

Route Form

SUBJECT: BASELINE DETERMINATION AND APPROVAL
Water & Energy Services CONTRACT WCGHIS007/2022


SITE: BEAUFORT WEST HOSPITAL (hereinafter referred to as the Facility)

CLIENT: Western Cape Department of Health and Wellness

TASK ORDER: BWH E001

SERVICE PROVIDER: REONET (PTY) LTD

REVISION: 06 February 2025

RANK	INITIALS AND SURNAME	SIGNATURE	DATE REFERRED	DATE RETURNED
Service Provider Representative	J Getz		06 Feb 2025	
Chief Electrical Engineer				
Director: Facilities Management				
Delegated Authority in charge of Budget (Hospital CEO)				

Option 1: Actual Baseline (Using of Check Meter)

Energy Baseline – Beaufort West Hospital – Account 00000005393, Check Meter, ERF 3												
BASELINE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Energy Consumption Baseline (kWh/d)	2 338	2 334	2 067	2 102	2 698	3 092	3 178	3 000	2 707	2 380	2 052	2 148
Energy Consumption (kWh/d) [Peak]	439	458	402	428	536	567	516	512	516	454	402	428
Energy Consumption (kWh/d) [Std]	1 057	1 073	937	916	1 129	1 401	1 372	1 270	1 107	969	916	971
Energy Consumption (kWh/d) [O/Peak]	842	804	728	758	1 033	1 125	1 290	1 218	1 084	957	734	749
Energy Consumption Baseline (kWh/month)	72 485	65 354	64 082	63 067	83 634	92 767	98 513	93 009	81 213	73 779	61 566	66 584
Energy Consumption (kWh/month) [Peak]	13 602	12 811	12 474	12 842	16 618	16 996	16 008	15 872	15 490	14 074	12 073	13 274
Energy Consumption (kWh/month) [Std]	32 767	30 037	29 033	27 494	34 992	42 032	42 526	39 370	33 195	30 031	27 477	30 094
Energy Consumption (kWh/month) [O/Peak]	26 117	22 506	22 575	22 731	32 025	33 739	39 979	37 768	32 528	29 674	22 016	23 217
Peak Energy Demand (kVA/month)	256	230	211	208	262	274	307	285	281	233	206	220
Notified Maximum Demand	307											

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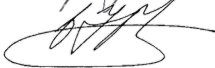
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SERVICE PROVIDER: REONET (PTY) LTD

REVISION: 06 February 2025

RANK	INITIALS AND SURNAME	SIGNATURE	DATE REFERRED	DATE RETURNED
Service Provider Representative	J Getz		06 Feb 2025	
Chief Electrical Engineer	CHRIS MAUD		3 March 2025	
Director: Facilities Management	Dr A Kharwa			
Delegated Authority in charge of Budget (Hospital CEO)				

Option 2: Baseline Adjustment

Energy Baseline – Beaufort West Hospital – Account 00000005393, Check Meter, ERF 3 [Baseline Adjustment]												
BASELINE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Energy Consumption Baseline (kWh/d)	2 656	2 652	2 385	2 420	3 015	3 410	3 495	3 318	3 025	2 697	2 370	2 465
Energy Consumption (kWh/d) [Peak]	498	520	464	493	599	625	568	566	577	515	465	491
Energy Consumption (kWh/d) [Std]	1 200	1 219	1 080	1 055	1 262	1 545	1 509	1 404	1 236	1 098	1 058	1 114
Energy Consumption (kWh/d) [O/Peak]	957	913	840	872	1 155	1 240	1 418	1 347	1 211	1 085	847	860
Energy Consumption Baseline (kWh/month)	82 141	75 009	73 737	72 722	93 290	102 422	108 169	102 665	90 869	83 434	71 221	76 240
Energy Consumption (kWh/month) [Peak]	15 413	14 703	14 353	14 808	18 537	18 765	17 577	17 519	17 332	15 916	13 966	15 199
Energy Consumption (kWh/month) [Std]	37 131	34 475	33 407	31 703	39 031	46 406	46 694	43 457	37 142	33 961	31 786	34 458
Energy Consumption (kWh/month) [O/Peak]	29 596	25 831	25 976	26 211	35 722	37 251	43 898	41 689	36 395	33 557	25 468	26 584
Peak Energy Demand (kVA/month)	284	258	239	236	290	302	335	313	309	261	234	248
Notified Maximum Demand	335											

Report Title: Energy Baseline Consumption and Audit Report for
Beaufort West Hospital

Task Order No: BWH E001

Project Name: Shared Water & Energy Savings Contract

Contract Reference: WC DTPW, WCGHIS007/2022

Reonet Project Reference: RU-DOH-WC-E-00519

Presented To: WC Department of Health and Wellness

Date: 06 February 2025



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Nomenclature

Table 1: Nomenclature and Abbreviations

Description	Units	Comment
BMS	-	Building Management System
DTPW		Department of Transport and Public Works
EMO		Energy Management Opportunity
EnPI		Energy Performance Indicators
EUI	J/m ² or kW/m ²	Energy Usage Index
Giga Joule	GJ	Unit of energy consumption
HVAC		Heating, Ventilation and Air Conditioning
IPMVP		International Performance Measurement and Verification Protocol
Kilo Watt hour	kWh	Unit of electricity consumption
Kilo Volt Ampere	kVA	Unit of apparent power measurement
LED		Light Emitting Diode
M&V	-	Measurement and Verification
MMT&R	-	Measurement, Monitoring, Targeting & Reporting
NPV		Net Present Value
OEM		Original Equipment Manufacturer
PEA		Preliminary Energy Use Analysis
ROI		Return on Investment
SEU	-	Significant Energy User
SMART		Specific, Measurable, Achievable, Realistic, and Timeous
SPB		Simple Payback Period
TOU		Time of Use

Executive Summary


This report covers an onsite energy audit and the results thereof for the Facility, for the Department of Health and Wellness (DOH). Technical and financial recommendations are provided as well as a baseline against which to measure future savings.

This report contains information regarding:

- Description of the Facility.
- Baseline of historic energy consumption and demand.
- Energy usage and Energy Drivers at the Facility;
- Recommendations of energy efficiency opportunities (financial, technical and behavioural);
- An investment proposal on implementing the energy efficiency recommendations.

The baseline energy consumption profile for the facility has not demonstrated a stable historical trend over the past 36 months due to the persistent reliance on estimated account readings. Consequently, check meter data spanning the last 60 months has been utilized for baseline determination. The extended baseline period was necessitated by the influence of load shedding and the newly observed peak demand levels recorded in 2024.

The municipal billing data for the facility has been predominantly based on estimated values, exhibiting significant inconsistencies. To address this, Reonet has recommended that baseline calculations be derived from the hospital's check meter data. To enhance measurement redundancy, Reonet will install an additional check meter at the facility. In the event of a failure of the existing check meter, billing operations will seamlessly transition to the Reonet check meter to maintain accuracy and continuity.

A baseline is presented in the report for energy consumption and peak energy demand for each calendar month of the year. The maximum energy consumption and peak energy demand for the Facility is **76 338 kWh/month** from the municipal account and **248 kVA/month** which had been determined from the municipal accounts. 









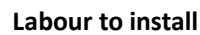

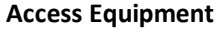




The key energy drivers on Beaufort West Hospital are energy usage by patients and staff for: Water heating (Heat pumps), HVAC, split units, kitchen appliances, lighting, laundry, medical equipment and Boreholes.

The key recommendations for Beaufort West Hospital are, in order of priority :

- Technical Intervention – Lighting
- Technical Intervention – Occupancy Sensors
- Behavioural Change – Implement an energy management system
- Behavioural Change – Efficiency Awareness Campaign

Table 2 below is a summary of the proposed energy efficiency recommendations assuming that all interventions recommended are implemented.

Table 2: Summary of Recommendations at the facility

PROJECT SUMMARY - RECOMMENDED		
	Project Selling ex VAT	R 2 403 113.90
	Deposit ex VAT	R 0.00
	Net Project to be Funded by Reonet ex VAT	R 2 403 113.90
	Reonet Savings per Annum ex Vat (Estimated)	R 515 930.87
	Payback in Years (Estimated)	5.0
<u>Included in Project Selling Price</u>		
	Material and consumables	
	Certificate of Compliance (Where Applicable)	
	Safe Disposal of existing technology	
		
		
		
<u>Emissions</u>		
	Carbon Savings per Annum (Tons):	342
	No. of Trees Saved:	34 225
<u>Variables</u>		
	Rands per kWhR	R 2.1573
	Rands per kVA	R 396.63
<u>Technical Savings</u>		
	kWhr Saving per Annum	384 553
	kVA Savings per Annum	618.4

The savings, payback in months, profit and loss calculation and Net Present Value (NPV) have all been calculated on Reonet’s percentage of savings. Cost of money has been calculated at 10% interest rate per annum. Tariff increases have been calculated at 10% per annum from the prescribed tariffs summarized in **Table 3** and are illustrated in **Table 4**. The multiple tariff increases per annum are for summer and winter rates.

Table 3: Historic and Present Tariffs (used to calculate savings)

Year	kWh	kVA	Service/Day
2023	R 1.9999	R 351.8700	R 1 587.21
2024	R 2.1573	R 396.6300	R 1 789.07

Table 4: Future Estimated Tariffs (used to calculate savings)

Year	kWh [Peak] Low Season	kWh [Standard] Low Season	kWh [Off Peak] Low Season
2025	R 2.3730	R 436.2930	R 1 967.98
2026	R 2.6103	R 479.9223	R 2 164.77
2027	R 2.8713	R 527.9145	R 2 381.25
2028	R 3.1585	R 580.7060	R 2 619.38
2029	R 3.4743	R 638.7766	R 2 881.32
2030	R 3.8218	R 702.6542	R 3 169.45
2031	R 4.2039	R 772.9197	R 3 486.39
2032	R 4.6243	R 850.2116	R 3 835.03
2033	R 5.0868	R 935.2328	R 4 218.53
2034	R 5.5954	R 1 028.7561	R 4 640.39

When the investment proposal is provided, there will be a provision made in the Investment Proposal - **Section 11** - for interventions to be approved on a per technology basis. For example, although all the buildings at the facility were audited for the opportunity to retrofit with lighting, shower heads, HVAC and occupancy sensors.

Savings achieved from implementation of these interventions will then be measured against the Baseline Energy Consumption and Energy Demand as given in this report.

1. Introduction

1.1. Appointment

In terms of Contract WCGHIS007/2022, Water & Energy Efficiency Services, Reonet has been appointed to engage in water and energy shared savings for the Department of Health and Wellness (DOH) in the Western Cape.

1.2. Purpose

The purpose of this project is to identify and implement water and energy savings, as well as monetary savings, for the Department across the Client Department's portfolio of properties on a shared savings basis, with a percentage share structure for a term to be determined for each the Facility.

Specifically, as per Task Order BWH E001, the purpose of this report is to provide a desktop study to establish whether there are energy savings possibilities at the Facility

Furthermore, the report details the benchmarking and energy audit of the Facility as per the requirements set out in the Standard Operating Procedure (SOP).

The outcome of the study as presented below is favourable towards savings, and therefore a Baseline and Energy Audit report is provided.

The Baseline that has been established on the **Check bulk meter** energy supply for Beaufort West Hospital will be the basis from which to measure and invoice for energy savings for this site. We have utilized 60 Months of check meter data

2. Scope of Audit

As per alignment between Reonet, DTPW and DOH, this report follows the ASHRAE Level I and II auditing guidelines. These guidelines are shown in **Annexure C**.

A Level II audit was conducted at the Facility with the aim of collecting data and information pertaining to energy usage across the full scope of consumers to determine if opportunities exist to improve energy efficiency within the Facility.

The energy audit was conducted in the following manner:

1. A team of energy auditors and energy managers were assembled to conduct the on-site audit.
2. Interviews were conducted with the Facility and maintenance managers as well as DOH engineers to compile usage parameters, occupancy, times of use, and so forth.
3. Physical counts of all energy consumers were done. Name plates of geysers, heaters, aircons, fans, kitchen equipment and industrial machinery were recorded.

4. The physical size of building dimensions in square meters (perimeter of buildings and number of floors).
5. Prospective suppliers for the energy efficiency interventions also accompanied the team on site to assist with proposals and quotations. (All other costing for proposed technical interventions is based on prior project data).

There is smart metering installed at the Facility. It is a smart Livewire meter.

All physical buildings on the Facility were audited. Pictures that follow are aerial views of the entire Facility to each of the main buildings.

The outcome of the Level II audit is presented in this report and has been found to be favourable towards energy saving opportunities.

3. Description of The Facility

The Facility has a total of 5 456 m², located at the 99 Voortrekker Road, Beaufort West. The Facility has a total of 57 beds and an average of 85% occupancy.



Figure 1: Aerial view of the Facility boundary



Figure 2: Front Entrance View of the facility

A schedule is provided in **Table 5** below of the number of people and the calculated area of the buildings in m² at the Hospital.

The occupancy at the Facility is made up of patients and staff. An average of 2 014 patients are admitted to the Facility for over-night stay.

The total area under roofing has been calculated at 5 456 m².

Table 5: Occupancy and Square Meters of Buildings at the facility

Location	People	No. of People	Total GLA [Square Meters]
Beaufort West Hospital	Patients	2 014	5 456

Table 6: The Facility Bed Utilisation

BUR & PDE - January - December 2021

Facility	Date	Actual (usable) beds - Total	Day patient - Total	Inpatient days - Total	Emergency headcount - Total	OPD headcount - total	Separations - Total	BUR	PDE
Beaufort West Hospital	Jan	57	78	1309	749	639	451	78%	1811
Beaufort West Hospital	Feb	57	99	1198	770	662	414	72%	1725
Beaufort West Hospital	Mar	57	105	1430	1070	706	521	85%	2075
Beaufort West Hospital	Apr	57	90	1310	937	580	413	78%	1861
Beaufort West Hospital	May	57	114	1575	944	592	461	94%	2144
Beaufort West Hospital	Jun	57	123	1451	999	713	497	87%	2083
Beaufort West Hospital	Jul	57	81	1445	779	1085	519	86%	2107
Beaufort West Hospital	Aug	57	68	1422	741	936	440	84%	2015
Beaufort West Hospital	Sep	57	108	1315	787	663	447	79%	1852
Beaufort West Hospital	Oct	57	90	1610	1033	626	515	95%	2208
Beaufort West Hospital	Nov	57	66	1509	1148	654	469	89%	2143
Beaufort West Hospital	Dec	57	85	1538	1145	563	507	91%	2150

BUR= Inpatients Days + (1/2 Day Patients) ÷ Beds days (Usable Beds x 30.42 No of days.)

PDE= Inpatients Days + (1/2 Day Patients) + (1/3 OPD) + (1/3 Emergency headcount)

4. Bulk Meter Audit

The Facility is billed for energy on the following account and meter details:

Account Number	ERF Number	Size of Incomer	Meter Number	Meter Type	Installation Date
000000005393	3	Low voltage Transformer	902548*01*012433*12	Unknown	Unknown

Access was not available to the meter.

4.1. Bulk Meter for Shared Savings Calculations

As per the International Performance Measurement and Verification Protocol (IPMVP), Whole Facility Option C will be used for savings determination as multiple energy conservation measures are included in the project and may have interactive effects.

Option C is applied to projects where: i) the potential to generate savings needs to be verified, and ii) actual energy use during the contract term needs to be measured for comparison with the baseline model for calculating savings.

Verification techniques for Option C to determine savings will therefore be based on the energy consumption given for the bulk municipal supply meter with the municipal bill as the governing Portfolio of Evidence for Shared Savings invoicing.

The municipal consumption will be subtracted from the baseline consumption (adjusted for variation in billing days) and the difference will be the total energy savings for any given month after approval of the facility baseline.

The municipal billing data for the facility has been predominantly based on estimated values, exhibiting significant inconsistencies. To address this, Reonet has recommended that baseline calculations be derived from the hospital's check meter data. To enhance measurement redundancy, Reonet will install an additional check meter at the facility. In the event of a failure of the existing check meter, billing operations will seamlessly transition to the Reonet check meter to maintain accuracy and continuity.

5. Consumption Data and Consumption Profile

5.1. Consumption Data

As discussed in detail under **Section 7: Baseline**, the consumption data (as determined on the bulk municipal meter using municipal billing data from January 2020 to December 2024) is summarised as the Baseline for the facility in the table below.

Table 7: Summary of Consumption to Date

Energy Baseline – Beaufort West Hospital – Account 000000005393, Check Meter, ERF 3												
BASELINE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Energy Consumption Baseline (kWh/d)	2 338	2 334	2 067	2 102	2 698	3 092	3 178	3 000	2 707	2 380	2 052	2 148
Energy Consumption Baseline (kWh/month)	72 485	65 354	64 082	63 067	83 634	92 767	98 513	93 009	81 213	73 779	61 566	66 584
Peak Energy Demand Baseline (kVA/month)	256	230	211	208	262	274	307	285	281	233	206	220
Notified Maximum Demand	307											

6. Load Composition and Energy Drivers

6.1. Load Composition

A load balance was calculated for each of the facilities audited. All electricity consuming equipment was tallied, and the rated power consumption noted. If this information was not available on the equipment itself, average rated capacities were taken from similar audited projects and from nameplate information of similar equipment. Operating hours were estimated according to information gathered from the Facility personnel. The load balances provide an approximation of the Significant Energy Users (SEUs) at the Hospital.

SEUs identified during the audits include:

- Lighting;
- Heat Pump - Laundry;
- Wash Machine;
- Dryers;
- Heat Pump – Kitchen;
- Autoclave;
- Theatre Chiller;
- Heat Pump Hospital;
- Split Units;
- General.

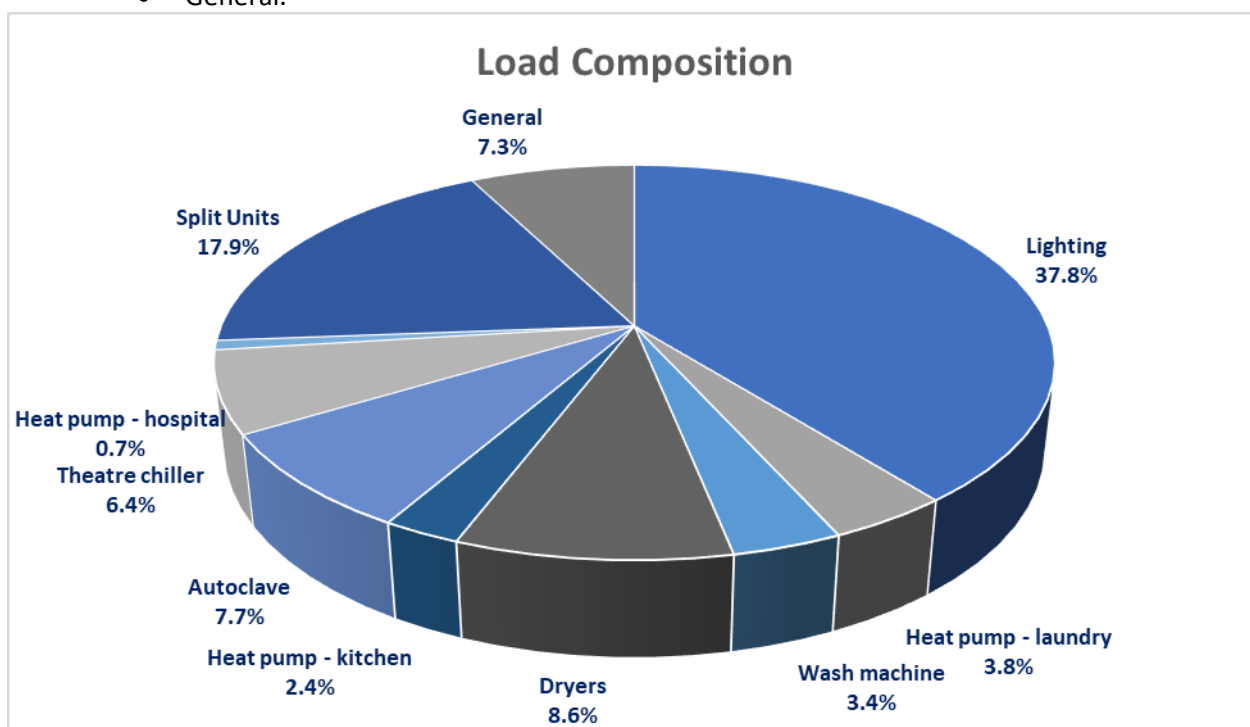


Figure 3: Load Composition of the Facility

6.2. Energy Drivers

6.2.1. Occupancy and Square Meters

Please refer to **Section 3** for a detailed list of people and square meters of the Facility.

