

*KUR-World*

# Appendix 4c

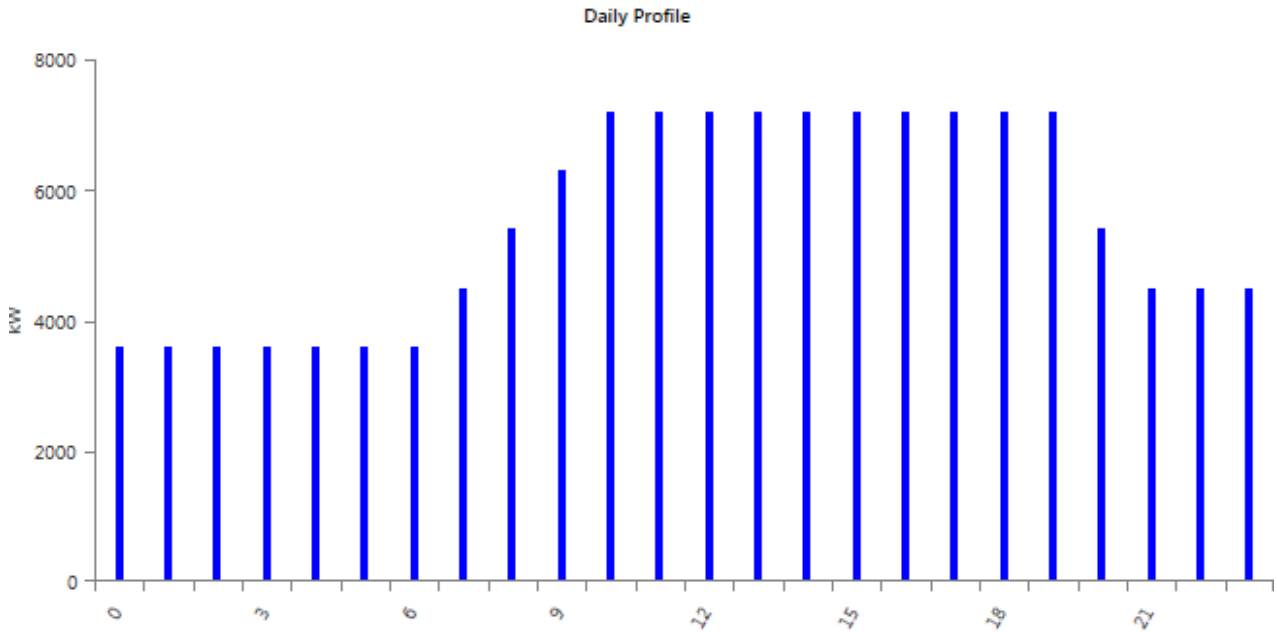
Energy Load Profiles,  
Space Type Load Profiles,  
and Detailed Operational  
Waste Forecast

