

14.1 STORMWATER, WSUD AND SEWER

MOVEMENT ANALYSIS

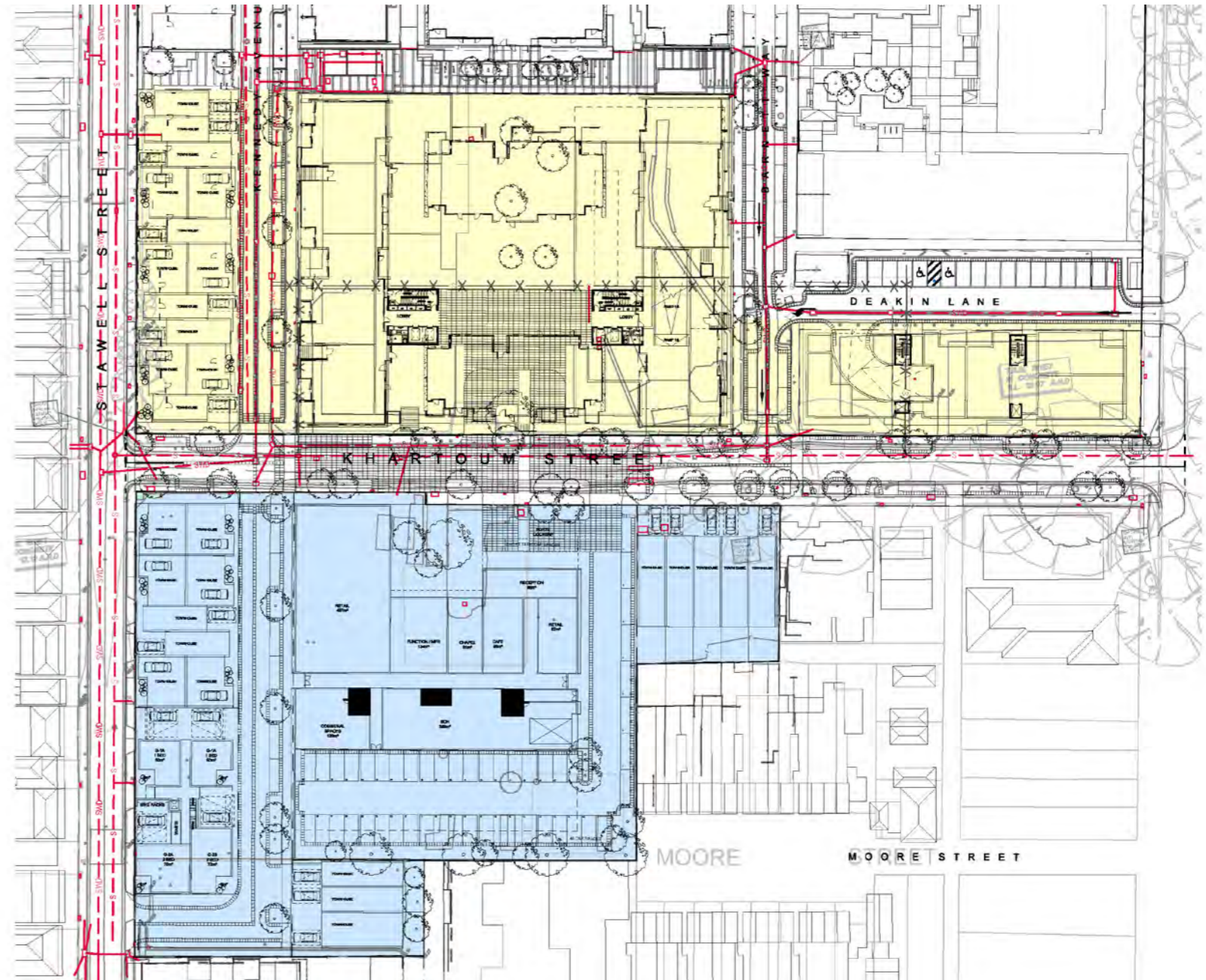
/ A number of 525mm, 600 mm and 750 mm diameter reinforced concrete (RCP) drainage pipes have been connected into to the existing drainage pipe under Stawell Street, and run underneath Khartoum Street and Kennedy Lane, before connecting to a 300 mm and 375 mm RCP network underneath Barnet Way. These pipes service the Northern, Central and Southern precincts. A new 300 mm diameter RCP is proposed to be connected to an existing drainage pit underneath Khartoum Street to service the town houses lining Stawell Street in the Southern precinct. The Residential Aged Care Facility will be serviced by a proposed 300 mm diameter RCP drainage pipe to be tied into a new pit connecting to the existing main on Stawell Street.