The consumption on site is driven primarily by staff and patients of the hospital using lighting and heat pumps, medical equipment, air-conditioning and kitchen equipment.

There is an average of 2 014 patients per month making use of the Facility that are the primary energy drivers along with the hospital staff.

6.2.2. Hot Water Heating

The Facility visited has some form of hot water for any or all the following uses: Laundry, bathing, kitchen or in the ablution facilities.

Hot Water Heating is by heat pumps and geysers. The heat pumps currently account for 10.5% of the energy consumption on site. It must be noted that additional hot water is required on site, and as such additional heat pumps are required. This will affect the baseline and an adjustment would be required.

6.2.3. Lighting

The lighting technologies used were analysed during the energy audit. Lighting is a significant energy user, accounting for an estimated 37.8% of the total demand load on site.

A mix of old and new lighting technologies on site are observed. The site comprises of a mix of traditional light fitting including T8 and T5 fluorescent tubes, flood lights, bulkheads and CFL's. The load factor on lighting estimated to be 40.3% across the site.

The outside lighting is already equipped with day/ night sensors.

6.2.4. Air Conditioning

Air conditioning cassettes and consoles account for 17.9% of the load on site. Heating, cooling and ventilation of the Facility are required daily. Assessments have been carried out on temperature setting and operating times.

6.2.5. Other

Medical Equipment, PC's, Printers, kitchens, Fridges, and Microwaves all fall under other consumption, which accounts for 7.3% of the load.

Reonet proposes further discussions with the Department if there is any equipment that falls under "Other" which the Department would like to highlight for energy efficiency potential.

7. Baseline

At the start of an efficiency project baselines are determined to understand historical energy consumption trends. These baselines are used for the duration of the project to compare the effect of efficiency interventions on actual usage during the project.

7.1. Baseline Methodology

As per the SOP, Baseline Consumption is determined using at least 12 to 36 months municipal accounts.

The energy baseline for the facility is calculated by using the data in the municipal accounts for actual energy readings and the following methodology:

1. For any given calendar month, calculate the average of the Energy Consumption (kWh/month) or Peak Energy Demand (kVA/month) from the available municipal data for that calendar month in the 36-month period.

For example, the average energy consumption for January 2020, January 2021 and January 2022 will form the baseline Energy Consumption in kWh/month for the month of January for the duration of the project.



2. The daily and monthly kWh consumption has been compiled using the “Time-of-Use” splits. In the case where the “Time-of-Use” data is available from the municipal accounts, the data is compiled from the information on the account. When the data is not available from the municipal account, reports are pulled from the check meter to determine the split between Peak, Standard and Off-Peak. The percentages calculated for the TOU split are then applied to the municipal consumption to establish the baseline. For months where check meter data is not available the same splits have been applied as from when check meter data was available for the relevant months and average the TOU and applicable month data across the number of calendar months for which data is available. The Facility is currently billed for kVA.

7.2. Baseline Data

The baseline consumption for the Facility did not exhibit a stable historical pattern over the past 36 months. Therefore, we have utilized data from the last 60 months. The extended baseline period was necessary due to the impact of loadshedding, and the new consumption maximums recorded in 2024.

The municipal data from January 2020 to December 2024 for the facility is shown on the two graphs below.

The municipal billing data for the facility has been predominantly based on estimated values, exhibiting significant inconsistencies. To address this, Reonet has recommended that baseline calculations be derived from the hospital's check meter data. To enhance measurement redundancy, Reonet will install an additional check meter at the facility. In the event of a failure of the existing check meter, billing operations will seamlessly transition to the Reonet check meter to maintain accuracy and continuity.

The determined baseline for the facility is also shown on the graphs below.

The workbook containing a summary of this data can be found in **Annexure A**.

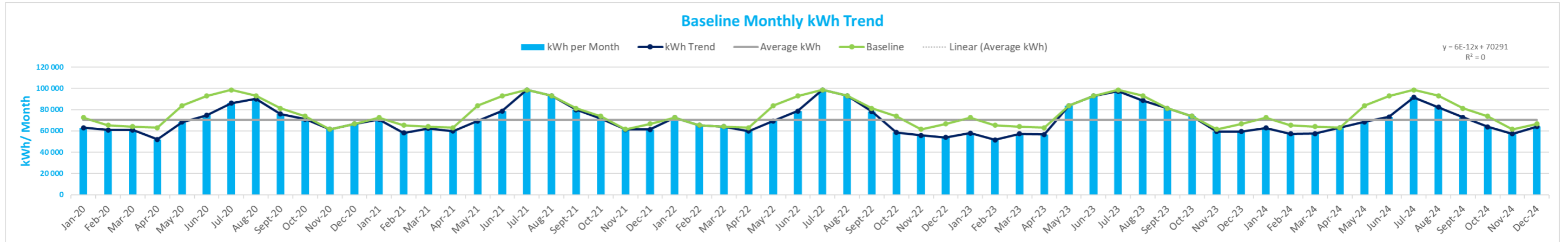


Figure 4: Check Meter Data kWh per Month – January 2020 to December 2024

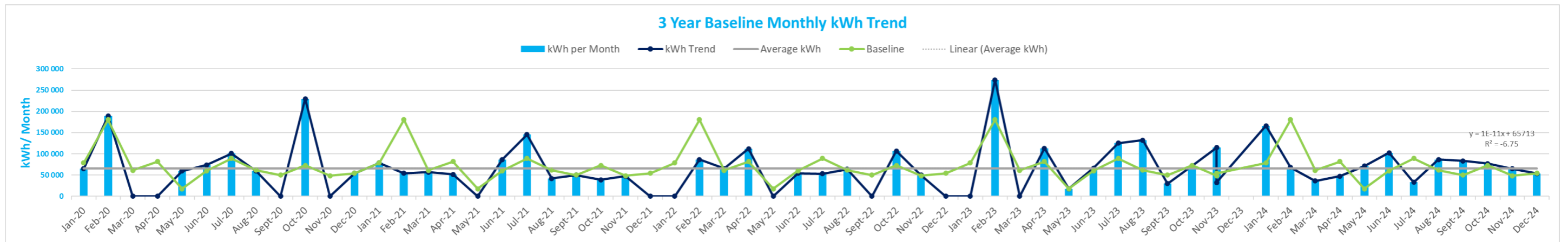


Figure 5: Municipal Data kWh per Month – January 2020 to December 2024



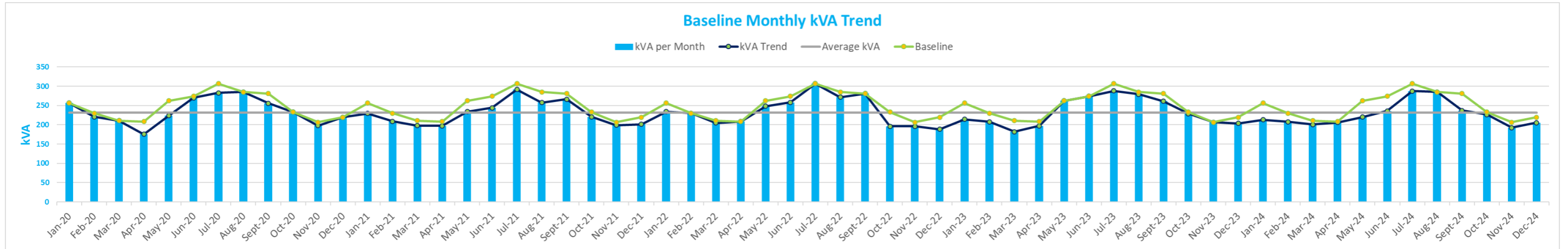


Figure 6: Check Meter Data Peak kVA per month – January 2020 to December 2024

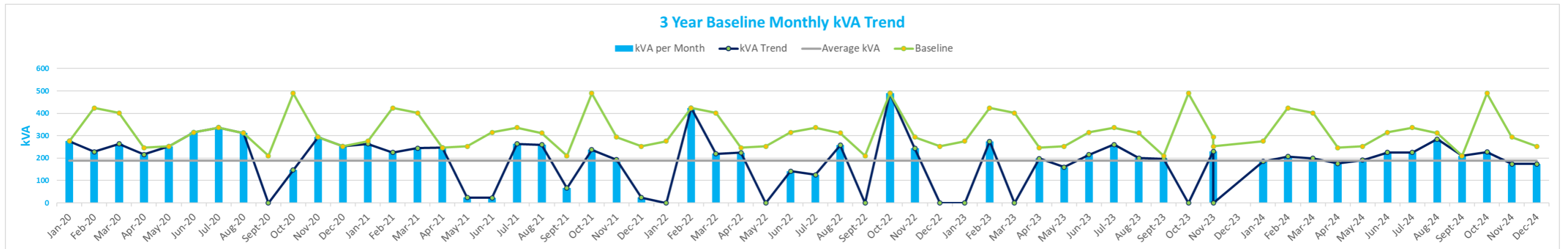


Figure 7: Municipal Data Peak kVA per month – January 2020 to December 2024



7.3. Baseline Calculation

The municipal data is further summarised into tables such that the average Energy Consumption in kWh/month or average Peak Energy Demand in kVA can be determined as the baseline for the Facility.

7.3.1. Energy Consumption Baseline (kWh/month) [Check Meter]

Table 8: Baseline Determination of kWh per month [Check Meter]

Month	2020	2021	2022	2023	2024	Baseline kWh per Month
JAN (2020, 2021, 2022, 2023, 2024)	26 565	70 745	72 485	57 892	62 871	72 485
FEB (2020, 2021, 2022, 2023, 2024)	20 022	58 097	65 354	51 537	57 358	65 354
MAR (2020, 2021, 2022, 2023, 2024)	21 170	62 457	64 082	57 253	57 509	64 082
APR (2020, 2021, 2022, 2023, 2024)	21 507	59 751	59 751	56 703	63 067	63 067
MAY (2020, 2021, 2022, 2023, 2024)	27 545	69 363	69 353	83 634	68 513	83 634
JUN (2020, 2021, 2022, 2023, 2024)	29 711	78 650	78 650	92 767	73 238	92 767
JUL (2020, 2021, 2022, 2023, 2024)	36 630	98 514	98 513	97 180	91 466	98 513
AUG (2020, 2021, 2022, 2023, 2024)	37 769	93 009	93 009	88 506	82 342	93 009
SEP (2020, 2021, 2022, 2023, 2024)	29 928	80 030	78 260	81 213	72 786	81 213
OCT (2020, 2021, 2022, 2023, 2024)	29 295	71 710	58 540	73 779	63 917	73 779
NOV (2020, 2021, 2022, 2023, 2024)	61 566	61 290	55 845	59 466	57 325	61 566
DEC (2020, 2021, 2022, 2023, 2024)	66 584	61 336	53 853	59 437	64 162	66 584

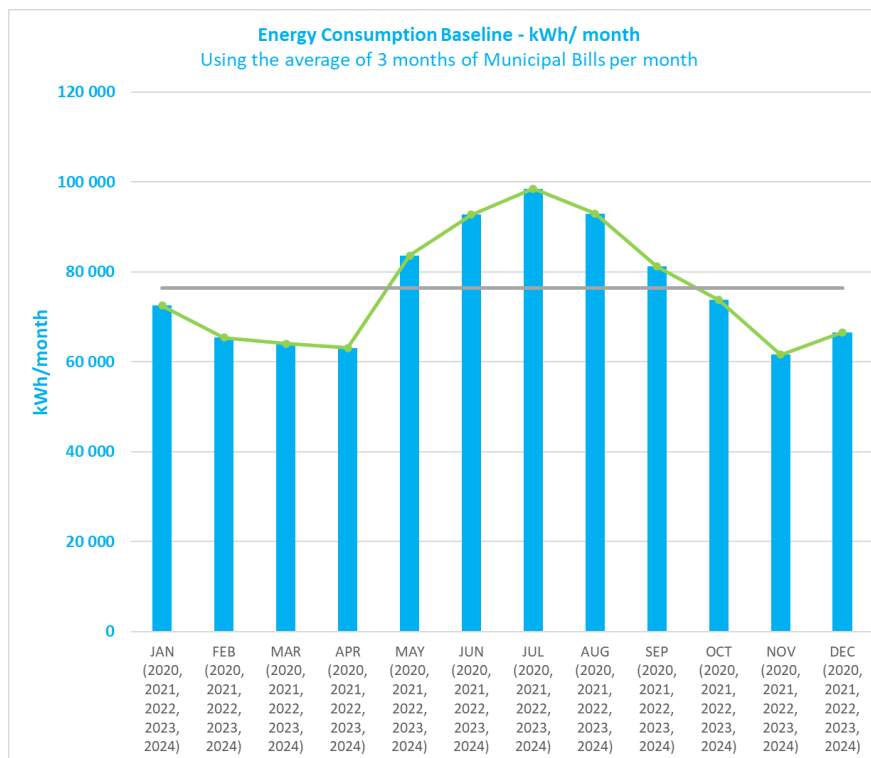


Figure 8: Energy Consumption Baseline kWh/Month [Check Meter]

7.3.2. Energy Demand Baseline (kVA/month) [Check Meter]

Table 9: Baseline Determination of Peak kVA per month [Check Meter]

Month	2020	2021	2022	2023	2024	Baseline kVA per Month
JAN (2020, 2021, 2022, 2023, 2024)	256	230	234	214	213	256
FEB (2020, 2021, 2022, 2023, 2024)	221	209	230	208	208	230
MAR (2020, 2021, 2022, 2023, 2024)	211	198	205	182	201	211
APR (2020, 2021, 2022, 2023, 2024)	175	197	208	197	206	208
MAY (2020, 2021, 2022, 2023, 2024)	224	234	248	262	220	262
JUN (2020, 2021, 2022, 2023, 2024)	270	244	258	274	236	274
JUL (2020, 2021, 2022, 2023, 2024)	283	291	307	288	288	307
AUG (2020, 2021, 2022, 2023, 2024)	285	258	271	279	285	285
SEP (2020, 2021, 2022, 2023, 2024)	256	266	281	261	237	281
OCT (2020, 2021, 2022, 2023, 2024)	233	221	196	229	227	233
NOV (2020, 2021, 2022, 2023, 2024)	198	199	196	206	193	206
DEC (2020, 2021, 2022, 2023, 2024)	220	201	188	203	206	220

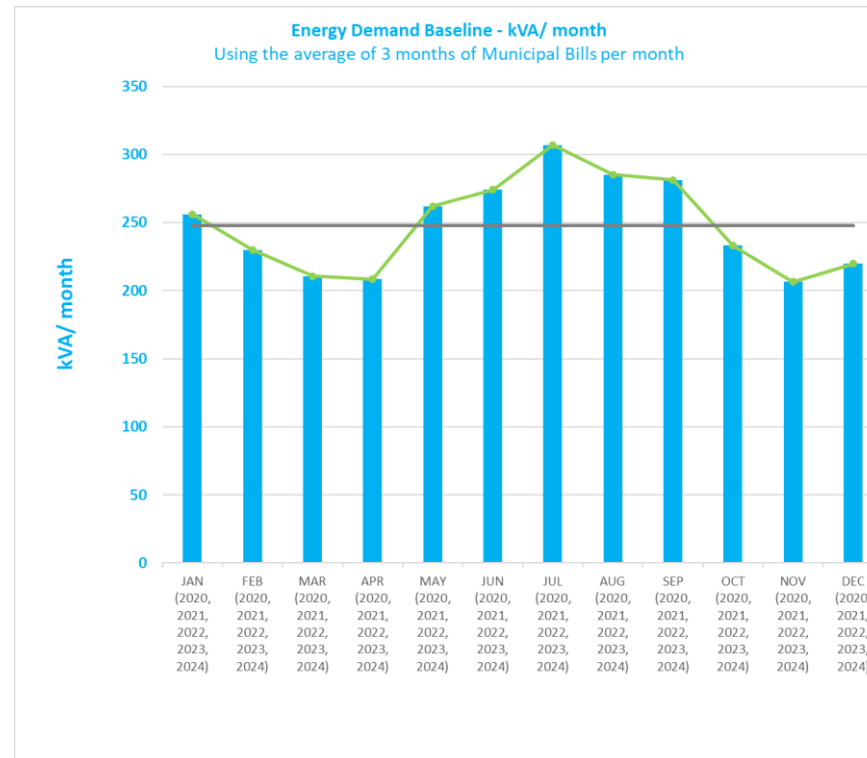


Figure 9: Energy Demand Baseline kVA/Month [Check Meter]

7.4. Baseline Schedule

The baseline schedule, based on the data from January 2020 to December 2024, is therefore summarised below. A daily kWh baseline is also provided for ease of Shared Savings calculations with adjustment of billing days for each municipal bill.

Table 10: Baseline Schedule for the Facility

ENERGY BASELINE – THE FACILITY												
Project:		WC DTPW Water & Energy Efficiency Services										
Client:		WC Department of Health and Wellness										
Municipal Account	Municipal Meter	Property Name	ERF Number	Utility Provider	Baseline Tariff	Average (For indicative purposes)	Unit					
000000005393	902548*01*01243 3*12	Beaufort West Hospital	3	Beaufort West Municipality	Tariff 2.1: Maximum Demand User LV	Energy Consumption - kWh/day	2 508					
						Energy Consumption - kWh/month	76 338					
						Peak Energy Demand - kVA/month	248					
						Energy Costs – R/month Ex VAT	R195 981					
Baseline	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Energy Consumption Baseline [kWh/day]	2 338	2 334	2 067	2 102	2 698	3 092	3 178	3 000	2 707	2 380	2 052	2 148
Energy Consumption Baseline [kWh/month]	72 485	65 354	64 082	63 067	83 634	92 767	98 513	93 009	81 213	73 779	61 566	66 584
Peak Energy Demand Baseline [kVA/month]	256	230	211	208	262	274	307	285	281	233	206	220

7.5. Baseline Adjustment

A complete schedule has been compiled of all energy consumers on site. It should be noted that if additional equipment or appliances are added, or if new facilities are built resulting in an increase in occupancy and energy usage, the existing baseline will be subject to a baseline adjustment.