Environmental Impact Statement

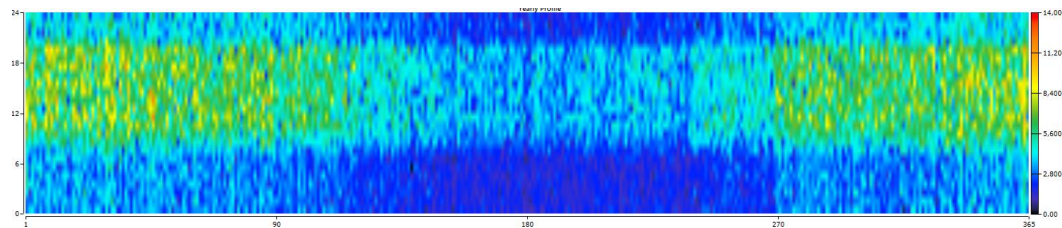


**LOAD PROFILES**

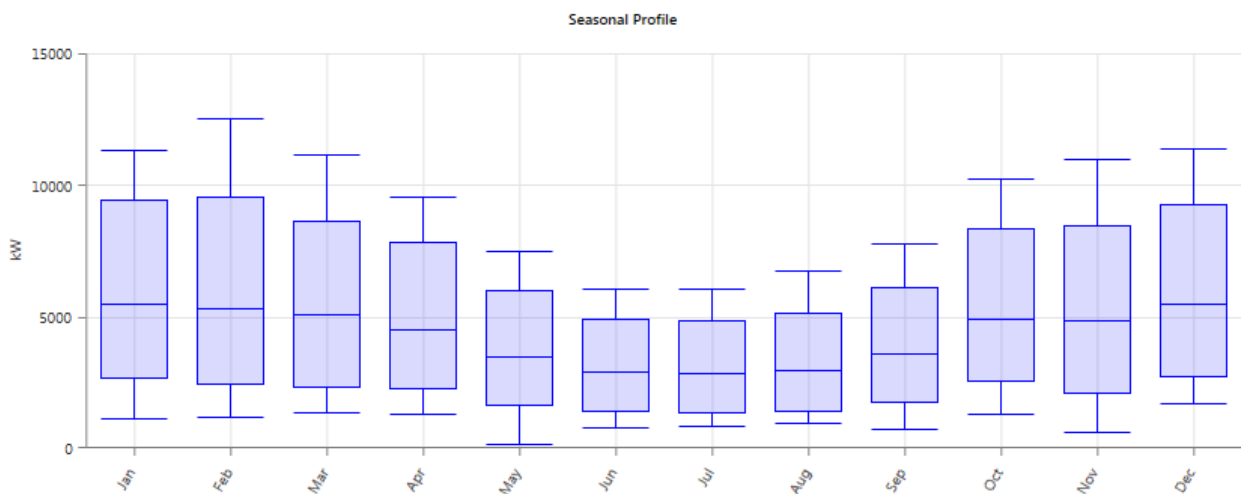
The energy profiles developed for the loads analysis were based on representative daily consumption patterns that would be expected for the mixed-use project. This includes higher energy use throughout the summer months, as well as throughout each day and into the evening. Figure 7 33, Figure 7 34 and Figure 7 35 below display the typical daily loads pattern, along with the annual energy profile used for the loads analysis:



**Figure 7 33: Typical daily profile**



**Figure 7 34: Annual surface plot of electrical usage**



**Figure 7 35: Monthly load demand breakdown**

**SPACE TYPE LOAD ASSUMPTIONS**

The peak loads in the following tables were developed closely in line with AS/NZS 3000:2007 for peak load calculations for buildings. Each space type across each stage is provided:

- Stage 1a

**Table 7 43: Stage 1a loads summary**

PRECINCT	ACTIVITY/DESCRIPTION	kVA allowance per room (kVA)	Light & Power (VA/m2)	Mech (VA/m2)	Total (VA/m2)
Farm Theme Park and Equestrian Centre	Chapel/function centre		70	35	105
	Arrival points 1&2		15		15
	Restaurant		15		15
	Stables		15		15
	Homestead, L1		70	35	105
	Homestead, L2		70	35	105
	Activities cluster		15		15
	Show ring		15		15
	Pavilion		15		15
	Café cluster		70	35	105
	Grand arena		15		15
Queenslander Lots	21 Lots and road	3	N/A	N/A	N/A
Produce Garden	Additional Planting				

- Stage 1b

**Table 7 44: Stage 1b loads summary**

PRECINCT	ACTIVITY/DESCRIPTION	kVA allowance per room (kVA)	Light & Power (VA/m2)	Mech (VA/m2)	Total (VA/m2)
Kur-Village & Business & Leisure Hotel & Function Centre	Retail and restaurant precinct		70	35	105
	Lobby, function & restaurant		80	35	115
	Pool	3	N/A	N/A	N/A
	Village plaza & tower (circulation)		15		15
	Café cluster 1 & 2 (retail, BOH, amenities)		80	35	115
	Cluster 1 (tiered building)	3	N/A	N/A	N/A
	Cluster 1 pool	3	N/A	N/A	N/A
	Cluster 2 (tiered building)	3	N/A	N/A	N/A
	Cluster 2 pool	3	N/A	N/A	N/A