WATER SENSITIVE URBAN DESIGN

/ There is an existing stormwater treatment system (Biofilta) installed between the Northern and Central precincts that was design to treat stormwater run-off from the Northern and Central precincts, and part of the Southern precinct. No new infrastructure is required to satisfy Water Sensitive Urban Design (WSUD) provisions.

SEWERAGE RETICULATION

/ City West Water is the responsible authority for the provision of sewerage reticulation facilities for the development. Authority asset plans show a 225 mm diameter uPVC sewer main located in Khartoum Street connecting to a 225 diameter uPVC sewer main in Stawell Street. A 150 mm diameter uPVC sewer line constructed as part of the Northern Precinct works also traverses Kennedy Avenue parallel to Stawell Street and connects to a 150 mm diameter uPVC line underneath Wertheim Street. Initial project planning conducted in 2010 to 2012 proposed to connect the development on the northern side of Khartoum St into the Kennedy Ave and Stawell St sewer mains. Development on the southern side of Khartoum St was to connect into existing sewers in Stawell and Khartoum St. The development also required a 46 m extension of 150 mm sewer from Stawell St to service the townhouses on the southern boundary of the development. Development north of Khartoum St may be serviced from existing infrastructure albeit with alterations to sewer branch locations to suit the revised townhouse layout. This will require cutting and sealing of some existing branches and construction of new branches. Development to the south of Khartoum Street will be governed by titling arrangements. It is assumed that the townhouses will be separately titled, which implies that these would require separate sewer connection points. This would require construction of a new sewer main fronting the townhouse on the southern boundary as per the original concept plans



14.2 WATER AND GAS

WATER SUPPLY

/ City West Water is the responsible authority for the provision of water supply reticulation facilities for the development. Authority asset plans show a 150 mm diameter PVC-M water main is located along Khartoum Street and connects to the 150 mm diameter PVC-M water main along Stawell Street. As part of the North Precinct works, a 150 mm diameter PVC-M water main was constructed along Wertheim, Jago and Bendigo Streets, which connects to the Khartoum Street main.

Initial project planning conducted in 2010 to 2012 proposed to connect the development on the north side of Khartoum St into Stawell St water mains. Development on the south side of Khartoum St was to connect into existing water mains in Stawell and Khartoum St and also required construction of a 60 m 50 mm diameter water main through the proposed development to service the townhouses on the southern boundary of the development. Development north of Khartoum St may be serviced from existing infrastructure within Khartoum and Stawell St albeit with alterations to water branch locations to suit the revised townhouse layout. This will require cutting and sealing of some existing branches and construction of new branches to suit the revised layout.