The following approach is suggested for baseline adjustments:

1. Document the Baseline Conditions (Occupancy, Square Meters of Buildings, and Patient Daily Equivalent) in the initial Baseline Report;
2. Adjust the Baseline if:
 - a. There is addition of new buildings/ sections of buildings leading to increased square meters relative to the Baseline Conditions (this should then be sub-metered for period of time before the baseline is adjusted);
 - b. There is decommissioning of buildings/ sections of buildings leading to decreased square meters relative to the Baseline Conditions;
 - c. There is an increase in documented occupancy relative to the Baseline Conditions;
 - d. There is a change in the Patient Daily Equivalent of more than 30% over the preceding 6 months.
 - e. There is a significant addition of new equipment/ or decommissioning of old equipment at the Facility.

Prior to a Baseline Adjustment, a letter should be signed by the Facility Manager confirming the context of the change at the Facility.

Given that the baseline is taken over a period of 3 years and that the baseline is determined per calendar month, weather variables are already factored into the baseline determination.

Reonet proposes using maximum energy consumption and demand as the baseline instead of the average, due to the following considerations.

An average based baseline would dilute the impact of occasional high-consumption periods, underestimating the true energy demand. This could lead to an undervaluation of the savings achieved, particularly if the implemented measures effectively target peak demand reduction.

By targeting maximum demand, shared savings programs encourage a focus on peak load management strategies, which can yield significant financial and operational benefits for the hospital. This includes reductions in demand charges, which are often a major component of energy bills.

The maximum consumption baseline reflects the operational reality of a hospital, where energy use is driven by critical services. Improvements that reduce energy use during these peak times often have the greatest financial and environmental impact.

Using the maximum consumption baseline ensures an accurate, fair, and opportunity-aligned foundation for calculating shared savings, creating mutual benefits for both Reonet and the hospital.

This will allow Reonet to invest in the hospital with confidence.

7.6. Baseline Adjustment Request

Reonet is proposing a baseline adjustment that will allow for full maintenance of all lighting currently installed at the hospital.

The methodology considers the current consumption of LED lighting **(A)** that has been installed and deducts the value from the original technology that was replaced **(C)**.

Fittings that have not been maintained **(B)**.

The difference in value **B + C = D** would be added to the baseline to allow for comprehensive maintenance of all lighting at the hospital for the full duration of the contract. The time of use would be applied pro rata as per the current percentages on the baseline.

Baseline Adjustment Summary		KWH PER DAY	KWH PER MONTH	KWH PER ANNUM
A	kWh Total with LED's [Existing]	949	28 879	346 546
B	kWh Total [not working]	38	1 141	13 695
C	kWh Total Replacing Existing LED's [Technology Adjustment]	280	8 514	102 170
D	kWh Total [Baseline Adjustment]	317	9 655	115 865

Baseline Adjustment Summary		KVA PER MONTH	KVA PER ANNUM
A	kVA Total with LED's [Existing]	98	1 178
B	kVA Total [not working]	4	45
C	kVA Total Replacing Existing LED's [Technology Adjustment]	24	291
D	kVA Total [Baseline Adjustment]	28	336

**Addition of figures above may not calculate due to rounding.*

Table 11: Baseline Adjustment Summary

Below is the summary and schedule of fittings being used to calculate the baseline adjustment required.

Table 12: Baseline Adjustment Schedule of Fittings

Area	Floor	Sub Area	Existing Technology	Existing Quantity	Baseline Adjustment Technology	B.A Quantity	HOURS PER DAY	DAYS PER WEEK	Lamps Not Working
West Buiding	G	Neonatal	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	24	7	0
West Buiding	G	Neonatal	28W 2D SERIES BULKHEAD S	1	28W 2D SERIES BULKHEAD S	1	24	7	1
West Buiding	G	Neonatal	9W BULKHEAD	1	26W BULKHEAD	1	24	7	0
West Buiding	G	Labour Room	2X22W T8 5FT LED OPEN CHANNEL	3	2X58W T8 5FT OPEN CHANNEL S	3	24	7	0
West Buiding	G	Labour Room	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	24	7	0
West Buiding	G	Labour Room	2X22W T8 5FT LED OPEN CHANNEL	3	2X58W T8 5FT OPEN CHANNEL S	3	24	7	0
West Buiding	G	Labour Room	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	24	7	0
West Buiding	G	Sluice Room	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	24	7	0
West Buiding	G	Passage	1X22W T8 5FT LED CLOSED CHANNEL	8	2X58W T8 5FT CLOSED CHANNEL S	8	24	7	0
West Buiding	G	Linnerkamer	28W 2D SERIES BULKHEAD S	1	28W 2D SERIES BULKHEAD S	1	24	7	0
West Buiding	G	Bath Room	2X22W T8 5FT LED OPEN CHANNEL	1	2X58W T8 5FT OPEN CHANNEL S	1	24	7	0
West Buiding	G	Toilet Ladys	28W 2D SERIES BULKHEAD S	2	28W 2D SERIES BULKHEAD S	2	24	7	0
West Buiding	G	Bath Room	2X22W T8 5FT LED OPEN CHANNEL	1	2X58W T8 5FT OPEN CHANNEL S	1	24	7	0
West Buiding	G	Monisipalitet	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	24	7	0
West Buiding	G	Monisipalitet	2X26W BULKHEAD	1	2X26W BULKHEAD	1	24	7	0
West Buiding	G	Bible Room	9W BULKHEAD	1	26W BULKHEAD	1	24	7	0
West Buiding	G	Bible Room	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	24	7	0
West Buiding	G	Ward 3	1X58W T8 5FT CLOSED CHANNEL S	2	1X58W T8 5FT CLOSED CHANNEL S	2	24	7	0
West Buiding	G	Ward 3	11W PL DOWNLIGHTER	2	26W PL DOWNLIGHTER	2	24	7	0
West Buiding	G	Ward 3	9W BULKHEAD	1	26W BULKHEAD	1	24	7	0
West Buiding	G	Treatment Ward	1X22W T8 5FT LED OPEN CHANNEL	1	1X58W T8 5FT OPEN CHANNEL S	1	9	7	0
West Buiding	G	Shower Room	28W 2D SERIES BULKHEAD S	2	28W 2D SERIES BULKHEAD S	2	24	7	0
West Buiding	G	Toilet Ladys	28W 2D SERIES BULKHEAD S	2	28W 2D SERIES BULKHEAD S	2	24	7	0
West Buiding	G	Store Room	1X58W T8 5FT CLOSED CHANNEL S	1	1X58W T8 5FT CLOSED CHANNEL S	1	9	7	0
West Buiding	G	Ward 2	9W BULKHEAD	1	26W BULKHEAD	1	24	7	0
West Buiding	G	Ward 2	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	24	7	0
West Buiding	G	Ward 2	11W PL DOWNLIGHTER	2	26W PL DOWNLIGHTER	2	24	7	0
West Buiding	G	Kitchen	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	7	0
West Buiding	G	Ward Sister	2X22W T8 5FT LED OPEN CHANNEL	2	2X58W T8 5FT OPEN CHANNEL S	2	9	7	0
West Buiding	G	Waiting Area	2X22W T8 5FT LED OPEN CHANNEL	4	2X58W T8 5FT OPEN CHANNEL S	4	24	7	0
West Buiding	G	Toilet Man	28W 2D SERIES BULKHEAD S	2	28W 2D SERIES BULKHEAD S	2	24	7	0
West Buiding	G	Toilet Ladys	28W 2D SERIES BULKHEAD S	2	28W 2D SERIES BULKHEAD S	2	24	7	0
West Buiding	G	Rehab Store	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	7	0
West Buiding	G	ABSA Bank	1X22W T8 5FT LED OPEN CHANNEL	2	1X58W T8 5FT OPEN CHANNEL S	2	9	7	0
West Buiding	G	ABSA Bank	2X26W BULKHEAD	1	2X26W BULKHEAD	1	9	7	0
West Buiding	G	Ward 7	1X22W T8 5FT LED OPEN CHANNEL	4	1X58W T8 5FT OPEN CHANNEL S	4	9	7	0
West Buiding	G	Ward 6	11W PL DOWNLIGHTER	1	26W PL DOWNLIGHTER	1	9	7	0
West Buiding	G	Ward 6	9W BULKHEAD	1	26W BULKHEAD	1	9	7	0
West Buiding	G	Ward 6	28W 2D SERIES BULKHEAD S	1	28W 2D SERIES BULKHEAD S	1	9	7	0
West Buiding	G	Ward 5	9W BULKHEAD	1	26W BULKHEAD	1	9	7	0
West Buiding	G	Ward 5	28W 2D SERIES BULKHEAD S	1	28W 2D SERIES BULKHEAD S	1	9	7	0
West Buiding	G	Ward 5	11W PL DOWNLIGHTER	1	26W PL DOWNLIGHTER	1	9	7	0

West Buiding	G	Ward 5	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	7	0
West Buiding	G	Ward 4	9W BULKHEAD	1	26W BULKHEAD	1	9	7	0
West Buiding	G	Ward 4	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	7	0
West Buiding	G	Ward 4	11W PL DOWNLIGHTER	1	26W PL DOWNLIGHTER	1	9	7	0
West Buiding	G	Ward 4	28W 2D SERIES BULKHEAD S	1	28W 2D SERIES BULKHEAD S	1	9	7	0
East Building	G	Sluice Room	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	24	7	1
East Building	G	Toilet Ladys	28W 2D SERIES BULKHEAD S	2	28W 2D SERIES BULKHEAD S	2	24	7	1
East Building	G	Bath Room	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	24	7	0
East Building	G	Ward 3	1X58W T8 5FT CLOSED CHANNEL S	2	1X58W T8 5FT CLOSED CHANNEL S	2	24	7	0
East Building	G	Ward 3	11W PL DOWNLIGHTER	2	26W PL DOWNLIGHTER	2	24	7	2
East Building	G	Ward 3	2X26W BULKHEAD	1	2X26W BULKHEAD	1	24	7	0
East Building	G	Rehab Store	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	7	0
East Building	G	Ward 2	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	24	7	0
East Building	G	Ward 2	11W PL DOWNLIGHTER	2	26W PL DOWNLIGHTER	2	24	7	2
East Building	G	Treatment Ward	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	7	0
East Building	G	Kitchen	2X58W T8 5FT CLOSED CHANNEL S	3	2X58W T8 5FT CLOSED CHANNEL S	3	10	7	0
East Building	G	Staff Toilet	28W 2D SERIES BULKHEAD S	2	28W 2D SERIES BULKHEAD S	2	24	7	0
East Building	G	Matron Room	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	7	0
East Building	G	OPD	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	7	0
East Building	G	OPD	9W BULKHEAD	1	26W BULKHEAD	1	9	7	0
East Building	G	Ward 6	2X58W T8 5FT CLOSED CHANNEL S	4	2X58W T8 5FT CLOSED CHANNEL S	4	24	7	0
East Building	G	Ward 6	11W PL DOWNLIGHTER	4	26W PL DOWNLIGHTER	4	24	7	0
East Building	G	Ward 6	2X26W BULKHEAD	1	2X26W BULKHEAD	1	24	7	1
East Building	G	OPD Casuator	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	7	0
East Building	G	OPD Casuator	2X26W BULKHEAD	1	2X26W BULKHEAD	1	9	7	1
East Building	G	OPD Casuator	11W PL DOWNLIGHTER	1	26W PL DOWNLIGHTER	1	9	7	1
East Building	G	Store Room	1X58W T8 5FT CLOSED CHANNEL S	1	1X58W T8 5FT CLOSED CHANNEL S	1	9	7	0
East Building	G	Toilet	28W 2D SERIES BULKHEAD S	2	28W 2D SERIES BULKHEAD S	2	24	7	0
East Building	G	Store Room	28W 2D SERIES BULKHEAD S	1	28W 2D SERIES BULKHEAD S	1	9	7	0
East Building	G	Ward 5	1X58W T8 5FT CLOSED CHANNEL S	2	1X58W T8 5FT CLOSED CHANNEL S	2	24	7	0
East Building	G	Ward 5	2X26W BULKHEAD	1	2X26W BULKHEAD	1	24	7	1
East Building	G	Ward 5	11W PL DOWNLIGHTER	2	26W PL DOWNLIGHTER	2	24	7	0
East Building	G	Ward 4	1X58W T8 5FT CLOSED CHANNEL S	2	1X58W T8 5FT CLOSED CHANNEL S	2	24	7	0
East Building	G	Ward 4	11W PL DOWNLIGHTER	2	26W PL DOWNLIGHTER	2	24	7	2
East Building	G	Ward 4	2X26W BULKHEAD	1	2X26W BULKHEAD	1	24	7	1
East Building	G	Ward 9	1X58W T8 5FT CLOSED CHANNEL S	2	1X58W T8 5FT CLOSED CHANNEL S	2	24	7	0
East Building	G	Ward 9	2X11W BULKHEAD S	2	2X11W BULKHEAD S	2	24	7	0
East Building	G	Bath Room	2X22W T8 5FT LED OPEN CHANNEL	1	2X58W T8 5FT OPEN CHANNEL S	1	24	7	0
East Building	G	Passage	1X22W T8 5FT LED OPEN CHANNEL	9	1X58W T8 5FT OPEN CHANNEL S	9	24	7	0
East Building	G	Passage	28W 2D SERIES BULKHEAD S	1	28W 2D SERIES BULKHEAD S	1	24	7	0
East Building	G	Rehab Store	1X58W T8 5FT CLOSED CHANNEL S	1	1X58W T8 5FT CLOSED CHANNEL S	1	9	7	0
East Building	G	Room 1	1X58W T8 5FT CLOSED CHANNEL S	2	1X58W T8 5FT CLOSED CHANNEL S	2	24	7	0
East Building	G	Room 1	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	24	7	0
East Building	G	Room 1	2X26W BULKHEAD	3	2X26W BULKHEAD	3	24	7	0
East Building	G	Sister Office	2X22W T8 5FT LED OPEN CHANNEL	2	2X58W T8 5FT OPEN CHANNEL S	2	9	7	0
East Building	G	Ward 9	2X26W BULKHEAD	1	2X26W BULKHEAD	1	24	7	1
East Building	G	Ward 8	1X22W T8 5FT LED OPEN CHANNEL	1	1X58W T8 5FT OPEN CHANNEL S	1	24	7	0
East Building	G	Ward 8	1X58W T8 5FT CLOSED CHANNEL S	1	1X58W T8 5FT CLOSED CHANNEL S	1	24	7	0
East Building	G	Ward 8	2X26W BULKHEAD	1	2X26W BULKHEAD	1	24	7	1

East Building	G	Ward 7	1X58W T8 5FT CLOSED CHANNEL S	4	1X58W T8 5FT CLOSED CHANNEL S	4	24	7	0
East Building	G	Ward 7	11W PL DOWNLIGHTER	4	26W PL DOWNLIGHTER	4	24	7	0
Pharmacy	G	Inside	2X58W T8 5FT CLOSED CHANNEL S	32	2X58W T8 5FT CLOSED CHANNEL S	32	9	6	0
Pharmacy	G	Inside	1X58W T8 5FT CLOSED CHANNEL S	3	1X58W T8 5FT CLOSED CHANNEL S	3	9	6	0
Pharmacy	G	Toilet	28W 2D SERIES BULKHEAD S	2	28W 2D SERIES BULKHEAD S	2	9	6	0
Pharmacy	G	Inside	2X58W T8 5FT CLOSED CHANNEL S	10	2X58W T8 5FT CLOSED CHANNEL S	10	9	7	0
Pharmacy	G	Inside	2X22W T8 5FT LED OPEN CHANNEL	3	2X58W T8 5FT OPEN CHANNEL S	3	9	7	0
Pharmacy	G	Inside	28W 2D SERIES BULKHEAD S	1	28W 2D SERIES BULKHEAD S	1	9	7	0
Pharmacy	G	Passage	1X22W T8 5FT LED OPEN CHANNEL	21	1X58W T8 5FT OPEN CHANNEL S	21	9	6	0
Pharmacy	G	CSSD	2X22W T8 5FT LED OPEN CHANNEL	56	2X58W T8 5FT OPEN CHANNEL S	56	9	6	0
Pharmacy	G	CSSD	28W 2D SERIES BULKHEAD S	7	28W 2D SERIES BULKHEAD S	7	9	6	0
Pharmacy	G	CSSD	1X22W T8 5FT LED OPEN CHANNEL	2	1X58W T8 5FT OPEN CHANNEL S	2	9	6	0
Radiology	G	Inside	2X22W T8 5FT LED OPEN CHANNEL	1	2X58W T8 5FT OPEN CHANNEL S	1	9	6	0
Radiology	G	Inside	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	6	0
Radiology	G	Inside	28W 2D SERIES BULKHEAD S	2	28W 2D SERIES BULKHEAD S	2	9	6	0
Radiology	G	Inside	2X36W T8 4FT CLOSED CHANNEL S	4	2X36W T8 4FT CLOSED CHANNEL S	4	9	6	0
Radiology	G	Inside	2X26W BULKHEAD	8	2X26W BULKHEAD	8	9	6	0
Radiology	G	Toilet	28W 2D SERIES BULKHEAD S	9	28W 2D SERIES BULKHEAD S	9	9	6	0
Radiology	G	Store Room	2X36W T8 4FT CLOSED CHANNEL S	4	2X36W T8 4FT CLOSED CHANNEL S	4	9	6	0
Radiology	G	Store Room	9W BULKHEAD	1	26W BULKHEAD	1	9	6	0
Radiology	G	Inside	2X26W BULKHEAD S	4	2X26W BULKHEAD S	4	9	6	0
Radiology	G	Inside	2X58W T8 5FT CLOSED CHANNEL S	3	2X58W T8 5FT CLOSED CHANNEL S	3	9	6	0
Radiology	G	Inside	2X26W BULKHEAD	10	2X26W BULKHEAD	10	9	6	0
Radiology	G	Passage	1X22W T8 5FT LED OPEN CHANNEL	14	1X58W T8 5FT OPEN CHANNEL S	14	9	7	3
Radiology	G	Toilet	28W 2D SERIES BULKHEAD S	3	28W 2D SERIES BULKHEAD S	3	9	7	0
Radiology	G	All Wards	1X22W T8 5FT LED OPEN CHANNEL	27	1X58W T8 5FT OPEN CHANNEL S	27	9	7	0
Radiology	G	All Wards	11W PL DOWNLIGHTER	27	26W PL DOWNLIGHTER	27	9	7	0
Radiology	G	All Wards	2X26W BULKHEAD	9	2X26W BULKHEAD	9	9	7	9
Radiology	G	Small Ward	1X22W T8 5FT LED OPEN CHANNEL	1	1X58W T8 5FT OPEN CHANNEL S	1	9	7	0
Radiology	G	Small Ward	11W PL DOWNLIGHTER	1	26W PL DOWNLIGHTER	1	9	7	0
Radiology	G	Toilet Male	1X58W T8 5FT CLOSED CHANNEL S	1	1X58W T8 5FT CLOSED CHANNEL S	1	9	7	0
Radiology	G	Store Room	28W 2D SERIES BULKHEAD S	1	28W 2D SERIES BULKHEAD S	1	9	7	0
Radiology	G	Sluice Room	1X58W T8 5FT CLOSED CHANNEL S	1	1X58W T8 5FT CLOSED CHANNEL S	1	9	7	0
Radiology	G	Toilet Male	28W 2D SERIES BULKHEAD S	1	28W 2D SERIES BULKHEAD S	1	9	7	0
Radiology	G	Store Room	28W 2D SERIES BULKHEAD S	1	28W 2D SERIES BULKHEAD S	1	9	7	0
Radiology	G	Liner Room	1X58W T8 5FT CLOSED CHANNEL S	1	1X58W T8 5FT CLOSED CHANNEL S	1	9	7	0
Radiology	G	Main kitchen	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	7	0
Radiology	G	Passage	1X58W T8 5FT CLOSED CHANNEL S	1	1X58W T8 5FT CLOSED CHANNEL S	1	9	7	1
Radiology	G	Milk Kitchen	1X58W T8 5FT CLOSED CHANNEL S	1	1X58W T8 5FT CLOSED CHANNEL S	1	9	7	0
Radiology	G	Toilet Female	28W 2D SERIES BULKHEAD S	3	28W 2D SERIES BULKHEAD S	3	9	7	0
Radiology	G	Store Room	1X58W T8 5FT CLOSED CHANNEL S	1	1X58W T8 5FT CLOSED CHANNEL S	1	9	7	0
Radiology	G	Treatment Ward	1X58W T8 5FT CLOSED CHANNEL S	1	1X58W T8 5FT CLOSED CHANNEL S	1	9	7	0
Radiology	G	General Ward	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	7	0
Radiology	G	Sluice Room	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	7	0

