annum, the expected increase in demand of 7500 kL per annum can sufficiently be supplied by the Drumsite Tank.

Water to the proposed area for the subdivision can therefore be supplied by the Drumsite Tank (capacity 4.5ML, TWL 226m RL) to the Poon Saan area via the Silver City pressure reducing valve (set at 170m RL). Water gravitates from the Drumsite Tank through to this subdivision area via a DN200 main pipe. To supply the proposed area, a pipeline along the proposed central subdivision road would be connected to the existing DN100 PVC line that supplies the area along Pak Kam Loh.

3.4.3 Wastewater

The proposed subdivision within the Poon Saan area in Silver City consists of 15 lots. The highest point in the area is 125m RL and the lowest levels are at 100m RL. The additional 7.5 kL per day generated by this proposed subdivision can be accommodated by the current wastewater scheme with some sewer pipe realignments.

To service the proposed area, a connection would be needed to the existing gravity sewer main that runs along Seaview Drive. Flows generated by both the existing and proposed properties are estimated at 4.4 L/s (peak flow). For this flow a DN150mm pipe connecting to the Seaview Drive access chamber would be sufficient.

To service the proposed subdivision a sewer line running within the public road reserve through the centre of the lots would be required. This sewer line would connect via a pipe across a corridor to the sewer main running along Seaview Drive. Invert levels of the existing access chambers indicate that a drop of over 27m is expected from Pak Kam Loh to Seaview Drive. The connection of the proposed sewer to the existing network is feasible.

As shown in Figure 5, a new DN150mm sewer pipe is required between Lots 7 and 9 within the pedestrian passage. This would allow connection to the existing DN150 that leads to access chamber SG29. A new sewer line is also required at the rear of Lots 2 and 3 which requires a 3m wide easement. These new sewer pipes connect to the existing sewer system. Remaining pipes as shown in Figure 5 will need to be decommissioned by removing the pipes or re-filling them with concrete.

The greatest drop to the main sewer line was estimated at 2.6m. The main line running within the public road reserve should be aligned to approximately 3.5m from the property boundary line to comply with utility standard alignment requirements (Utility Providers Code of Practice 2007).

The proposed area is serviced by the Sewer Pump Station 4 (SPS4) catchment. The terrain and sewer connection system allows connection and service to the proposed area.

3.4.4 Power

An 11kV overhead line network, operated by the Indian Ocean Territories Power Authority (IOTPA), distributes power throughout Christmas Island to the Silver City Area. The overhead network is diverted to a step down 0.415/11kV 500kVA ground mounted transformer kiosk (TX114) located just west of Jalan Perak. The transformer currently supplies loads at Lots 670 – 673 and has been identified by IOTPA as the closest point of connection for the proposed development.

The existing load at the transformer was measured over a 24 hour period from 24 May 2010 and a peak load of 350A, 260kVA was recorded (assuming a unity power factor). This suggests that the transformer has approximately 240kVA spare capacity. This value has been provided for indicative purposes only;

the transformer should be thoroughly investigated to determine its capacity under all load and contingency conditions. Projected maximum demand of the proposed development has been calculated at 112kVA.

There are 3 spare feeders on the 500kVA transformer which could be used for connection. Ideally, it is preferred that the load is spread over two transformers in the future (i.e. the incorporation of TX503). Future developer(s) of the site should liaise with the electricity supply authority IOTPA for connection to and/or extension of the power network.

3.5 Proposed Road Network and Hierarchy

A traffic assessment has been undertaken by GHD's Principal Traffic Engineer in 2010 to determine the impact of the development of the ODP site area upon the local road network. The assessment by GHD is described in the following sections and concludes that the traffic generated from the proposed development will not have a significant impact on the local road and distributor road network or adversely impact on pedestrian safety.