PRECINCT	ACTIVITY/DESCRIPTION	kVA allowance per room (kVA)	Light & Power (VA/m2)	Mech (VA/m2)	Total (VA/m2)
	Cluster 3 & 4 (tiered building)	3	N/A	N/A	N/A
	Cluster 3 & 4 pool	3	N/A	N/A	N/A
	Cluster 5 & 6 (tiered building)	3	N/A	N/A	N/A
	Cluster 5 & 6 pool	3	N/A	N/A	N/A
	Cluster 7 (tiered building)	3	N/A	N/A	N/A
	Other rooms (not shown on plans, should be 269 total)	3	N/A	N/A	N/A
	Restaurants		80	35	115
	Parking		15	0	15
Lifestyle Villas	56 Lots and roads	3	N/A	N/A	N/A
	Open Space				0
Rainforest Education Centre and Adventure Park	Bunkhouse style accommodation cabins (14 cabins)	3	N/A	N/A	N/A
	Function centre/kitchens/dining		80	35	115
	Education centre lecture/research/lab		80	35	115
Lots	Lot 638	3	N/A	N/A	N/A

- Stage 2

**Table 7 45: Stage 2 loads summary**

PRECINCT	ACTIVITY/DESCRIPTION	kVA allowance per room (kVA)	Light & Power (VA/m2)	Mech (VA/m2)	Total (VA/m2)
Golf Clubhouse and Function Centre	Golf Clubhouse change rooms/pro shop/buggy hire		15	0	15
	Conference centre/bar/restaurants/meeting rooms		80	35	115
	Second floor event centre circulation/public amenities		15	0	15
	Grandstand canteen/change rooms/amenities		15	0	15
	Grandstand first floor seating		15	0	15
	Gym/carparking/change rooms/office/amenities		60	35	95
Golf Course	12 Holes			0	
Sporting Precinct	Soccer field		10	0	10

PRECINCT	ACTIVITY/DESCRIPTION	kVA allowance per room (kVA)	Light & Power (VA/m2)	Mech (VA/m2)	Total (VA/m2)
	Tennis		10	0	10
	Netball/basketball courts/bar area		10	0	10
	Parking		10	0	10
	Outdoor basketball		10	0	10
Premium Villas	Building 1 units	3	N/A	N/A	N/A
	Building 2 units	3	N/A	N/A	N/A
	Lot 720	3	N/A	N/A	N/A
Hotel	Accommodation	3	N/A	N/A	N/A

- Stage 3

**Table 7 46: Stage 3 loads summary**

PRECINCT	ACTIVITY/DESCRIPTION	kVA allowance per room (kVA)	Light & Power (VA/m2)	Mech (VA/m2)	Total (VA/m2)
Health and Wellbeing Retreat	Clinical treatment facility ground parking		15	0	15
	Clinical treatment facility level 1		80	35	115
	Wellness treatment facility		80	35	115
	Meditation/yoga bale		80	35	115
	Suites	3	N/A	N/A	N/A
Premium Villas	93 Lots and roads	3	N/A	N/A	N/A
KUR-World University Campus	Precinct 1 units (Blds 1-6)	2	N/A	N/A	N/A
	Precinct 2 units (Blds 1-7)	2	N/A	N/A	N/A
	Precinct 3 units (Serviced accommodation)	2	N/A	N/A	N/A
	Carparking		15	0	15
	Communal refectory, BOH Kitchen, Public amenities		15	0	15
	Lecture/research		60	35	95
	Office space		60	35	95
	Additional carparking		15		15
	Building 1: Public foyer/exhibition space/library/lecture (3 levels)		60	35	95
	Building 1: Ground Carparking/services		15		15

PRECINCT	ACTIVITY/DESCRIPTION	kVA allowance per room (kVA)	Light & Power (VA/m2)	Mech (VA/m2)	Total (VA/m2)
	Building 2: Lecture/tutorial/office (3 levels)		60	35	95
	Building 2: Ground carparking/services		15		15
Five Star Eco-Resort	200 Rooms/Villas	3	N/A	N/A	N/A
	Pools	3	N/A	N/A	N/A
	Parking		15		15
	Back of house		15		15

## DETAILED OPERATIONAL WASTE FORECAST