Radiology	G	Ward 2	1X22W T8 5FT LED OPEN CHANNEL	1	1X58W T8 5FT OPEN CHANNEL S	1	9	7	0
Radiology	G	Ward 2	11W PL DOWNLIGHTER	1	26W PL DOWNLIGHTER	1	9	7	0
Radiology	G	Ward 2	2X26W BULKHEAD	1	2X26W BULKHEAD	1	9	7	1
Radiology	G	Ward 1	1X22W T8 5FT LED OPEN CHANNEL	1	1X58W T8 5FT OPEN CHANNEL S	1	9	7	0
Radiology	G	Ward 1	2X26W BULKHEAD	1	2X26W BULKHEAD	1	9	7	1
Radiology	G	Ward 1	11W PL DOWNLIGHTER	1	26W PL DOWNLIGHTER	1	9	7	0
Radiology	G	Store Room	1X22W T8 5FT LED OPEN CHANNEL	1	1X58W T8 5FT OPEN CHANNEL S	1	9	7	0
Radiology	G	Trauma room	1X58W T8 5FT CLOSED CHANNEL S	4	1X58W T8 5FT CLOSED CHANNEL S	4	9	7	0
Radiology	G	Toilet	1X58W T8 5FT CLOSED CHANNEL S	2	1X58W T8 5FT CLOSED CHANNEL S	2	9	7	2
Radiology	G	Store Room	2X22W T8 5FT LED OPEN CHANNEL	3	2X58W T8 5FT OPEN CHANNEL S	3	24	7	0
Radiology	G	Open Space	1X22W T8 5FT LED OPEN CHANNEL	10	1X58W T8 5FT OPEN CHANNEL S	10	24	7	0
Radiology	G	Sluice Room	2X22W T8 5FT LED OPEN CHANNEL	1	2X58W T8 5FT OPEN CHANNEL S	1	24	7	0
Radiology	G	Reception	2X22W T8 5FT LED OPEN CHANNEL	22	2X58W T8 5FT OPEN CHANNEL S	22	24	7	2
Radiology	G	Waiting Area	2X22W T8 5FT LED OPEN CHANNEL	4	2X58W T8 5FT OPEN CHANNEL S	4	24	7	2
Radiology	G	Passage	1X22W T8 5FT LED OPEN CHANNEL	1	1X58W T8 5FT OPEN CHANNEL S	1	24	7	0
Radiology	G	Toilets	28W 2D SERIES BULKHEAD S	3	28W 2D SERIES BULKHEAD S	3	24	7	0
Radiology	G	Admin	2X58W T8 5FT CLOSED CHANNEL S	5	2X58W T8 5FT CLOSED CHANNEL S	5	24	7	1
Radiology	G	Admin	2X22W T8 5FT LED OPEN CHANNEL	6	2X58W T8 5FT OPEN CHANNEL S	6	24	7	2
Radiology	G	Admin	1X58W T8 5FT CLOSED CHANNEL S	6	1X58W T8 5FT CLOSED CHANNEL S	6	24	7	2
Radiology	G	Admin	9W BULKHEAD	3	26W BULKHEAD	3	24	7	1
Radiology	G	Admin Office	2X58W T8 5FT CLOSED CHANNEL S	5	2X58W T8 5FT CLOSED CHANNEL S	5	9	5	0
Radiology	G	Admin Office	1X58W T8 5FT CLOSED CHANNEL S	10	1X58W T8 5FT CLOSED CHANNEL S	10	9	5	0
Radiology	G	Admin Office	2X11W BULKHEAD S	5	2X11W BULKHEAD S	5	9	5	0
Radiology	G	Admin Office	2X26W BULKHEAD	4	2X26W BULKHEAD	4	9	5	4
Radiology	G	Information Manager	2X58W T8 5FT CLOSED CHANNEL S	6	2X58W T8 5FT CLOSED CHANNEL S	6	9	5	0
Radiology	G	Information Manager	2X11W BULKHEAD S	4	2X11W BULKHEAD S	4	9	5	0
Radiology	G	Information Manager	1X58W T8 5FT CLOSED CHANNEL S	2	1X58W T8 5FT CLOSED CHANNEL S	2	9	5	0
Radiology	G	Nurses Home	2X58W T8 5FT CLOSED CHANNEL S	12	2X58W T8 5FT CLOSED CHANNEL S	12	24	7	0
Radiology	G	Nurses Home	2X11W BULKHEAD S	2	2X11W BULKHEAD S	2	24	7	0
Radiology	G	HATCH Office	2X58W T8 5FT CLOSED CHANNEL S	9	2X58W T8 5FT CLOSED CHANNEL S	9	9	5	2
Radiology	G	Outside HATCH	9W BULKHEAD	4	26W BULKHEAD	4	24	7	0
Radiology	G	District Office	2X58W T8 5FT CLOSED CHANNEL S	6	2X58W T8 5FT CLOSED CHANNEL S	6	9	5	0
Radiology	G	District Office	1X58W T8 5FT CLOSED CHANNEL S	7	1X58W T8 5FT CLOSED CHANNEL S	7	9	5	2
Radiology	G	District Office	28W 2D SERIES BULKHEAD S	2	28W 2D SERIES BULKHEAD S	2	9	5	2
Radiology	G	Outside District	28W 2D SERIES BULKHEAD S	3	28W 2D SERIES BULKHEAD S	3	9	5	0
Forensic	G	Entrance	2X26W PL DOWNLIGHTER	8	2X26W PL DOWNLIGHTER	8	9	5	0
Forensic	G	Toilet	28W 2D SERIES BULKHEAD S	2	28W 2D SERIES BULKHEAD S	2	9	5	0
Forensic	G	Passage to viewing room	2X26W PL DOWNLIGHTER	2		2	9	5	0
Forensic	G	Passage to viewing room	2X26W BULKHEAD	2	2X26W BULKHEAD	2	16	7	0
Forensic	G	Passage to viewing room	2X26W BULKHEAD	12	2X26W BULKHEAD	12	9	5	0
Forensic	G	Store Room	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	16	7	0
Forensic	G	Store Room	30W LED FLOOD	5	150W FLOOD	5	9	5	0
Forensic	G	Outside Building	2X58W T8 5FT CLOSED CHANNEL S	4	2X58W T8 5FT CLOSED CHANNEL S	4	9	5	0
Forensic	G	Parking area	2X58W T8 5FT CLOSED CHANNEL VAPOUR S	4	2X58W T8 5FT CLOSED CHANNEL VAPOUR S	4	16	7	0
Forensic	G	Board room	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	5	0
Forensic	G	Board room	2X26W PL DOWNLIGHTER	6		6	9	5	0
Forensic	G	Driver way	2X26W BULKHEAD	5	2X26W BULKHEAD	5	16	7	0

Forensic	G	Toilet Male	28W 2D SERIES BULKHEAD S	3	28W 2D SERIES BULKHEAD S	3	9	6	0
Forensic	G	Toilet Female	28W 2D SERIES BULKHEAD S	3	28W 2D SERIES BULKHEAD S	3	9	6	0
Forensic	G	Passage 1	2X26W PL DOWNLIGHTER	2		2	9	6	0
Forensic	G	Passage 2	2X26W BULKHEAD	2	2X26W BULKHEAD	2	9	6	0
Forensic	G	Inter view room	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	6	0
Forensic	G	FPS Toilet	28W 2D SERIES BULKHEAD S	1	28W 2D SERIES BULKHEAD S	1	9	6	0
Forensic	G	Passage 3	2X26W BULKHEAD S	5	2X26W BULKHEAD S	5	9	6	2
Forensic	G	Kitchen	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	6	0
Forensic	G	Safe	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	6	0
Forensic	G	Forensic Office	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	6	0
Forensic	G	Stationary	2X36W T8 4FT CLOSED CHANNEL S	1	2X36W T8 4FT CLOSED CHANNEL S	1	9	6	0
Forensic	G	0	2X36W T8 4FT CLOSED CHANNEL S	1	2X36W T8 4FT CLOSED CHANNEL S	1	9	6	0
Forensic	G	Caslying	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	6	0
Forensic	G	Sinior clectk	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	6	0
Forensic	G	Reception	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	6	0
Forensic	G	Entrance Area	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	6	0
maternity Ward	G	Disaster Stores	1X22W T8 5FT LED OPEN CHANNEL	1	1X58W T8 5FT OPEN CHANNEL S	1	9	6	0
maternity Ward	G	Disaster Stores	1X22W T8 5FT LED OPEN CHANNEL	1	1X58W T8 5FT OPEN CHANNEL S	1	9	6	0
maternity Ward	G	Viewing Room	2X26W PL DOWNLIGHTER	2		2	9	6	0
maternity Ward	G	Higien	1X22W T8 5FT LED OPEN CHANNEL	1	1X58W T8 5FT OPEN CHANNEL S	1	9	6	0
maternity Ward	G	Cosumastive	1X22W T8 5FT LED OPEN CHANNEL	1	1X58W T8 5FT OPEN CHANNEL S	1	9	6	0
maternity Ward	G	Liner Room	28W 2D SERIES BULKHEAD S	1	28W 2D SERIES BULKHEAD S	1	9	6	0
maternity Ward	G	Waste Room	28W 2D SERIES BULKHEAD S	1	28W 2D SERIES BULKHEAD S	1	9	6	0
maternity Ward	G	Chamical	1X22W T8 5FT LED OPEN CHANNEL	1	1X58W T8 5FT OPEN CHANNEL S	1	9	6	0
maternity Ward	G	Boby	1X22W T8 5FT LED OPEN CHANNEL	3	1X58W T8 5FT OPEN CHANNEL S	3	9	6	0
maternity Ward	G	Boby Clean Area	2X22W T8 5FT LED OPEN CHANNEL	4	2X58W T8 5FT OPEN CHANNEL S	4	9	6	2
maternity Ward	G	postmortem	2X22W T8 5FT LED OPEN CHANNEL	6	2X58W T8 5FT OPEN CHANNEL S	6	9	6	2
maternity Ward	G	postmortem	1X22W T8 5FT LED OPEN CHANNEL	2	1X58W T8 5FT OPEN CHANNEL S	2	9	6	0
maternity Ward	G	Store Room	1X22W T8 5FT LED OPEN CHANNEL	1	1X58W T8 5FT OPEN CHANNEL S	1	9	6	0
maternity Ward	G	Passage	2X22W T8 5FT LED OPEN CHANNEL	3	2X58W T8 5FT OPEN CHANNEL S	3	9	6	1
maternity Ward	G	Matury Entrance	2X26W PL DOWNLIGHTER	1		1	9	6	0
Admin	G	Asset Office	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	5	0
Admin	G	Supply Chain	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
Admin	G	HICU	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	5	2
Admin	G	SAO	2X22W T8 5FT LED OPEN CHANNEL	2	2X58W T8 5FT OPEN CHANNEL S	2	9	5	0
Admin	G	Transportion	2X58W T8 5FT CLOSED CHANNEL S	3	2X58W T8 5FT CLOSED CHANNEL S	3	9	5	0
Admin	G	Transportion	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	5	0
Admin	G	Plat Room	2X58W T8 5FT CLOSED CHANNEL S	4	2X58W T8 5FT CLOSED CHANNEL S	4	9	5	0
Admin	G	Bulk Store	3X36W T8 4FT 1200X600 R	6	3X36W T8 4FT 1200X600 R	6	9	5	3
Admin	G	Finance	2X58W T8 5FT CLOSED CHANNEL S	24	2X58W T8 5FT CLOSED CHANNEL S	24	9	5	2
Admin	G	Food Store	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	5	0
Admin	G	Chamical Store	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
Admin	G	Passage	1X58W T8 5FT CLOSED CHANNEL S	1	1X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
Admin	G	Equipment Store	3X36W T8 4FT 1200X600 R	1	3X36W T8 4FT 1200X600 R	1	9	5	0

Admin	G	Order Cleck	3X36W T8 4FT 1200X600 R	2	3X36W T8 4FT 1200X600 R	2	9	5	0
Admin	G	Toilet	28W 2D SERIES BULKHEAD S	4	28W 2D SERIES BULKHEAD S	4	9	5	0
Admin	G	Outside Admin	2X26W BULKHEAD	8	2X26W BULKHEAD	8	16	7	0
Admin	G	Admin Toilet	28W 2D SERIES BULKHEAD S	4	28W 2D SERIES BULKHEAD S	4	9	6	0
Parking	G	Admin Parking Area	2X58W T8 5FT CLOSED CHANNEL S	20	2X58W T8 5FT CLOSED CHANNEL S	20	16	7	4
Sub Room	G	Main LT Room	2X58W T8 5FT CLOSED CHANNEL S	3	2X58W T8 5FT CLOSED CHANNEL S	3	9	6	0
Garden Room	G	Inside	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	24	6	0
Workshop 1	G	Inside	1X22W T8 5FT LED OPEN CHANNEL	2	1X58W T8 5FT OPEN CHANNEL S	2	9	6	0
Workshop 1	G	Inside	1X36W T8 4FT CLOSED CHANNEL S	2	1X36W T8 4FT CLOSED CHANNEL S	2	9	6	0
Workshop 1	G	Inside	28W 2D SERIES BULKHEAD S	2	28W 2D SERIES BULKHEAD S	2	9	6	0
Workshop 1	G	Inside	2X22W T8 5FT LED OPEN CHANNEL	3	2X58W T8 5FT OPEN CHANNEL S	3	9	6	0
Workshop 2	G	Inside	1X58W T8 5FT CLOSED CHANNEL S	2	1X58W T8 5FT CLOSED CHANNEL S	2	9	6	0
Workshop 2	0	Inside	2X36W T8 4FT CLOSED CHANNEL S	1	2X36W T8 4FT CLOSED CHANNEL S	1	9	6	0
Workshop 2	G	Inside	2X58W T8 5FT CLOSED CHANNEL S	9	2X58W T8 5FT CLOSED CHANNEL S	9	9	6	0
Workshop 2	G	Outside Workshop	250W FLOOD	2	250W FLOOD	2	16	7	0
Workshop 2	G	Plat Room	2X58W T8 5FT CLOSED CHANNEL S	4	2X58W T8 5FT CLOSED CHANNEL S	4	9	6	0
Admin Area	G	Reception	2X58W T8 5FT CLOSED CHANNEL S	6	2X58W T8 5FT CLOSED CHANNEL S	6	9	5	2
Admin Area	G	Passage	1X58W T8 5FT CLOSED CHANNEL S	6	1X58W T8 5FT CLOSED CHANNEL S	6	24	7	0
Admin Area	G	Board room	2X58W T8 5FT CLOSED CHANNEL S	5	2X58W T8 5FT CLOSED CHANNEL S	5	9	5	2
Admin Area	G	Tarryn-Lee	2X58W T8 5FT CLOSED CHANNEL S	3	2X58W T8 5FT CLOSED CHANNEL S	3	9	5	0
Admin Area	G	General Ward	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	5	0
Admin Area	G	Store Room	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	5	0
Admin Area	G	Speech Theapist	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	5	0
Admin Area	G	Materniy Ward	2X58W T8 5FT CLOSED CHANNEL S	3	2X58W T8 5FT CLOSED CHANNEL S	3	9	5	0
Admin Area	G	Room 7	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	5	0
Admin Area	G	Mr R mart	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	5	1
Admin Area	G	Integrated office	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	5	0
Admin Area	G	Toilet	1X58W T8 5FT CLOSED CHANNEL S	1	1X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
Admin Area	G	Toilet	1X58W T8 5FT CLOSED CHANNEL S	1	1X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
Admin Area	G	Primary Healthcar	2X58W T8 5FT CLOSED CHANNEL S	3	2X58W T8 5FT CLOSED CHANNEL S	3	9	5	0
Admin Area	G	Assistance Manager	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	5	0
Admin Area	G	Clnical Manager	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
Admin Area	G	Dr A.J Muller	1X58W T8 5FT CLOSED CHANNEL S	2	1X58W T8 5FT CLOSED CHANNEL S	2	9	5	0
HR Building	1ST	HR Facilly	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
HR Building	1ST	SAO HR	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
HR Building	1ST	SPP	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	5	0
HR Building	1ST	Toilet	2X11W BULKHEAD S	1	2X11W BULKHEAD S	1	9	5	0
HR Building	1ST	Toilet	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
HR Building	1ST	Register Cleck	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
HR Building	1ST	Archives 1	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
HR Building	1ST	Admin Office	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
HR Building	1ST	Kitchen	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
HR Building	1ST	HRM	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	5	0