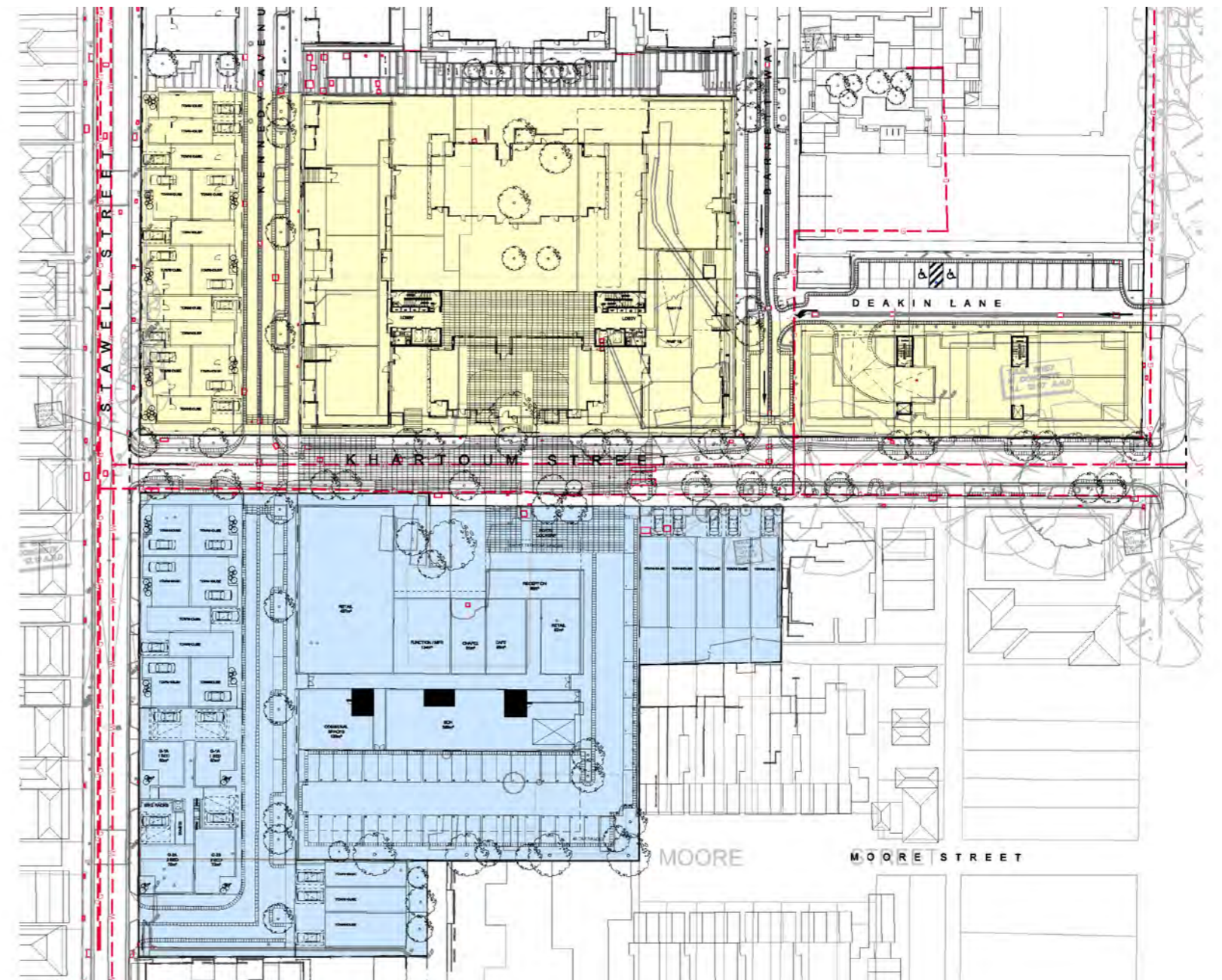
Development to the south of Khartoum Street will depend on titling arrangements for the Development. It is assumed that the townhouses will be separately titled, which implies that these would require separate water connection points. Water supply to the Residential Aged Care Facility, Apartments (affordable) and Townhouses would require construction branches to service the townhouses along Stawell Street and construction of a new water main fronting the townhouse on the southern boundary as per original CWW concept plans. Fire services to the proposed townhouses would be supplied by existing street fire hydrants in Stawell and Khartoum Street. The Vertical Retirement Living Village (or Apartment Building) & Residential Aged Care Facility (RACF) on the northern and southern sides of Khartoum Street will require independent fire services as per apartment buildings constructed in the original development.

GAS SUPPLY

/ The APA Group is the responsible authority for the provision of gas supply facilities to the development. Authority asset plans show a low pressure 63 mm PE pipe and a high pressure 150 mm steel pipe running along Stawell Street at a 2.2 m and 3.1 m offset respectively to the west boundary line. Plans also show low pressure 63 mm PE gas pipes from the Northern Precinct with connections west to the main along Stawell Street and south to the low pressure 63 mm PE pipe running along Khartoum Street at a 2.5 m offset to the south boundary line.

The preliminary review of the gas main network with APA Group and the potential gas retailer Origin Energy undertaken in 2010 confirmed that the previous proposed development of 550 dwellings could be adequately serviced (with the appropriate approvals) by upgrading the existing low pressure gas to high pressure main bounding the development. Thus, the new development would be adequately serviced through the previously proposed upgrade as well.

APA Group had advised the construction of an internal high pressure gas main was required within easements and road reserves connecting to the existing high pressures infrastructure in Stawell Street on the western boundary. This has since been constructed, with high pressure mains running underneath Kennedy Lane and along Khartoum Street to service the Northern and Central precincts.