Based on the predicted volumes likely to be generated by the ODP site (150vpd and 15vph), upgrades to the road network are not considered necessary as these figures represent very low activity. The capacity of the existing network is adequate to accommodate the additional predicted volumes. The current geometry, on-street parking and lack of pedestrian facilities is acknowledged, however it is considered that the additional volumes i.e. 15vph, will not exacerbate the current situation or adversely impact on traffic safety. The need for upgrade of the existing road network is not likely to be influenced by the proposed development.

3.5.1 Road Network

The nature of the proposed development within the ODP site requires provision of only one public road.

The proposed road junctions should be designed to Austroad standards and ensure adequate sight lines for existing and proposed traffic and pedestrian safety.

3.5.2 Road Hierarchy

The road hierarchy in the vicinity of the ODP comprises:

» Local Access Roads
  – The residential areas in Silver City west of Lower Poon Saan Road are currently serviced by a number of local access roads which are currently funnelled to three junctions on Lower Poon Saan Road.
» Neighbourhood Connectors
  – Silver City Road and Murray Road provide the higher order road hierarchy serving Poon Saan and Silver City, with all local access roads funnelling to these Neighbourhood Connectors.

With respect to the ODP, traffic generated from development (15vph) within the site will filter into the existing network of local access roads in Silver City.

3.5.3 Traffic Volumes

With regard to proposed traffic volumes, it is anticipated that the traffic generated from the proposed development will not have a significant impact on the local road and distributor road network or adversely impact on pedestrian safety in view of the relative low traffic increase and low speed environment.

There are various industry guidelines, which provide information about the traffic generation from residential developments including the Perth Travel Survey, The Director General of South Australia Land Use Traffic Generation Guidelines and NSW Traffic Generation Guidelines. These indicate that single residential development generates in the order of 9 trips per dwelling i.e. 4.5 trips in and 4.5 trips out.

Where single family dwellings exist, 10 trips per day is standard. In 1986, the Perth Metropolitan Area Travel Survey indicated a trip rate for the Metropolitan area of 7 trips per day. The trip rate of 10 trips per day per single dwelling is 43% higher than the Perth Metropolitan Area figure and would therefore indicate that 10 trips per day would take into account higher car ownership and no public transport on Christmas Island.

The forecast traffic generation from the proposed 15 dwellings is therefore in the order of 135 vpd to 150 vpd. Peak hour trips are typically 10% of daily trips resulting in 14-15 vph. The majority of this traffic is likely to travel to and from Silver City via Pak Kam Loh then turning right at the 'T' junction towards Lower Poon Saan.

The predicted average volume represents low activity and therefore low potential conflict with other road users. Liveable Neighbourhoods indicates that Access Streets may carry up to 1000 vpd if the carriageway is 5.5-6m. Pak Kam Loh is paved over 9.2m and therefore the predicted volumes may be comfortably accommodated within this low speed environment. Shared pedestrian and vehicular movement is an expected function of an Access Street.

3.5.4 Intersections and Traffic Management Controls

The predicted traffic volumes do not indicate that specific intersection treatments are required. Any deficiencies in existing intersection geometry or control would not be significantly exacerbated by the additional traffic generated by the development.

As previously mentioned in Section 2 the new intersection with Pak Kam Loh could better function as a 'T' intersection to overcome the current right angle bend issue and formation of a new road at this point. Appropriate warning signs and advanced notice of the priority change would be required as part of the design. The available sight distance for each approach should also be checked and appropriate truncation provided if required, if a design speed of 50km/h is used then a sight distance of 5m x 89m is required.

Increases in traffic volumes are forecast to be less than 1 vehicle per minute.

3.5.5 Bicycle and Pedestrian Routes

The ODP site is in a location where local access streets predominate, with the expectation that these streets allow for shared pedestrian/bicycle and vehicular traffic. Liveable Neighbourhoods expects that

"In residential areas where projected traffic volumes are less than 3,000 vpd, cycling should generally be on-road, shared with cars."

As previously noted, the traffic generated from the ODP site is not likely to increase traffic volumes on local access streets to a level approaching 3,000 vpd and therefore, it is expected that the current arrangements for bicycle and pedestrian traffic within the local area will remain unchanged.