HR Building	1ST	Archives 2	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
HR Building	1ST	Admin Cleck	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
HR Building	1ST	AO Office	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
HR Building	1ST	HR Cleck	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
HR Building	1ST	Passage	2X58W T8 5FT CLOSED CHANNEL S	5	2X58W T8 5FT CLOSED CHANNEL S	5	9	5	0
HR Building	1ST	Passage	2X11W BULKHEAD S	2	2X11W BULKHEAD S	2	9	5	0
Outside Hospital	G	Outside	2X26W BULKHEAD	35	2X26W BULKHEAD	35	16	7	0
Outside Hospital	G	Outside	28W 2D SERIES BULKHEAD S	16	28W 2D SERIES BULKHEAD S	16	16	7	0
Outside Hospital	G	Outside	125W FLOOD	2	125W FLOOD	2	16	7	0
Outside Hospital	G	Outside	1X58W T8 5FT CLOSED CHANNEL S	6	1X58W T8 5FT CLOSED CHANNEL S	6	16	7	0
Outside Hospital	G	Outside	28W 2D SERIES BULKHEAD S	10	28W 2D SERIES BULKHEAD S	10	16	7	0
Outside Hospital	G	Outside	2X58W T8 5FT CLOSED CHANNEL S	3	2X58W T8 5FT CLOSED CHANNEL S	3	16	7	0
Outside Hospital	G	Outside	100W LED FLOOD A	3	400W FLOOD	3	16	7	0
Outside Hospital	G	Outside	400W FLOOD	4	400W FLOOD	4	16	7	0
Outside Hospital	G	Outside	30W LED FLOOD	1	150W FLOOD	1	16	7	0
HR Building	G	Outside	2X58W T8 5FT CLOSED CHANNEL S	4	2X58W T8 5FT CLOSED CHANNEL S	4	16	7	0
HR Building	G	Outside	2X26W BULKHEAD	5	2X26W BULKHEAD	5	16	7	0
HR Building	G	Outside	30W LED FLOOD	5	150W FLOOD	5	16	7	0
Outside Hospital	G	Streetlights	125W FLOOD	30	125W FLOOD	30	16	7	0
Lab	G	Inside	2X58W T8 5FT CLOSED CHANNEL S	12	2X58W T8 5FT CLOSED CHANNEL S	12	9	5	2
Lab	G	Inside	1X58W T8 5FT CLOSED CHANNEL S	4	1X58W T8 5FT CLOSED CHANNEL S	4	9	5	1
Lab	G	Inside	28W 2D SERIES BULKHEAD S	3	28W 2D SERIES BULKHEAD S	3	9	5	0
Lab	G	Outside	28W 2D SERIES BULKHEAD S	1	28W 2D SERIES BULKHEAD S	1	9	5	0
Laundry	G	Outside Store	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	16	7	0
HR Building	G	Store Room	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	5	0
HR Building	G	Store Room	2X26W BULKHEAD	1	2X26W BULKHEAD	1	9	5	0
Workshop	G	Liquid Store	2X58W T8 5FT CLOSED CHANNEL S	4	2X58W T8 5FT CLOSED CHANNEL S	4	9	5	0
Frank Office	G	Office 1	2X22W T8 5FT LED OPEN CHANNEL	1	2X58W T8 5FT OPEN CHANNEL S	1	9	5	0
Frank Office	G	Office 1	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
Frank Office	G	Entrance	1X58W T8 5FT CLOSED CHANNEL S	1	1X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
Frank Office	G	Toilet	1X58W T8 5FT CLOSED CHANNEL S	1	1X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
Frank Office	G	Office 2	2X22W T8 5FT LED OPEN CHANNEL	4	2X58W T8 5FT OPEN CHANNEL S	4	9	5	0
Frank Office	G	Outside	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	16	7	0
Frank Office	G	Outside	2X26W BULKHEAD	3	2X26W BULKHEAD	3	16	7	0
Frank Office	G	Outside	1X58W T8 5FT CLOSED CHANNEL S	1	1X58W T8 5FT CLOSED CHANNEL S	1	16	7	0
Garden Store	G	Inside	1X58W T8 5FT CLOSED CHANNEL S	2	1X58W T8 5FT CLOSED CHANNEL S	2	9	5	0
Garden Store	G	Inside	28W 2D SERIES BULKHEAD S	1	28W 2D SERIES BULKHEAD S	1	9	5	0
Garden Store	G	Outside	2X26W BULKHEAD	2	2X26W BULKHEAD	2	16	7	0
Laundry	G	Inside	2X58W T8 5FT CLOSED CHANNEL S	6	2X58W T8 5FT CLOSED CHANNEL S	6	9	5	0
Laundry	G	Tea Room	2X26W BULKHEAD	3	2X26W BULKHEAD	3	9	5	0
Laundry	G	Tea Room	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
Laundry	G	Office	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	9	5	0
Laundry	G	Office	2X26W BULKHEAD	1	2X26W BULKHEAD	1	9	5	0
Laundry	G	Store Room	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
Laundry	G	Liner bank	2X58W T8 5FT CLOSED CHANNEL S	4	2X58W T8 5FT CLOSED CHANNEL S	4	9	5	0
Laundry	G	Store Room 2	2X58W T8 5FT CLOSED CHANNEL S	1	2X58W T8 5FT CLOSED CHANNEL S	1	9	5	0
Laundry	G	Liner Bank	2X58W T8 5FT CLOSED CHANNEL S	3	2X58W T8 5FT CLOSED CHANNEL S	3	9	5	0

Laundry	G	Soap Room	28W 2D SERIES BULKHEAD S	1	28W 2D SERIES BULKHEAD S	1	9	5	0
Laundry	G	Outside	9W BULKHEAD	3	26W BULKHEAD	3	16	7	0
Covid 19 Test	G	Inside	2X18W T8 2FT CLOSED CHANNEL S	6	2X18W T8 2FT CLOSED CHANNEL S	6	5	5	0
Covid 19 Test	G	Outside	2X18W T8 2FT CLOSED CHANNEL S	3	2X18W T8 2FT CLOSED CHANNEL S	3	5	5	0
Covid 19 Test	G	Outside	30W LED FLOOD	1	150W FLOOD	1	5	5	0
Covid 19 Test	G	Inside	2X58W T8 5FT CLOSED CHANNEL S	2	2X58W T8 5FT CLOSED CHANNEL S	2	5	5	0

The below table represent the hospitals baseline, calculated using the municipal accounts [Option 1].

Option 1: Actual Baseline

Energy Baseline – Beaufort West Hospital – Account 00000005393, Check Meter, ERF 3												
BASELINE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Energy Consumption Baseline (kWh/d)	2 338	2 334	2 067	2 102	2 698	3 092	3 178	3 000	2 707	2 380	2 052	2 148
Energy Consumption (kWh/d) [Peak]	439	458	402	428	536	567	516	512	516	454	402	428
Energy Consumption (kWh/d) [Std]	1 057	1 073	937	916	1 129	1 401	1 372	1 270	1 107	969	916	971
Energy Consumption (kWh/d) [O/Peak]	842	804	728	758	1 033	1 125	1 290	1 218	1 084	957	734	749
Energy Consumption Baseline (kWh/month)	72 485	65 354	64 082	63 067	83 634	92 767	98 513	93 009	81 213	73 779	61 566	66 584
Energy Consumption (kWh/month) [Peak]	13 602	12 811	12 474	12 842	16 618	16 996	16 008	15 872	15 490	14 074	12 073	13 274
Energy Consumption (kWh/month) [Std]	32 767	30 037	29 033	27 494	34 992	42 032	42 526	39 370	33 195	30 031	27 477	30 094
Energy Consumption (kWh/month) [O/Peak]	26 117	22 506	22 575	22 731	32 025	33 739	39 979	37 768	32 528	29 674	22 016	23 217
Peak Energy Demand (kVA/month)	256	230	211	208	262	274	307	285	281	233	206	220
Notified Maximum Demand	307											

Table 13: Actual Baseline

The below table represents the hospitals baseline, calculated with the baseline adjustment [Option 2].

Option 2: Baseline Adjustment

Energy Baseline – Beaufort West Hospital – Account 00000005393, Check Meter, ERF 3 [Baseline Adjustment]												
BASELINE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Energy Consumption Baseline (kWh/d)	2 656	2 652	2 385	2 420	3 015	3 410	3 495	3 318	3 025	2 697	2 370	2 465
Energy Consumption (kWh/d) [Peak]	498	520	464	493	599	625	568	566	577	515	465	491
Energy Consumption (kWh/d) [Std]	1 200	1 219	1 080	1 055	1 262	1 545	1 509	1 404	1 236	1 098	1 058	1 114
Energy Consumption (kWh/d) [O/Peak]	957	913	840	872	1 155	1 240	1 418	1 347	1 211	1 085	847	860
Energy Consumption Baseline (kWh/month)	82 141	75 009	73 737	72 722	93 290	102 422	108 169	102 665	90 869	83 434	71 221	76 240
Energy Consumption (kWh/month) [Peak]	15 413	14 703	14 353	14 808	18 537	18 765	17 577	17 519	17 332	15 916	13 966	15 199
Energy Consumption (kWh/month) [Std]	37 131	34 475	33 407	31 703	39 031	46 406	46 694	43 457	37 142	33 961	31 786	34 458
Energy Consumption (kWh/month) [O/Peak]	29 596	25 831	25 976	26 211	35 722	37 251	43 898	41 689	36 395	33 557	25 468	26 584
Peak Energy Demand (kVA/month)	284	258	239	236	290	302	335	313	309	261	234	248
Notified Maximum Demand	335											

Table 14: Baseline Adjustment

8. Technical Interventions

The audit team identified several energy and cost savings opportunities during the site audit. These opportunities are centred on the following:

- Lighting
- Occupancy Sensors
- Behavioural Change

The recommendations that follow detail the key actions and opportunities for achieving sustained energy, carbon and cost reductions.

Please note that tariffs used to calculate savings were taken from previously applied tariffs used to bill energy consumption for the Facility. The tariffs used are shown in **Table 2**.

A description of the proposed technical interventions for the facility is given below as well as a summary in **Section 11** which includes an economic evaluation.

8.1. Lighting

The site has predominantly old lighting technology in place and therefore there is an opportunity to retrofit with more efficient technology. Lighting loads can be one of the major users of power, depending on the use of the Facility. The average load factors for this site is a high 40.3% for the whole the Facility, which will have a positive effect on the Simple Payback Period (SPP). All replacement lighting technology proposed on site is LED.

Inventories and calculations were made of current lighting and savings from specific retrofits. The inventories together with the proposed retrofits are shown in **Annexure B.2**. Where the proposed retrofit was not financially viable, it was indicated as such in the lighting retrofit summary table and all other tables.

It is also proposed that a minimum standard technology per application should be specified and written into an Energy Efficiency Procurement Policy. This will ensure that replacement fittings are not less efficient than their predecessors and that a minimum standard of efficiency is achieved across the portfolio of buildings.

The LED items proposed have a good power factor rating of > 0.9. The efficacy on the LED's is a minimum of 100 Lumens per watt, and L70 of between 3 – 5 years depending on the application. The lighting interventions are shown to provide a savings of 62% on kWh and 68% on kVA per annum of the lighting load.

The replacement technologies recommended are done so on the basis that they would either match or exceed the lumens output of the old technology used. In cases where the technology is deemed efficient, there are no further recommendations.

All lighting across the site including but not limited to the hospitals, offices, storerooms, outdoor and outbuildings are included in the lighting proposal.

8.2. Occupancy Sensors

The high baseload makes the Hospital an excellent candidate for occupancy sensors. Paired with lighting, occupancy sensors will help bring down the high evening baseload and any lights left on unnecessarily during the day. Most of the outside lighting is already equipped with day/ night sensors.

The direct to indirect cost ratio is as a result of need for potential rewiring of fitting configurations, running of cable, installation of contactors and COC sign-off.

9. Financial Interventions

An analysis of the Hospital municipal account showed that the hospital is being billed energy consumption on the optimum tariff. We will continue to assess the accounts and make comparisons and updates as changes are made. If further monetary savings can be made for the Department relative to the original baseline, Reonet will.

10. Maintenance Policy and Schedule

The Maintenance policy and schedule for the Hospital is described below:

- Monthly site visits will be conducted with spot inspections of the Facility.
- Meetings will be held with key personal on site to get feedback on any issues arisen.
- All light fittings and lamps installed have stickers informing the client of contact details for maintenance purposes,
- Key staff will be trained on how to do required maintenance in the case of urgent maintenance requirement that fall outside of planned maintenance.
- All maintenance of equipment complies with the OEM's warranties.

11. Investment Proposal

An Investment proposal is given in the tables below for the technical recommendations for the Hospital.

The proposal is given as a combination of all interventions in the first table and split up into individual interventions in the following tables.

In order of priority, the technical recommendations for the Hospital are as follows:

- Lighting;
- Occupancy Sensors;

The table below shows the discount off the auditing fees of each intervention.

Technology	Calculated Savings (kWh) per Annum	Percentage of Savings	Auditing Cost Discount
Lighting	346 546	73.0%	R102 267.96
Occupancy Sensors [Lighting]	128 073	27.0%	R37 795.22
Total	474 620	100.0%	R140 063.18

Table 15: Audit Fee Schedule

11.1. Summary of Energy Efficiency Opportunities

Ranking	Recommendation	Annual Baseline Electricity					Tendered Split % to Reonet	Estimated Annual Savings							Economics									
		Annual Contribution						From Electricity							Cost Materials	Indirect Costs	Maintenance Cost	Client Deposit	Total Cost Including Maintenance	Payback Reonet [Net Savings]	Total Period Required	Savings % kWhrs	Savings % kVA	
		[kWh]	kWh R/Annum	[kVA]	kVA R/Annum	Total R/Annum		kWh per Annum	kWh Rands per Annum	kVA per Annum	kVA Rands per Annum	Total R	Net R to Reonet	tCO2	R	R	R	R	R	Years	Years	%	%	
1	Audit	916 054	R1 976 185	2 974.00	R1 179 578	R3 155 763	48.00%	0	R0	0.00	R0	R0	R0	0.0	R0.00	R140 063.18	R0.00			R140 063.18			0%	0%
2	Awareness Campaign	916 054	R1 976 185	2 974.00	R1 179 578	R3 155 763	48.00%	0	R0	0.00	R0	R0	R0	0.0	R2 728.00	R5 456.00	R8 184.00			R16 368.00			0%	0%
3	Lighting	346 546	R747 597	1 178.02	R467 237	R1 214 834	48.00%	218 473	R471 307	282.00	R111 850	R583 157	R279 915	194.4	R683 335.69	R898 412.02	R563 829.41			R2 145 577.12	8.3	16.5	63%	24%
4	Occupancy Sensors [Lighting]	128 073	R276 290	896.02	R355 387	R631 677	48.00%	4 412	R9 518	0.00	R0	R9 518	R4 569	3.9	R16 100.00	R11 500.00	R18 400.00			R46 000.00	10.9	21.8	3%	0%
5	Implement an Energy Management System	916 054	R1 976 185	2 974.00	R1 179 578	R3 155 763	48.00%	45 803	R98 809	0.00	R0	R98 809	R47 428	40.8	R21 824.00	R12 548.80	R20 732.80			R55 105.60	1.3	2.5	5%	0%
	Total	916 054	R1 976 185	2 974.00	R1 179 578	R3 155 763	48.00%	268 688	R579 635	282.00	R111 850	R691 484	R331 912	239.1	R723 987.69	R1 067 980.00	R611 146.21			R2 403 113.90	7.8	15.5	29%	9%

Table 16: Intervention Schedule – All interventions

- Please note savings for kWh and kVA is calculated annually
- Maintenance costs have been provided to match the contract period
- Maintenance covers all "normal" maintenance operations and does not include replacements where items have been compromised by human or animal negligence, including but not limited to vandalism and theft.
- Insurance of all materials to be held by building management once items have been installed.
- The direct to indirect cost ratio is as a result of need for potential rewiring of fitting configurations, running of cable, installation of contactors and COC sign-off.
- Errors & Omissions Excluded

11.2. Baseline Adjustment

Ranking	Recommendation	Annual Baseline Electricity					Tendered Split % to Reonet	Estimated Annual Savings							Economics									
		Annual Contribution						From Electricity							Cost Materials	Indirect Costs	Maintenance Cost	Client Deposit	Total Cost Including Maintenance	Payback Reonet [Net Savings]	Total Period Required	Savings % kWhrs	Savings % kVA	
		[kWh]	kWh R/Annum	[kVA]	kVA R/Annum	Total R/Annum		kWh per Annum	kWh Rands per Annum	kVA per Annum	kVA Rands per Annum	Total R	Net R to Reonet	tCO2	R	R	R	R	R	Years	Years	%	%	
1	Audit	916 054	R1 976 185	2 974.00	R1 179 578	R3 155 763	48.00%	0	R0	0.00	R0	R0	R0	0.0	R0.00	R140 063.18	R0.00			R140 063.18			0%	0%
2	Awareness Campaign	916 054	R1 976 185	2 974.00	R1 179 578	R3 155 763	48.00%	0	R0	0.00	R0	R0	R0	0.0	R2 728.00	R5 456.00	R8 184.00			R16 368.00			0%	0%
3	Lighting	462 411	R997 551	1 514.40	R600 655	R1 598 206	48.00%	334 338	R721 261	618.38	R245 268	R966 529	R463 934	297.6	R683 336	R898 412	R563 829			R2 145 577.12	4.9	9.8	72%	41%
4	Occupancy Sensors [Lighting]	334 338	R721 261	618.38	R245 268	R966 529	48.00%	4 412	R9 518	0.00	R0	R9 518	R4 569	3.9	R16 100	R11 500	R18 400			R46 000.00	10.9	21.8	1%	0%
5	Implement an Energy Management System	916 054	R1 976 185	2 974.00	R1 179 578	R3 155 763	48.00%	45 803	R98 809	0.00	R0	R98 809	R47 428	40.8	R21 824	R12 549	R20 733			R55 105.60	1.3	2.5	5%	0%
	Total	916 054	R1 976 185	2 974.00	R1 179 578	R3 155 763	48.00%	384 553	R829 588	618.38	R245 268	R1 074 856	R515 931	342.3	R723 988	R1 067 980	R611 146			R2 403 113.90	5.0	10.0	42%	21%

Table 17: Intervention Schedule – Baseline Adjustment

12. Conclusion and Recommendations

A summary of the recommended installations for implementation is provided below for approval.

Reonet has proposed a solution that would allow for the full spectrum of technologies to be implemented on site.

Ranking	Recommendation	Annual Baseline Electricity					Tendered Split % to Reonet	Estimated Annual Savings							Economics									
		Annual Contribution						From Electricity							Cost Materials	Indirect Costs	Maintenance Cost	Client Deposit	Total Cost Including Maintenance	Payback Reonet [Net Savings]	Total Period Required	Savings % kWhrs	Savings % kVA	
		[kWh]	kWh R/Annum	[kVA]	kVA R/Annum	Total R/Annum		kWh per Annum	kWh Rands per Annum	kVA per Annum	kVA Rands per Annum	Total R	Net R to Reonet	tCO2	R	R	R	R	R	Years	Years	%	%	
1	Audit	916 054	R1 976 185	2 974.00	R1 179 578	R3 155 763	48.00%	0	R0	0.00	R0	R0	R0	R0	0.0	R0.00	R140 063.18	R0.00		R140 063.18			0%	0%
2	Awareness Campaign	916 054	R1 976 185	2 974.00	R1 179 578	R3 155 763	48.00%	0	R0	0.00	R0	R0	R0	R0	0.0	R2 728.00	R5 456.00	R8 184.00		R16 368.00			0%	0%
3	Lighting	462 411	R997 551	1 514.40	R600 655	R1 598 206	48.00%	334 338	R721 261	618.38	R245 268	R966 529	R463 934	297.6	R683 336	R898 412	R563 829		R2 145 577.12	4.9	9.8	72%	41%	
4	Occupancy Sensors [Lighting]	334 338	R721 261	618.38	R245 268	R966 529	48.00%	4 412	R9 518	0.00	R0	R9 518	R4 569	3.9	R16 100	R11 500	R18 400		R46 000.00	10.9	21.8	1%	0%	
5	Implement an Energy Management System	916 054	R1 976 185	2 974.00	R1 179 578	R3 155 763	48.00%	45 803	R98 809	0.00	R0	R98 809	R47 428	40.8	R21 824	R12 549	R20 733		R55 105.60	1.3	2.5	5%	0%	
	Total	916 054	R1 976 185	2 974.00	R1 179 578	R3 155 763	48.00%	384 553	R829 588	618.38	R245 268	R1 074 856	R515 931	342.3	R723 988	R1 067 980	R611 146		R2 403 113.90	5.0	10.0	42%	21%	

Revenue share split is calculated on the entire project which includes, both the annual baseline electricity cost and the payback period for Reonet on the revenue share split for the project.