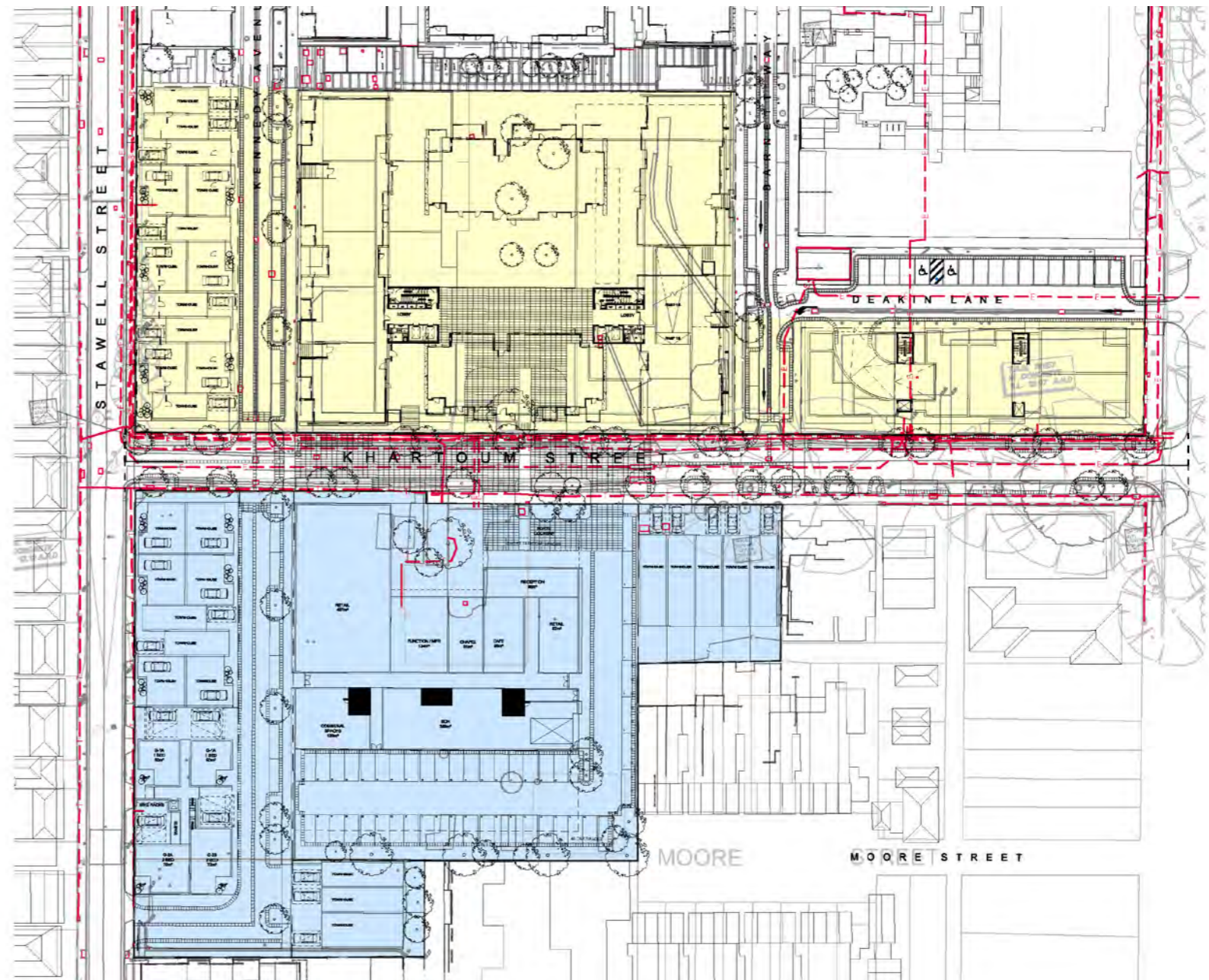
14.3 ELECTRICAL AND COMMUNICATIONS

ELECTRICITY SUPPLY

/ Citipower is the responsible authority for the provision of electricity supply facilities for the development and Authority asset plans show a network of low and high voltage cables along Khartoum Street, with connections to the old Khartoum-Stawell Substation. Works required for the new development include new kiosk substation south of Khartoum Street, associated low voltage underground supplies and retirement of the existing "Khartoum - Stawell" Substation. A new offer is required to be applied for power supply to the proposed development.

TELECOMMUNICATIONS

/ OptiComm are the selected supplier for the design, construction, operation and maintenance of the telecommunication facilities to this development. OptiComm will prepare the proposal for this development in accordance with the projects requirement and in consultation with the Lendlease Retirement Living development team. The costs for this development will be estimated as per the Umbrella Agreement (UA) between OptiComm and Lend Lease. Lendlease Retirement Living will have the full authority to select an alternate supplier if the preferred supplier (OptiComm) are unable to provide a fit-for-purpose solution for this development.





15.0
DEVELOPMENT
STAGING