Pedestrian connectivity to the local area would be enhanced by a connection to Jalan Perak and Seaview Drive.

Upgrading of pedestrian facilities including crossing points, to comply with current standards, could be considered as a part of a wider access strategy, with priorities being influenced by the existing land use, current demands, conflicts and pedestrian routes. Crossing points could also be defined on the higher order streets. However the predicted traffic volumes do not indicate that the current situation would be exacerbated in view of the low traffic numbers and distribution of this traffic over the road network.

3.6 Integration of the ODP

The ODP provides for a residential land use which is consistent and compatible with existing residential uses in surrounding areas:

- The ODP proposes residential uses which are compatible with surrounding residential land uses.
- An earlier draft of the Town Planning Scheme had previously nominated the ODP site as an R40 density, thus establishing support in principle for residential land uses at this location.
- The residential densities proposed within the ODP site reflects the adjoining residential densities which range from R17.5 to R80.

4. Development Conditions

1. Upon the Council's final adoption of the ODP, any future subdivision, development or use of the site shall be generally in accordance with the adopted ODP.
2. The provisions of the ODP apply to the land as if they were incorporated into the TPS and are binding and enforceable in the same way as Scheme provisions. Where any inconsistency arises between the ODP and the TPS, the TPS will prevail.
3. The Council may agree to minor changes or variation to the adopted ODP if, in the Council's opinions, the change or departure does not alter the intent of the ODP.
4. All new development and lots created through subdivision will be required to connect to utility services including reticulated sewerage, reticulated potable water, power and communications services.
5. Any development will need to have respect to any relevant heritage concerns in relation to either the immediate site or the surrounding area. Under the EPBC Act, an action that has, will have or is likely to have a significant impact on the listed place may be referred to the Federal Minister for the Environment, Heritage and the Arts for assessment.
6. All earthworks, retaining walls and stormwater drainage infrastructure to be designed by qualified engineering practitioners.
7. All stormwater drainage infrastructure is to be designed to ensure there is no detrimental effect of stormwater run-off on existing adjacent properties.

Appendix A

Previous ODP

DO NOT SCALE

KEY:

RESIDENTIAL R17.5

RESIDENTIAL R40

UNALLOCATED CROWN LAND

COMMERCIAL

ODP BOUNDARY

PEDESTRIAN ACCESSWAY

SEAVIEW DR

P.A.K. KAM LOH

ROUNDABOUT

JALAN PERAK

LOWER POON SAN DRIVE

SITE A3
R17.5

1 2 3 4 5 6 7 8 9 10 11 12 13 14

SITE A2
R40

SITE A4
R40

SITE A5
UCL

COMPENSATION BASIN

ACCESS ROAD

EXISTING DRAINAGE CHANNEL DIVERTED

DRAINAGE COURSE

BUFFER ZONE
UCL

CONVEYOR BELT

SITE A1
R40

POON SAAN ROAD

POON SAAN ROAD

SAN CHYE ROAD

SITE A6

POTENTIAL EMERGENCY EXIT FOR CIP

TO REMAIN UNDEVELOPED
UCL

N

20 10 0 20 40 60m

1:1500

No.	Revision –Revise on CAD do not amend by hand	Chk'd	App'd	Date	M/Film
D	BOUNDARIES AMENDED			3.10.03	
C	PRELIMINARY			6.3.03	
B	PRELIMINARY			23.12.02	
A	PRELIMINARY			26.11.02	

File:

GHD
MANAGEMENT
ENGINEERING
ENVIRONMENT

Drawn CPM 26.2.03
Designed
Drafting Check SMcL 26.2.03
Design Check SMcL
Approved

Client and job: DOTARS
CHRISTMAS ISLAND

Title: OUTLINE DEVELOPMENT PLAN
CHRISTMAS ISLAND - SITE A

A3

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Rev D

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