ANNEXURE A: Baseline Calculations

Municipality Invoices for the Facility – Baseline Consumption based on January 2020 to December 2024

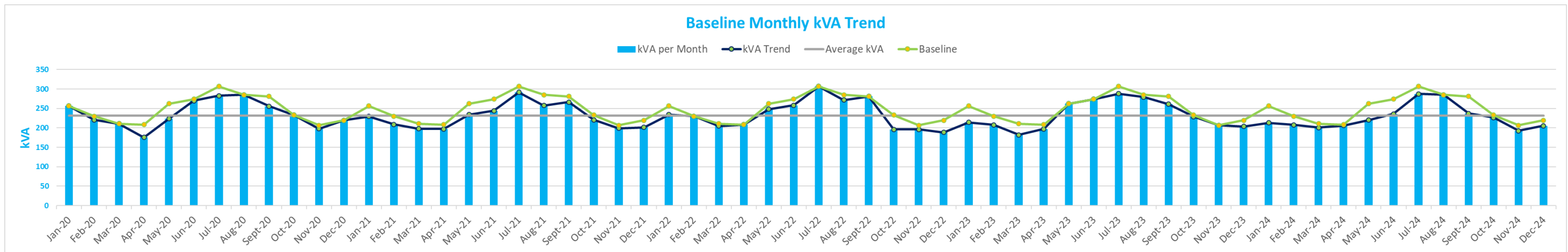
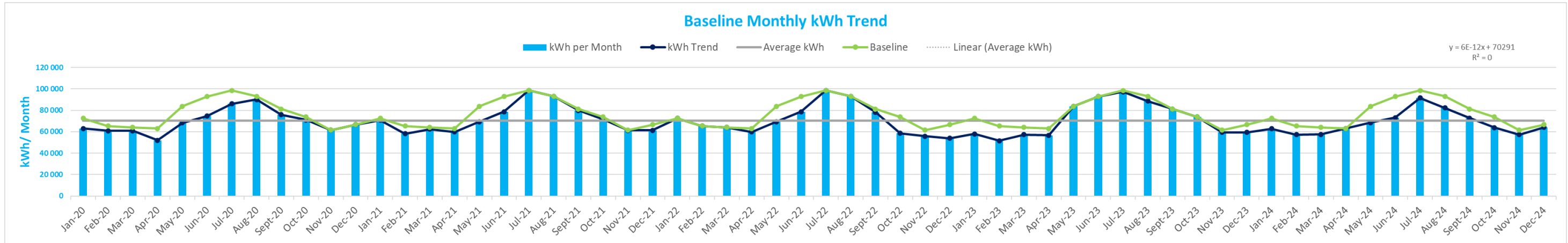
Council Accounts

Statement Date	Reading Date	No. of Days	Meter Reading	Factor	kWh Reading	Total kWh (Account)	Total kWh (Tariff Change)	Total kWh (Account)	KVA Meter Reading	KVA Meter Reading (Tariff Change)	kVA Demand	kWh per KVA	Load Factor	BASELINE Daily Energy Consumption [kWh/d]
Dec-19	2019/12/13		1 735	600	1 041 000									
1 Jan-20	2020/01/15	33	1 843	600	1 105 800	64 800		64 800	276		276	235	30%	1 964
2 Feb-20	2020/02/14	30	2 158	600	1 294 800	189 000		189 000	228		228	829	115%	6 300
3 Mar-20	2020/03/13	28	2 158	600	1 294 800				264		264		0%	
4 Apr-20	2020/04/15	33	2 158	600	1 294 800				216		216		0%	
5 May-20	2020/05/15	30	2 257	600	1 354 200	59 400		59 400	252		252	236	33%	1 980
6 Jun-20	2020/06/15	31	2 380	600	1 428 000	73 800		73 800	315		315	234	31%	2 381
7 Jul-20	2020/07/15	30	2 548	600	1 528 800	47 040	53 760	100 800	179	157	336	300	42%	3 360
8 Aug-20	2020/08/14	30	2 647	600	1 588 200	59 400		59 400	312		312	190	26%	1 980
9 Sept-20	2020/09/12	29												
10 Oct-20	2020/10/15	62	3 030	600	1 818 000	163 084	66 716	229 800	147		147	1 563	105%	3 706
11 Nov-20	2020/11/12	28							294		294		0%	
12 Dec-20	2020/12/15	33	3 120	600	1 872 000	54 000		54 000	252		252	214	27%	1 636
13 Jan-21	2021/01/15	31	3 251	600	1 950 600	78 600		78 600	264		264	298	40%	2 535
14 Feb-21	2021/02/11	27	3 341	600	2 004 600	54 000		54 000	225		225	240	37%	2 000
15 Mar-21	2021/03/15	32	3 436	600	2 061 600	57 000		57 000	245		245	233	30%	1 781
16 Apr-21	2021/04/15	31	3 522	600	2 113 200	51 600		51 600	246		246	210	28%	1 665
17 May-21	2021/05/14	29							24		24		0%	
18 Jun-21	2021/06/15	32	3 666	600	2 199 600	48 600	37 800	86 400	23		23	3 789	493%	2 700
19 Jul-21	2021/07/15	30	3 908	600	2 344 800	67 760	77 440	145 200	123	140	263	551	77%	4 840
20 Aug-21	2021/08/16	32	3 978	600	2 386 800	42 000		42 000	260		260	162	21%	1 313
21 Sept-21	2021/09/16	31	4 061	600	2 436 600	25 703	24 097	49 800	66		66	751	101%	1 606
22 Oct-21	2021/10/15	29	4 126	600	2 475 600	39 000		39 000	237		237	165	24%	1 345
23 Nov-21	2021/11/15	31	4 205	600	2 523 000	47 400		47 400	193		193	246	33%	1 529
24 Dec-21	2021/12/31	46	4 205	600	2 523 130	130		130	24		24	5	0%	3
25 Jan-22	2022/01/31	77	4 205	600	2 523 260	130		130						2
26 Feb-22	2022/01/31	31	4 349	600	2 609 559	34 848	51 710	86 559	424		424	204	27%	2 792
27 Mar-22	2022/03/15	33	4 477	600	2 686 200	65 400		65 400	219		219	299	38%	1 982
28 Apr-22	2022/04/14	30	4 664	600	2 798 400	112 200		112 200	224		224	500	69%	3 740
29 May-22	2022/05/31	47	4 664	600	2 798 530	130		130						3
30 Jun-22	2022/06/16	63	4 754	600	2 852 562	54 162		54 162	142		142	382	25%	860
31 Jul-22	2022/07/15	29	4 874	600	2 924 400	27 621	25 779	53 400	125		125	427	61%	1 841
32 Aug-22	2022/08/15	31	4 980	600	2 988 000	63 600		63 600	258		258	247	33%	2 052
33 Sept-22	2022/09/30	46	4 980	600	2 988 130	130		130						3
34 Oct-22	2022/10/14	60	5 158	600	3 094 800	106 800		106 800	490		490	218	15%	1 780
35 Nov-22	2022/11/17	34	5 241	600	3 144 600	49 800		49 800	243		243	205	25%	1 465
36 Dec-22	2022/12/31	44	5 241	600	3 144 730	130		130						3
37 Jan-23	2023/01/31	31	5 241	600	3 144 860	130		130						4
38 Feb-23	2023/02/15	90	5 698	600	3 418 800	274 200		274 200	274		274	1 000	46%	3 047
39 Mar-23	2023/03/01	14	6 729			1 031		1 031	402		402	3	1%	74
40 Apr-23	2023/03/31	30	6 080 050	600	6 080 050	299		299						10
41 May-23	2023/04/17	47	6 080 050		6 193 184	113 134		113 134	198		198	571	51%	2 407
42 Jun-23	2023/05/15	28	6 193 184		6 210 743	17 559		17 559	160		160	110	16%	627
43 Jul-23	2023/06/15	31	6 210 743		6 277 045	66 302		66 302	215		215	308	41%	2 139
44 Aug-23	2023/07/17	32	6 277 045		6 402 302	125 257		125 257	261		261	480	62%	3 914
45 Sept-23	2023/08/15	29	6 402 302		6 534 583	132 281		132 281	200		200	661	95%	4 561
46 Oct-23	2023/09/15	31	6 534 583		6 564 216	29 633		29 633	197		197	150	20%	956
47 Nov-23	2023/10/31	46	6 564 216		6 636 082	71 866		71 866						1 562
48 Dec-23	2023/11/13	13	6 679 013		6 679 013	114 797		114 797	230		230	499	45%	2 496
49 Jan-24	2024/01/17	97			6 711 456	32 443		32 443						2 496
50 Feb-24	2024/01/17	97			166 337	166 337		166 337	185		185	899	39%	1 715
51 Mar-24	2024/02/01	15	166 337		234 525	68 188		68 188	207		207	329	92%	4 546
52 Apr-24	2024/03/06	34	234 525		270 764	36 239		36 239	199		199	182	22%	1 066
53 May-24	2024/04/03	28	270 764		318 112	47 348		47 348	176		176	269	40%	1 691
54 Jun-24	2024/05/06	33	318 112		389 473	71 361		71 361	191		191	374	47%	2 162
55 Jul-24	2024/06/19	44	389 473		492 184	102 711		102 711	225		225	456	2%	2 334
56 Aug-24	2024/07/04	15	492 184		525 064	32 880		32 880	225		225	146	41%	2 192
57 Sept-24	2024/08/05	32	525 064		611 766	86 702		86 702	285		285	304	40%	2 709
58 Oct-24	2024/09/02	28	611 766		695 040	83 274		83 274	210		210	397	59%	2 974
59 Nov-24	2024/10/01	29	695 040		772 113	77 073		77 073	227		227	340	49%	2 658
60 Dec-24	2024/11/05	35	772 113		836 720	64 607		64 607	174		174	371	44%	1 846
	2024/12/03	28	836 720		890 308	53 588		53 588	174		174	308	46%	1 914
Average		36						65 730			198	406	38%	1 856
Total		2 189						3 943 811			8 336	21 092		113 246

Tariff From	Aug-19	Aug-20	Aug-21	Aug-22	Aug-23	Aug-24
kWh	R 1.6350	R 1.5102	R 1.7305	R 1.8598	R 1.9999	R 2.1573
kVA	R 268.7550	R 248.2400	R 284.4600	R 1.1613	R 351.8700	R 396.6300
Service/day	R 1 212.3000	R 1 119.7400	R 1 283.1100	R 1 378.9600	R 1 587.2100	R 1 789.0700

Check Meter - Whole Month

Month	Date From	Date To	No. of Days	Energy Peak	Energy Standard	Energy Off-Peak	Total Energy	Energy Check	kW Demand	kVA	Power Factor	kWh/d	kWh/d Peak	kWh/d Standard	kWh/d Off-Peak
Jan-20	01-Jan-20	31-Jan-20	31	12 221	28 568	22 290	63 079	0.0	255	256	0.9962	2 034.8	394.2	921.5	719.0
Feb-20	01-Feb-20	29-Feb-20	29	11 399	27 793	21 702	60 894	0.0	217	221	0.9808	2 099.8	393.1	958.4	748.3
Mar-20	01-Mar-20	31-Mar-20	31	11 886	26 633	22 361	60 880	0.0	206	211	0.9794	1 963.9	383.4	859.1	721.3
Apr-20	01-Apr-20	30-Apr-20	30	11 017	21 873	19 035	51 924	-1.0	174	175	0.9938	1 730.8	367.2	729.1	634.5
May-20	01-May-20	31-May-20	31	13 418	27 947	26 830	68 195	0.0	221	224	0.9897	2 199.8	432.8	901.5	865.5
Jun-20	01-Jun-20	30-Jun-20	30	13 362	32 914	28 278	74 554	0.0	266	270	0.9865	2 485.1	445.4	1 097.1	942.6
Jul-20	01-Jul-20	31-Jul-20	31	16 278	38 778	31 039	86 095	0.0	280	283	0.9880	2 777.3	525.1	1 250.9	1 001.3
Aug-20	01-Aug-20	31-Aug-20	31	17 097	37 749	35 326	90 172	0.0	281	285	0.9865	2 908.8	551.5	1 217.7	1 139.5
Sept-20	01-Sept-20	30-Sept-20	30	15 551	32 426	27 838	75 814	0.0	254	256	0.9907	2 527.1	518.4	1 080.9	927.9
Oct-20	01-Oct-20	31-Oct-20	31	13 672	30 955	26 515	71 141	0.0	230	233	0.9872	2 294.9	441.0	998.5	855.3
Nov-20	01-Nov-20	30-Nov-20	30	12 073	27 477	22 016	61 566	0.0	193	198	0.9739	2 052.2	402.4	915.9	733.9
Dec-20	01-Dec-20	31-Dec-20	31	13 274	30 094	23 217	66 584	0.0	215	220	0.9783	2 147.9	428.2	970.8	748.9
Jan-21	01-Jan-21	31-Jan-21	31	12 886	31 294	26 565	70 745	0.0	220	230	0.9570	2 282.1	415.7	1 009.5	856.9
Feb-21	01-Feb-21	28-Feb-21	28	11 809	26 266	20 022	58 097	0.0	203	209	0.9724	2 074.9	421.8	938.1	715.1
Mar-21	01-Mar-21	31-Mar-21	31	12 983	28 304	21 170	62 457	0.0	195	198	0.9869	2 014.7	418.8	913.0	682.9
Apr-21	01-Apr-21	30-Apr-21	30	12 278	25 966	21 507	59 751	0.0	195	197	0.9878	1 991.7	409.3	865.5	716.9
May-21	01-May-21	31-May-21	31	13 629	28 189	27 545	69 363	0.0	215	234	0.				



Energy Consumption Baseline - kWh/ day

Month	2020	2021	2022	2023	2024	Baseline kWh per Day
JAN (2020, 2021, 2022, 2023, 2024)	2 035	2 282	2 338	1 867	2 028	2 338
FEB (2020, 2021, 2022, 2023, 2024)	2 100	2 075	2 334	1 841	1 978	2 334
MAR (2020, 2021, 2022, 2023, 2024)	1 964	2 015	2 067	1 847	1 855	2 067
APR (2020, 2021, 2022, 2023, 2024)	1 731	1 992	1 992	1 890	2 102	2 102
MAY (2020, 2021, 2022, 2023, 2024)	2 200	2 238	2 237	2 698	2 210	2 698
JUN (2020, 2021, 2022, 2023, 2024)	2 485	2 622	2 622	3 092	2 441	3 092
JUL (2020, 2021, 2022, 2023, 2024)	2 777	3 178	3 178	3 135	2 951	3 178
AUG (2020, 2021, 2022, 2023, 2024)	2 909	3 000	3 000	2 855	2 656	3 000
SEP (2020, 2021, 2022, 2023, 2024)	2 527	2 668	2 609	2 707	2 426	2 707
OCT (2020, 2021, 2022, 2023, 2024)	2 295	2 313	1 888	2 380	2 062	2 380
NOV (2020, 2021, 2022, 2023, 2024)	2 052	2 043	1 861	1 982	1 911	2 052
DEC (2020, 2021, 2022, 2023, 2024)	2 148	1 979	1 737	1 917	2 070	2 148

Energy Consumption Baseline - kWh/ month

Month	2020	2021	2022	2023	2024	Baseline kWh per Month
JAN (2020, 2021, 2022, 2023, 2024)	26 565	70 745	72 485	57 892	62 871	72 485
FEB (2020, 2021, 2022, 2023, 2024)	20 022	58 097	65 354	51 537	57 358	65 354
MAR (2020, 2021, 2022, 2023, 2024)	21 170	62 457	64 082	57 253	57 509	64 082
APR (2020, 2021, 2022, 2023, 2024)	21 507	59 751	59 751	56 703	63 067	63 067
MAY (2020, 2021, 2022, 2023, 2024)	27 545	69 363	69 353	83 634	68 513	83 634
JUN (2020, 2021, 2022, 2023, 2024)	29 711	78 650	78 650	92 767	73 238	92 767
JUL (2020, 2021, 2022, 2023, 2024)	36 630	98 514	98 513	97 180	91 466	98 513
AUG (2020, 2021, 2022, 2023, 2024)	37 769	93 009	93 009	88 506	82 342	93 009
SEP (2020, 2021, 2022, 2023, 2024)	29 928	80 030	78 260	81 213	72 786	81 213
OCT (2020, 2021, 2022, 2023, 2024)	29 295	71 710	58 540	73 779	63 917	73 779
NOV (2020, 2021, 2022, 2023, 2024)	61 566	61 290	55 845	59 466	57 325	61 566
DEC (2020, 2021, 2022, 2023, 2024)	66 584	61 336	53 853	59 437	64 162	66 584

Energy Demand Baseline - kVA/ month

Month	2020	2021	2022	2023	2024	Baseline kVA per Month
JAN (2020, 2021, 2022, 2023, 2024)	256	230	234	214	213	256
FEB (2020, 2021, 2022, 2023, 2024)	221	209	230	208	208	230
MAR (2020, 2021, 2022, 2023, 2024)	211	198	205	182	201	211
APR (2020, 2021, 2022, 2023, 2024)	175	197	208	197	206	208
MAY (2020, 2021, 2022, 2023, 2024)	224	234	248	262	220	262
JUN (2020, 2021, 2022, 2023, 2024)	270	244	258	274	236	274
JUL (2020, 2021, 2022, 2023, 2024)	283	291	307	288	288	307
AUG (2020, 2021, 2022, 2023, 2024)	285	258	271	279	285	285
SEP (2020, 2021, 2022, 2023, 2024)	256	266	281	261	237	281
OCT (2020, 2021, 2022, 2023, 2024)	233	221	196	229	227	233
NOV (2020, 2021, 2022, 2023, 2024)	198	199	196	206	193	206
DEC (2020, 2021, 2022, 2023, 2024)	220	201	188	203	206	220

Energy Consumption Baseline - Peak kWh/ day

Month	2020	2021	2022	2023	2024	Baseline kWh per Day
JAN (2020, 2021, 2022, 2023, 2024)	394	416	439	386	423	439
FEB (2020, 2021, 2022, 2023, 2024)	393	422	458	366	401	458
MAR (2020, 2021, 2022, 2023, 2024)	383	419	402	373	364	402
APR (2020, 2021, 2022, 2023, 2024)	367	409	364	340	428	428
MAY (2020, 2021, 2022, 2023, 2024)	433	440	416	536	451	536
JUN (2020, 2021, 2022, 2023, 2024)	445	476	453	567	419	567
JUL (2020, 2021, 2022, 2023, 2024)	525	581	516	538	563	516
AUG (2020, 2021, 2022, 2023, 2024)	552	522	512	554	490	512
SEP (2020, 2021, 2022, 2023, 2024)	518	548	507	516	474	516
OCT (2020, 2021, 2022, 2023, 2024)	441	419	357	454	435	454
NOV (2020, 2021, 2022, 2023, 2024)	402	408	389	397	372	402
DEC (2020, 2021, 2022, 2023, 2024)	428	404	340	343	390	428

Energy Consumption Baseline - Standard kWh/ day

Month	2020	2021	2022	2023	2024	Baseline kWh per Day
JAN (2020, 2021, 2022, 2023, 2024)	922	1 009	1 057	830	929	1 057
FEB (2020, 2021, 2022, 2023, 2024)	958	938	1 073	848	927	1 073
MAR (2020, 2021, 2022, 2023, 2024)	859	913	937	839	795	937
APR (2020, 2021, 2022, 2023, 2024)	729	866	867	767	916	916
MAY (2020, 2021, 2022, 2023, 2024)	902	909	927	1 129	941	1 129
JUN (2020, 2021, 2022, 2023, 2024)	1 097	1 155	1 138	1 401	1 031	1 401
JUL (2020, 2021, 2022, 2023, 2024)	1 251	1 415	1 372	1 361	1 338	1 372
AUG (2020, 2021, 2022, 2023, 2024)	1 218	1 260	1 270	1 257	1 168	1 270
SEP (2020, 2021, 2022, 2023, 2024)	1 081	1 122	1 086	1 107	994	1 107
OCT (2020, 2021, 2022, 2023, 2024)	999	950	789	969	890	969
NOV (2020, 2021, 2022, 2023, 2024)	916	912	821	896	825	916
DEC (2020, 2021, 2022, 2023, 2024)	971	903	751	797	896	971

Energy Consumption Baseline - Off-Peak kWh/ day

Month	2020	2021	2022	2023	2024	Baseline kWh per Day
JAN (2020, 2021, 2022, 2023, 2024)	719	857	842	651	675	842
FEB (2020, 2021, 2022, 2023, 2024)	748	715	804	627	649	804
MAR (2020, 2021, 2022, 2023, 2024)	721	683	728	635	696	728
APR (2020, 2021, 2022, 2023, 2024)	635	717	761	783	758	758
MAY (2020, 2021, 2022, 2023, 2024)	865	889	894	1 033	818	1 033
JUN (2020, 2021, 2022, 2023, 2024)	943	990	1 030	1 125	991	1 125
JUL (2020, 2021, 2022, 2023, 2024)	1 001	1 182	1 290	1 236	1 050	1 290
AUG (2020, 2021, 2022, 2023, 2024)	1 140	1 218	1 218	1 044	998	1 218
SEP (2020, 2021, 2022, 2023, 2024)	928	998	1 015	1 084	958	1 084
OCT (2020, 2021, 2022, 2023, 2024)	855	945	743	957	737	957
NOV (2020, 2021, 2022, 2023, 2024)	734	723	652	689	714	734
DEC (2020, 2021, 2022, 2023, 2024)	749	672	647	778	784	749

ANNEXURE B: Technical Intervention Calculations

1. HVAC

Item	Qty	Baseline						New Tech						Savings					
		Unit kW	Total kW	PF	kVA	Annual Hours of Operation	kWhrs per Annum	Unit kW	Total kW	PF	kVA	Annual Hours of Operation	kWhrs per Annum	kW Savings	kW Savings %	kVA Savings	kVA Savings %	kWhr Savings	kWhrs Savings %
1	1	2.5	2.5	0.9	2.8	909	2 273	1.9	1.9	0.9	2.1	909	1 705	0.6	25%	0.7	25%	568	25%
2	6	1.8	10.8	0.9	12.0	909	9 820	1.4	8.1	0.9	9.0	909	7 365	2.7	25%	3.0	25%	2 455	25%
3	17	1.9	32.3	0.9	35.9	909	29 370	1.4	24.2	0.9	26.9	909	22 028	8.1	25%	9.0	25%	7 343	25%
4	6	1.0	6.0	0.9	6.7	909	5 456	0.8	4.5	0.9	5.0	909	4 092	1.5	25%	1.7	25%	1 364	25%
5	11	3.5	38.5	0.9	42.8	909	35 008	2.6	28.9	0.9	32.1	909	26 256	9.6	25%	10.7	25%	8 752	25%
6	54	3.5	189.0	0.9	210.0	909	171 858	2.6	141.8	0.9	157.5	909	128 893	47.3	25%	52.5	25%	42 964	25%
7	42	5.0	210.0	0.9	233.3	909	190 953	3.8	157.5	0.9	175.0	909	143 215	52.5	25%	58.3	25%	47 738	25%
8	20	7.0	140.0	0.9	155.6	909	127 302	5.3	105.0	0.9	116.7	909	95 477	35.0	25%	38.9	25%	31 826	25%
9	1	3.5	3.5	0.9	3.9	909	3 183	2.6	2.6	0.9	2.9	909	2 387	0.9	25%	1.0	25%	796	25%
10	4	3.5	14.0	0.9	15.6	909	12 730	2.6	10.5	0.9	11.7	909	9 548	3.5	25%	3.9	25%	3 183	25%
11	3	13.7	41.1	0.9	45.7	909	37 372	10.3	30.8	0.9	34.3	909	28 029	10.3	25%	11.4	25%	9 343	25%
12	6	13.7	82.2	0.9	91.3	909	74 744	10.3	61.7	0.9	68.5	909	56 058	20.6	25%	22.8	25%	18 686	25%
13	10	8.0	80.0	0.9	88.9	909	72 744	6.0	60.0	0.9	66.7	909	54 558	20.0	25%	22.2	25%	18 186	25%
14	7	3.5	24.5	0.9	27.2	909	22 278	2.6	18.4	0.9	20.4	909	16 708	6.1	25%	6.8	25%	5 569	25%
15	2	5.0	10.0	0.9	11.1	909	9 093	3.8	7.5	1.9	3.9	909	6 820	2.5	25%	7.2	64%	2 273	25%
16	1	4.0	4.0	0.9	4.4	909	3 637	3.0	3.0	2.9	1.0	909	2 728	1.0	25%	3.4	77%	909	25%
17	3	6.0	18.0	0.9	20.0	909	16 367	4.5	13.5	3.9	3.5	909	12 276	4.5	25%	16.5	83%	4 092	25%
18	1	1.0	1.0	0.9	1.1	909	909	0.8	0.8	4.9	0.2	909	682	0.3	25%	1.0	86%	227	25%
19	10	5.0	50.0	0.9	55.6	909	45 465	3.8	37.5	5.9	6.4	909	34 099	12.5	25%	49.2	89%	11 366	25%
			957.4		1 063.8		870 564		718.1		743.6		652 923	239.4	25%	320.2	30%	217 641	25%

2. Lighting

Lighting calculations are calculated as per the below table. Ballast type on site has been determined by using a discriminator. Based on previous experience, we find a 15% loss on magnetic ballasts to be conservative.

The below is examples of how calculations are derived. For actual calculated saving, please refer to the excel document saved on OneDrive.

No.	Old Technology	Existing Qty	New Technology	New Qty	Material Price	Labour Price	Unit Price	Total Price	BALLAST	BALLAST	BURNING HOURS	BURNING HOURS	BURNING HOURS	MOTION	MOTION	MOTION	OLD FITTING	OLD FITTING	OLD FITTING	OLD FITTING	OLD FITTING	OLD FITTING	OLD FITTING	OLD FITTING	OLD FITTING
									TYPE	LOSS	HOURS PER DAY	DAYS PER WEEK	WEEK PER ANNUM	NEW HOURS PER DAY	DAYS PER WEEK	WEEKS PER ANNUM	EXISTING FITTING WATTAGE	EXISTING FITTING WATTAGE INCLUDING BALLAST LOSS PER HOUR	TOTAL WATTAGE (ALL FITTINGS)	EXISTING FITTING KW	VA LOSS	MAX KVA POTENTIAL	EXISTING FITTING KVA	KWHRS PER DAY	KWHRS PER WEEK
1	16W 2D SERIES	1	9W LED 2D MAGNETIC MODULE 5700K	1	R 93.00	R 30.00	R 123.00	R 123.00	MAGNETIC 15%	1.15	12	7	52	12	7	52	16	18.40	18.40	0.02	0.85	0.02	0.02	0.22	1.55
2	2X9W PL DOWNLIGHTER	20	15W IP65 ROUND LED BULKHEAD WHITE A	20	R 203.90	R 45.00	R 248.90	R 4 978.00	MAGNETIC 15%	1.15	11	7	52	11	7	52	18	20.70	414.00	0.41	0.85	0.49	0.49	4.55	31.88
3	400W HIGH BAY	10	50W CORN LIGHT	4	R 840.00	R 165.00	R 1 005.00	R 4 020.00	MAGNETIC 15%	1.15	4	4	52	4	4	52	400	460.00	4 600.00	4.60	0.85	5.41	5.41	18.40	73.60
4	2X58W TB SFT OPEN CHANNEL S	6	2X24W TB SFT LED OPEN CHANNEL	3	R 643.74	R 60.00	R 703.74	R 2 111.22	MAGNETIC 15%	1.15	4	4	52	4	4	52	116	133.40	800.40	0.80	0.85	0.94	0.94	3.20	12.81
5	2X58W TB SFT OPEN CHANNEL S	3	2X24W TB SFT LED OPEN CHANNEL	3	R 643.74	R 60.00	R 703.74	R 2 111.22	MAGNETIC 15%	1.15	4	4	52	4	4	52	116	133.40	400.20	0.40	0.85	0.47	0.47	1.60	6.40
6	2X9W PL DOWNLIGHTER	4	15W IP65 ROUND LED BULKHEAD WHITE A	3	R 203.90	R 45.00	R 248.90	R 746.70	MAGNETIC 15%	1.15	4	4	0	4	4	0	18	20.70	82.80	0.08	0.85	0.10	0.10	0.33	1.32
7	2X9W PL DOWNLIGHTER	3	15W IP65 ROUND LED BULKHEAD WHITE A	2	R 203.90	R 45.00	R 248.90	R 497.80	MAGNETIC 15%	1.15	4	4	52	4	4	52	18	20.70	62.10	0.06	0.85	0.07	0.07	0.25	0.99
8	2X9W PL DOWNLIGHTER	3	15W IP65 ROUND LED BULKHEAD WHITE A	2	R 203.90	R 45.00	R 248.90	R 497.80	MAGNETIC 15%	1.15	4	4	52	4	4	52	18	20.70	62.10	0.06	0.85	0.07	0.07	0.25	0.99
9	2X9W PL DOWNLIGHTER	3	15W IP65 ROUND LED BULKHEAD WHITE A	2	R 203.90	R 45.00	R 248.90	R 497.80	MAGNETIC 15%	1.15	4	4	52	4	4	52	18	20.70	62.10	0.06	0.85	0.07	0.07	0.25	0.99
10	2X58W TB SFT OPEN CHANNEL S	4	2X24W TB SFT LED OPEN CHANNEL	2	R 643.74	R 60.00	R 703.74	R 1 407.48	MAGNETIC 15%	1.15	4	4	52	4	4	52	116	133.40	533.60	0.53	0.85	0.63	0.63	2.13	8.54
11	2X9W PL DOWNLIGHTER	2	15W IP65 ROUND LED BULKHEAD WHITE A	22	R 203.90	R 45.00	R 248.90	R 5 475.80	MAGNETIC 15%	1.15	4	4	52	4	4	52	18	20.70	41.40	0.04	0.85	0.05	0.05	0.17	0.66
12	2X9W PL DOWNLIGHTER	2	15W IP65 ROUND LED BULKHEAD WHITE A	18	R 203.90	R 45.00	R 248.90	R 4 480.20	MAGNETIC 15%	1.15	4	4	52	4	4	52	18	20.70	41.40	0.04	0.85	0.05	0.05	0.17	0.66
13	2X58W TB SFT OPEN CHANNEL S	9	2X24W TB SFT LED OPEN CHANNEL	1	R 643.74	R 60.00	R 703.74	R 703.74	MAGNETIC 15%	1.15	4	4	52	4	4	52	116	133.40	1 200.60	1.20	0.85	1.41	1.41	4.80	19.21
14	2X58W TB SFT OPEN CHANNEL S	2	2X24W TB SFT LED OPEN CHANNEL	1	R 643.74	R 60.00	R 703.74	R 703.74	MAGNETIC 15%	1.15	4	4	52	4	4	52	116	133.40	266.80	0.27	0.85	0.31	0.31	1.07	4.27
15	2X9W PL DOWNLIGHTER	2	15W IP65 ROUND LED BULKHEAD WHITE A	1	R 203.90	R 45.00	R 248.90	R 248.90	MAGNETIC 15%	1.15	4	4	52	4	4	52	18	20.70	41.40	0.04	0.85	0.05	0.05	0.17	0.66
16	2X9W PL DOWNLIGHTER	2	15W IP65 ROUND LED BULKHEAD WHITE A	3	R 203.90	R 45.00	R 248.90	R 746.70	MAGNETIC 15%	1.15	4	4	52	4	4	52	18	20.70	41.40	0.04	0.85	0.05	0.05	0.17	0.66
17	2X9W PL DOWNLIGHTER	22	15W IP65 ROUND LED BULKHEAD WHITE A	4	R 203.90	R 45.00	R 248.90	R 995.60	MAGNETIC 15%	1.15	11	7	52	11	7	52	18	20.70	455.40	0.46	0.85	0.54	0.54	5.01	35.07
18	2X9W PL DOWNLIGHTER	18	15W IP65 ROUND LED BULKHEAD WHITE A	4	R 203.90	R 45.00	R 248.90	R 995.60	MAGNETIC 15%	1.15	11	7	52	11	7	52	18	20.70	372.60	0.37	0.85	0.44	0.44	4.10	28.69
19	2X58W TB SFT OPEN CHANNEL S	1	2X24W TB SFT LED OPEN CHANNEL	3	R 643.74	R 60.00	R 703.74	R 2 111.22	MAGNETIC 15%	1.15	11	7	52	11	7	52	116	133.40	133.40	0.13	0.85	0.16	0.16	1.47	10.27
20	2X58W TB SFT OPEN CHANNEL S	5	2X24W TB SFT LED OPEN CHANNEL	1	R 643.74	R 60.00	R 703.74	R 703.74	MAGNETIC 15%	1.15	5	5	52	5	5	52	116	133.40	667.00	0.67	0.85	0.78	0.78	3.34	16.68
21	2X58W TB SFT OPEN CHANNEL S	8	2X24W TB SFT LED OPEN CHANNEL	2	R 643.74	R 60.00	R 703.74	R 1 407.48	MAGNETIC 15%	1.15	11	5	52	11	5	52	116	133.40	1 067.20	1.07	0.85	1.26	1.26	11.74	58.70
22	2X9W PL DOWNLIGHTER	1	15W IP65 ROUND LED BULKHEAD WHITE A	11	R 203.90	R 45.00	R 248.90	R 2 737.90	MAGNETIC 15%	1.15	11	7	52	11	7	52	18	20.70	20.70	0.02	0.85	0.02	0.02	0.23	1.59
23	2X58W TB SFT OPEN CHANNEL VAPOUR S	5	2X23W TB SFT OPEN CHANNEL VAPOUR	4	R 1 067.52	R 60.00	R 1 127.52	R 4 510.08	MAGNETIC 15%	1.15	11	7	52	11	7	52	116	133.40	667.00	0.67	0.85	0.78	0.78	7.34	51.36
24	2X9W PL DOWNLIGHTER	1	15W IP65 ROUND LED BULKHEAD WHITE A	1	R 203.90	R 45.00	R 248.90	R 248.90	MAGNETIC 15%	1.15	11	7	52	11	7	52	18	20.70	20.70	0.02	0.85	0.02	0.02	0.23	1.59
25	2X9W PL DOWNLIGHTER	1	15W IP65 ROUND LED BULKHEAD WHITE A	1	R 203.90	R 45.00	R 248.90	R 248.90	MAGNETIC 15%	1.15	11	5	52	11	5	52	18	20.70	20.70	0.02	0.85	0.02	0.02	0.23	1.14
26	2X9W PL DOWNLIGHTER	3	15W IP65 ROUND LED BULKHEAD WHITE A	6	R 203.90	R 45.00	R 248.90	R 1 493.40	MAGNETIC 15%	1.15	2	2	52	2	2	52	18	20.70	62.10	0.06	0.85	0.07	0.07	0.12	0.25
27	2X9W PL DOWNLIGHTER	4	15W IP65 ROUND LED BULKHEAD WHITE A	8	R 203.90	R 45.00	R 248.90	R 1 991.20	MAGNETIC 15%	1.15	0	7	52	0	7	52	18	20.70	82.80	0.08	0.85	0.10	0.00	0.00	0.00
28	2X9W PL DOWNLIGHTER	4	15W IP65 ROUND LED BULKHEAD WHITE A	8	R 203.90	R 45.00	R 248.90	R 1 991.20	MAGNETIC 15%	1.15	0	7	52	0	7	52	18	20.70	82.80	0.08	0.85	0.10	0.00	0.00	0.00
29	2X9W PL DOWNLIGHTER	3	15W IP65 ROUND LED BULKHEAD WHITE A	6	R 203.90	R 45.00	R 248.90	R 1 493.40	MAGNETIC 15%	1.15	0	7	52	0	7	52	18	20.70	62.10	0.06	0.85	0.07	0.00	0.00	0.00
30	2X9W PL DOWNLIGHTER	1	15W IP65 ROUND LED BULKHEAD WHITE A	2	R 203.90	R 45.00	R 248.90	R 497.80	MAGNETIC 15%	1.15	0	7	52	0	7	52	18	20.70	20.70	0.02	0.85	0.02	0.00	0.00	0.00
31	2X9W PL DOWNLIGHTER	2	15W IP65 ROUND LED BULKHEAD WHITE A	4	R 203.90	R 45.00	R 248.90	R 995.60	MAGNETIC 15%	1.15	0	7	52	0	7	52	18	20.70	41.40	0.04	0.85	0.05	0.00	0.00	0.00
32	2X58W TB SFT OPEN CHANNEL S	11	2X24W TB SFT LED OPEN CHANNEL	11	R 643.74	R 60.00	R 703.74	R 7 741.14	MAGNETIC 15%	1.15	4	7	52	4	7	52	116	133.40	1 467.40	1.47	0.85	1.73	1.73	5.87	41.09
33	2X9W PL DOWNLIGHTER	11	15W IP65 ROUND LED BULKHEAD WHITE A	22	R 203.90	R 45.00	R 248.90	R 5 475.80	MAGNETIC 15%	1.15	4	7	52	4	7	52	18	20.70	227.70	0.23	0.85	0.27	0.27	0.91	6.38
34	2X9W PL DOWNLIGHTER	4	15W IP65 ROUND LED BULKHEAD WHITE A	8	R 203.90	R 45.00	R 248.90	R 1 991.20	MAGNETIC 15%	1.15	4	7	52	4	7	52	18	20.70	82.80	0.08	0.85	0.10	0.10	0.33	2.32
35	2X9W PL DOWNLIGHTER	1	15W IP65 ROUND LED BULKHEAD WHITE A	2	R 203.90	R 45.00	R 248.90	R 497.80	MAGNETIC 15%	1.15	4	7	52	4	7	52	18	20.70	20.70	0.02	0.85	0.02	0.02	0.08	0.58
36	2X58W TB SFT OPEN CHANNEL S	1	2X24W TB SFT LED OPEN CHANNEL	1	R 643.74	R 60.00	R 703.74	R 703.74	MAGNETIC 15%	1.15	5	7	52	5	7	52	116	133.40	133.40	0.13	0.85	0.16	0.16	0.67	4.67
37	2X9W PL DOWNLIGHTER	1	15W IP65 ROUND LED BULKHEAD WHITE A	1	R 203.90	R 45.00	R 248.90	R 248.90	MAGNETIC 15%	1.15	4	5	52	4	5	52	18	20.70	20.70	0.02	0.85	0.02	0.02	0.08	0.41
38	100W INCANDESCENT	1	15W IP65 ROUND LED BULKHEAD WHITE A	1	R 203.90	R 45.00	R 248.90	R 248.90	MAGNETIC 15%	1.15	4	5	52	4	5	52	100	115.00	115.00	0.12	0.85	0.14	0.14	0.46	2.30
39	2X58W TB SFT OPEN CHANNEL S	1	2X24W TB SFT LED OPEN CHANNEL	1	R 643.74	R 60.00	R 703.74	R 703.74	MAGNETIC 15%	1.15	4	5	52	4	5	52	116	133.40	133.40	0.13	0.85	0.16	0.16	0.53	2.67
40	400W FLOOD	2	100W LED FLOOD A	2	R 2 197.23	R 150.00	R 2 347.23	R 4 694.46	MAGNETIC 15%	1.15	1	5	52	1	5	52	400	460.00	920.00	0.92	0.85	1.08	1.08	0.92	4.60
41	2X9W PL DOWNLIGHTER	29	15W IP65 ROUND LED BULKHEAD WHITE A	29	R 203.90	R 45.00	R 248.90	R 7 218.10	MAGNETIC 15%	1.15	12	7	52	12	7	52	18	20.70	600.30	0.60	0.85	0.71	0.71	7.20	50.43
42	400W FLOOD	1	100W LED FLOOD A	1	R 2 197.23	R 150.00	R 2 347.23	R 2 347.23	MAGNETIC 15%	1.15	12	7	52	12	7	52	400	460.00	460.00	0.46	0.85	0.54	0.54	5.52	38.64
43	2X58W TB SFT OPEN CHANNEL S	10	2X24W TB SFT LED OPEN CHANNEL	10	R 643.74	R 60.00	R 703.74	R 7 037.40	MAGNETIC 15%	1.15	12	7	52	12	7	52	116	133.							

OLD FITTING	OLD FITTING	NEW FITTING	NEW FITTING	NEW FITTING	NEW FITTING	NEW FITTING	NEW FITTING	NEW FITTING	NEW FITTING	NEW FITTING	NEW FITTING	RANDS	RANDS	RANDS	RANDS	RANDS	RANDS	RANDS	SAVINGS	SAVINGS	SAVINGS	LOAD	LOAD	LOAD
KWHRS PER ANNUM	KWHRS PER MONTH	NEW FITTING WATTAGE INCLUDING BALLAST LOSS PER HOUR	NEW TOTAL WATTAGE (ALL FITTINGS)	NEW FITTING KW	POWER FACTOR	NEW FITTING KVA	NEW KWHRS PER DAY	NEW KWHRS PER WEEK	NEW KWHRS PER ANNUM	NEW KWHRS PER MONTH	KWHR SAVINGS PER MONTH	KVA SAVINGS PER MONTH	EXISTING RANDS KWHR PER MONTH	EXISTING RANDS KVA PER MONTH	EXISTING TOTAL RANDS PER MONTH	NEW RANDS KWHR PER MONTH	NEW RANDS KVA PER MONTH	NEW TOTAL RANDS PER MONTH	KWHR SAVINGS PER MONTH	KVA SAVINGS PER MONTH	TOTAL SAVINGS PER MONTH	MOTION EXISTING LOAD FACTOR	NEW LOAD WITH MOTION	NEW KWHR LOAD AFTER MOTION
80.37	6.70	9.00	9.00	0.01	0.95	0.01	0.11	0.76	39.31	3.28	3.42	0.01 R	4.85 R	4.43 R	9.28 R	2.37 R	1.89 R	4.26 R	2.48 R	2.54 R	5.02 R	50%	50%	3
1 657.66	138.14	15.00	300.00	0.30	0.90	0.31	3.30	23.10	1 201.20	100.10	38.04	0.18 R	100.01 R	99.70 R	199.71 R	72.47 R	62.98 R	135.46 R	27.54 R	36.72 R	64.26 R	46%	46%	100
3 827.20	318.93	200.00	800.00	0.80	0.98	0.82	3.20	12.80	665.60	55.47	263.47	4.59 R	230.91 R	1 107.79 R	1 338.70 R	40.16 R	167.96 R	208.12 R	190.75 R	939.83 R	1 130.58 R	10%	10%	55
665.93	55.49	48.00	144.00	0.14	0.90	0.15	0.58	2.30	119.81	9.98	45.51	0.79 R	40.18 R	192.76 R	232.93 R	7.23 R	30.23 R	37.46 R	32.95 R	162.52 R	195.47 R	10%	10%	10
332.97	27.75	48.00	144.00	0.14	0.90	0.15	0.58	2.30	119.81	9.98	17.76	0.32 R	20.09 R	96.38 R	116.47 R	7.23 R	30.23 R	37.46 R	12.86 R	66.14 R	79.01 R	10%	10%	10
0.00	0.00	15.00	45.00	0.05	0.90	0.05	0.18	0.72	0.00	0.00	0.00	0.05 R	- R	19.94 R	19.94 R	- R	9.45 R	9.45 R	- R	10.49 R	10.49 R	0%	0%	0
51.67	4.31	15.00	30.00	0.03	0.90	0.03	0.12	0.48	24.96	2.08	2.23	0.04 R	3.12 R	14.96 R	18.07 R	1.51 R	6.30 R	7.80 R	1.61 R	8.66 R	10.27 R	10%	10%	2
51.67	4.31	15.00	30.00	0.03	0.90	0.03	0.12	0.48	24.96	2.08	2.23	0.04 R	3.12 R	14.96 R	18.07 R	1.51 R	6.30 R	7.80 R	1.61 R	8.66 R	10.27 R	10%	10%	2
51.67	4.31	15.00	30.00	0.03	0.90	0.03	0.12	0.48	24.96	2.08	2.23	0.04 R	3.12 R	14.96 R	18.07 R	1.51 R	6.30 R	7.80 R	1.61 R	8.66 R	10.27 R	10%	10%	2
443.96	37.00	48.00	96.00	0.10	0.90	0.10	0.38	1.54	79.87	6.66	30.34	0.53 R	26.79 R	128.50 R	155.29 R	4.82 R	20.16 R	24.97 R	21.97 R	108.35 R	130.31 R	10%	10%	7
34.44	2.87	15.00	330.00	0.33	0.90	0.34	1.32	5.28	274.56	22.88	-20.01	-0.29 R	2.08 R	9.97 R	12.05 R	16.57 R	69.28 R	85.85 R	-14.49 R	-59.31 R	-73.80 R	10%	10%	23
34.44	2.87	15.00	270.00	0.27	0.90	0.28	1.08	4.32	224.64	18.72	-15.85	-0.23 R	2.08 R	9.97 R	12.05 R	13.55 R	56.69 R	70.24 R	-11.48 R	-46.72 R	-58.19 R	10%	10%	19
998.90	83.24	48.00	48.00	0.05	0.90	0.05	0.19	0.77	39.94	3.33	79.91	1.36 R	60.27 R	289.13 R	349.40 R	2.41 R	10.08 R	12.49 R	57.86 R	279.06 R	336.91 R	10%	10%	3
221.98	18.50	48.00	48.00	0.05	0.90	0.05	0.19	0.77	39.94	3.33	15.17	0.26 R	13.39 R	64.25 R	77.64 R	2.41 R	10.08 R	12.49 R	10.98 R	54.17 R	65.16 R	10%	10%	3
34.44	2.87	15.00	15.00	0.02	0.90	0.02	0.06	0.24	12.48	1.04	1.83	0.03 R	2.08 R	9.97 R	12.05 R	0.75 R	3.15 R	3.90 R	1.33 R	6.82 R	8.15 R	10%	10%	1
34.44	2.87	15.00	45.00	0.05	0.90	0.05	0.18	0.72	37.44	3.12	-0.25	0.00 R	2.08 R	9.97 R	12.05 R	2.26 R	9.45 R	11.71 R	-0.18 R	0.52 R	0.34 R	10%	10%	3
1 823.42	151.95	15.00	60.00	0.06	0.90	0.06	0.66	4.62	240.24	20.02	131.93	0.47 R	110.01 R	109.67 R	219.68 R	14.49 R	12.60 R	27.09 R	95.52 R	97.07 R	192.59 R	46%	46%	20
1 491.89	124.32	15.00	60.00	0.06	0.90	0.06	0.66	4.62	240.24	20.02	104.30	0.38 R	90.01 R	89.73 R	179.74 R	14.49 R	12.60 R	27.09 R	75.52 R	77.13 R	152.65 R	46%	46%	20
534.13	44.51	48.00	144.00	0.14	0.90	0.15	1.58	11.09	576.58	48.05	-3.54	0.01 R	32.23 R	32.13 R	64.35 R	34.79 R	30.23 R	65.02 R	-2.56 R	1.89 R	-0.67 R	46%	46%	48
867.10	72.26	48.00	48.00	0.05	0.90	0.05	0.24	1.20	62.40	5.20	67.06	0.74 R	52.32 R	160.63 R	212.94 R	3.76 R	10.08 R	13.84 R	48.55 R	150.55 R	199.10 R	15%	15%	5
3 052.19	254.35	48.00	96.00	0.10	0.90	0.10	1.06	5.28	274.56	22.88	231.47	1.16 R	184.15 R	257.01 R	441.16 R	16.57 R	20.16 R	36.72 R	167.58 R	236.85 R	404.44 R	33%	33%	23
82.88	6.91	15.00	165.00	0.17	0.90	0.17	1.82	12.71	660.66	55.06	-48.15	-0.14 R	5.00 R	4.99 R	9.99 R	39.86 R	34.64 R	74.50 R	-34.86 R	-29.66 R	-64.52 R	46%	46%	55
2 670.67	222.56	48.00	184.00	0.18	0.98	0.19	2.02	14.17	736.74	61.39	161.16	0.60 R	161.13 R	160.63 R	321.76 R	44.45 R	38.63 R	83.08 R	116.68 R	122.00 R	238.68 R	46%	46%	61
82.88	6.91	15.00	15.00	0.02	0.90	0.02	0.17	1.16	60.06	5.01	1.90	0.01 R	5.00 R	4.99 R	9.99 R	3.62 R	3.15 R	6.77 R	1.38 R	1.84 R	3.21 R	46%	46%	5
59.20	4.93	15.00	15.00	0.02	0.90	0.02	0.17	0.83	42.90	3.58	1.36	0.01 R	3.57 R	4.99 R	8.56 R	2.59 R	3.15 R	5.74 R	0.98 R	1.84 R	2.82 R	33%	33%	4
12.92	1.08	15.00	90.00	0.09	0.90	0.09	0.18	0.36	18.72	1.56	-0.48	-0.02 R	0.78 R	14.96 R	15.73 R	1.13 R	18.90 R	20.02 R	-0.35 R	-3.94 R	-4.29 R	2%	2%	2
0.00	0.00	15.00	120.00	0.12	0.90	0.12	0.00	0.00	0.00	0.00	0.00	-0.12 R	- R	- R	- R	- R	25.19 R	25.19 R	- R	-25.19 R	-25.19 R	0%	0%	0
0.00	0.00	15.00	120.00	0.12	0.90	0.12	0.00	0.00	0.00	0.00	0.00	-0.12 R	- R	- R	- R	- R	25.19 R	25.19 R	- R	-25.19 R	-25.19 R	0%	0%	0
0.00	0.00	15.00	90.00	0.09	0.90	0.09	0.00	0.00	0.00	0.00	0.00	-0.09 R	- R	- R	- R	- R	18.90 R	18.90 R	- R	-18.90 R	-18.90 R	0%	0%	0
0.00	0.00	15.00	30.00	0.03	0.90	0.03	0.00	0.00	0.00	0.00	0.00	-0.03 R	- R	- R	- R	- R	6.30 R	6.30 R	- R	-6.30 R	-6.30 R	0%	0%	0
0.00	0.00	15.00	60.00	0.06	0.90	0.06	0.00	0.00	0.00	0.00	0.00	-0.06 R	- R	- R	- R	- R	12.60 R	12.60 R	- R	-12.60 R	-12.60 R	0%	0%	0
2 136.53	178.04	48.00	528.00	0.53	0.90	0.54	2.11	14.78	768.77	64.06	113.98	1.18 R	128.90 R	353.38 R	482.29 R	46.38 R	110.85 R	157.24 R	82.52 R	242.53 R	325.05 R	17%	17%	64
331.53	27.63	15.00	330.00	0.33	0.90	0.34	1.32	9.24	480.48	40.04	-12.41	-0.07 R	20.00 R	54.84 R	74.84 R	28.99 R	69.28 R	98.27 R	-8.99 R	-14.45 R	-23.43 R	17%	17%	40
120.56	10.05	15.00	120.00	0.12	0.90	0.12	0.48	3.36	174.72	14.56	-4.51	-0.03 R	7.27 R	19.94 R	27.21 R	10.54 R	25.19 R	35.74 R	-3.27 R	-5.25 R	-8.52 R	17%	17%	15
30.14	2.51	15.00	30.00	0.03	0.90	0.03	0.12	0.84	43.68	3.64	-1.13	-0.01 R	1.82 R	4.99 R	6.80 R	2.64 R	6.30 R	8.93 R	-0.82 R	-1.31 R	-2.13 R	17%	17%	4
242.79	20.23	48.00	48.00	0.05	0.90	0.05	0.24	1.68	87.36	7.28	12.95	0.11 R	14.65 R	32.13 R	46.77 R	5.27 R	10.08 R	15.35 R	9.38 R	22.05 R	31.43 R	21%	21%	7
21.53	1.79	15.00	15.00	0.02	0.90	0.02	0.06	0.30	15.60	1.30	0.49	0.01 R	1.30 R	4.99 R	6.28 R	0.94 R	3.15 R	4.09 R	0.36 R	1.84 R	2.19 R	12%	12%	1
119.60	9.97	15.00	15.00	0.02	0.90	0.02	0.06	0.30	15.60	1.30	8.67	0.12 R	7.22 R	27.69 R	34.91 R	0.94 R	3.15 R	4.09 R	6.27 R	24.55 R	30.82 R	12%	12%	1
138.74	11.56	48.00	48.00	0.05	0.90	0.05	0.19	0.96	49.92	4.16	7.40	0.11 R	8.37 R	32.13 R	40.50 R	3.01 R	10.08 R	13.09 R	5.36 R	22.05 R	27.41 R	12%	12%	4
239.20	19.93	100.00	200.00	0.20	0.90	0.21	0.20	1.00	52.00	4.33	15.60	0.88 R	14.43 R	221.56 R	235.99 R	3.14 R	41.99 R	45.13 R	11.29 R	179.57 R	190.86 R	3%	3%	4
2 622.11	218.51	15.00	435.00	0.44	0.90	0.45	5.22	36.54	1 900.08	158.34	60.17	0.26 R	158.20 R	144.57 R	302.77 R	114.64 R	91.33 R	205.97 R	43.56 R	53.24 R	96.80 R	50%	50%	158
2 009.28	167.44	100.00	100.00	0.10	0.90	0.10	1.20	8.40	436.80	36.40	131.04	0.44 R	121.23 R	110.78 R	232.01 R	26.35 R	20.99 R	47.35 R	94.87 R	89.78 R	184.66 R	50%	50%	36
5 826.91	485.58	48.00	480.00	0.48	0.90	0.49	5.76	40.32	2 096.64	174.72	310.86	1.08 R	351.56 R	321.26 R	672.82 R	126.50 R	100.78 R	227.27 R	225.06 R	220.48 R	445.54 R	50%	50%	175
3 496.15	291.35	30.00	180.00	0.18	0.90	0.18	2.16	15.12	786.24	65.52	225.83	0.76 R	210.93 R	192.76 R	403.69 R	47.44 R	37.79 R	85.23 R	163.50 R	154.96 R	318.46 R	50%	50%	66
582.69	48.56	24.00	48.00	0.05	0.90	0.05	0.58	4.03	209.66	17.47	31.09	0.11 R	35.16 R	32.13 R	67.28 R	12.65 R	10.08 R	22.73 R	22.51 R	22.05 R	44.55 R	50%	50%	17
1 165.38	97.12	24.00	48.00	0.05	0.90	0.05	0.58	4.03	209.66	17.47	79.64	0.26 R	70.31 R	64.25 R	134.56 R	12.65 R	10.08 R	22.73 R	57.66 R	54.17 R	111.84 R	50%	50%	17
40.19	3.35	7.00	7.00	0.01	0.98	0.01	0.08	0.59	30.58	2.55	0.80	0.00 R	2.42 R	2.22 R	4.64 R	1.84 R	1.47 R	3.31 R	0.58 R	0.75 R	1.33 R	50%	50%	3
62.43	5.20	20.00	20.00	0.02	0.90	0.02	0.06	0.18	9.36	0.78	4.42	0.14 R	3.77 R	32.13 R	35.89 R	0.56 R	4.20 R	4.76 R						

ANNEXURE C: Level I and II Auditing Guidelines

The ASHREA Level I and II auditing guidelines are outlined below:

Level 1—Walk-Through Survey

Analysis and assessment of the building’s energy cost and efficiency by analysing energy bills. This is compiled in the PEA (Preliminary Energy Use Analysis) and conducting a brief on-site survey of the building.

A Level 1 energy survey will identify low-cost/no-cost measures for improving energy efficiency and provide a listing of potential capital improvements that merit further consideration. Calculations at this level are minimal, savings and costs are approximate.

A Level 1 analysis is applicable when the desire is to establish the general energy savings potential of a building or to establish which buildings in a portfolio have the greatest potential savings. Level 1 results can be used to develop a priority list for conducting Level 2 and 3 audits.

Level 2—Energy Survey and Analysis

A Level 2 audit involves a more detailed building survey, including energy consumption and peak demand analysis. A breakdown of energy end uses within the building is developed.

A Level 2 energy analysis will identify and provide the savings and cost analyses of all practical Energy Management Opportunities (EMO)’s that meet the organisation’s constraints and economic criteria, along with proposed changes to operation and maintenance (O&M) procedures. It may also provide a listing of potential capital-intensive improvements that require more thorough data collection and engineering analysis as well as an assessment of potential costs and savings. This level of analysis will provide adequate information for the organisation’s management to act upon recommendations for most buildings and for most opportunities.

ASHRAE LEVEL 1 WALK-THROUGH AUDIT
1. Possible savings from utility rate changes
2. Energy Usage Index (EUI)'s of peer comparable buildings
3. Target EUI and benchmark source
4. Breakdown Energy and Demand Cost by Fuel for Year
5. Estimated potential savings if Target EUI met
6. List no/low cost savings opportunities with estimated savings
7. List potential capital improvements with savings
ASHRAE LEVEL 2 ENERGY SURVEY AND ANALYSIS
1. Current energy use and cost accounting
2. Building description
3. Inventory of major energy -consuming equipment
4. List of Energy Management Opportunities
5. Estimated costs including potential savings and the financial evaluation of above opportunities
6. Energy Management opportunities rejected or not considered
7. Overall project evaluation
8. Recommended Measurement & Verification methods

Level I Audit Report	Level II Audit Report	Level III Audit Report
<ul style="list-style-type: none"> • Executive Summary • Brief facilities description • Scope of audit/ Methodology • Preliminary Analysis Findings, including benchmark and end use results • List of no-cost and low-cost energy measures • Potential measures for further consideration 	<ul style="list-style-type: none"> • All items from Level I Audit • More comprehensive energy end use analysis • Description of building systems and major equipment • Financial analysis of EEMs • Description of energy efficiency measures considered and not recommended or not financially viable • Description of energy efficiency measures recommended • Summary table with measure name, installed cost, energy savings by utility, and O&M savings • Capital Intensive measures requiring Level III audit • Detailed energy analysis calculations • Measurement and verification (M&V) plan for verifying energy savings 	<ul style="list-style-type: none"> • All items from Level II Audit • Detailed information on capital intensive measures – including schematics, equipment lists, equipment specifications, design sequences and costs • Highly detailed financial evaluation

Information available in Level I, Level II, Level III audit reports⁴

Source: Michael Baechler, Cindy Strecker, PE and Jennifer Shafer

25 September 2011

United States department of Energy

25 September 2018

[https://www.pnnl.gov/main/publications/external/technical_reports/PNNL-20956.pdf]

ANNEXURE D: Supporting Audit Sheets

ANNEXURE E: Supporting Municipal Invoices