

**Project**

**Preliminary**

**Sion Road Kilkenny**

**DOCUMENT TITLE : MIC Estimated Electrical Load (BSRIA)**

**DOCUMENT NUMBER : SION ROAD-DE-SCH001**

**SHEET NO. : 1 of 4**



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The Proposal of this Document is to Guidance ESB in Respect of the Provision of Estimated Power Demand for the Residential Development on Sion Road Kilkenny

REV	DATE	DESCRIPTION	BY	CHK	APP
0	09-Mar-20	For Planning	SR	NS	GH

**REVISIONS**

**APPROVALS**

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**Estimated Total Electrical Load  
(BSRIA) Rules of Thumb / 5th  
Edition**

Page	2	of	6	Issue :	P
	Prepared			SR	
	Checked			NS	
	Approved			GH	
	Date			09-Mar-20	

Project No. :		Equipment No. :		N/A
Project Name:	Sion Road	Equipment Name :		N/A
Location :	Kilkenny	Spec. Number :		N/A
Issue Purpose :	Establishing Building MIC Requirements	Doc. Number :		SION ROAD-DE-SCH001
Title:	Estimated Total Building Electrical Load	NOTES:		

ITEM	<b>SCOPE</b>
	This document details the estimated power electrical load requirements for the Residential Development on Sion Road Kilkenny
	<b>NOTES</b>
	1 Estimated total electrical power load for Creche includes for Air Conditioning
	2 This is guidance document for ESB Networks in respect of the Maximum Import Capacity (MIC) requirements for the Residential Development on Sion Road Kilkenny
	3 <b>BSRIA / Rules of Thumb Guidelines for building services (5th Edition)</b> - CIBSE / Energy Benchmarks are used to determine estimated total electrical load requirements.
	4 <b>Predicting Electrical Future Load Growth</b> - 10% power load growth factor is considered regarding future power expansion for the building associated with Building expansion; Function of the building or facilities and Equipment technology within the building.
5 Rule of Thumb - Flats / Apartments 80(w/m2) electrical load. Note, Flat or apartment 3kw is employed with gas cooking heating. 7.5kw per apartment can be employed with all electrical cooking and heating.	
6 Rule of Thumb - House 5.5kW per house. Note, this figure is for houses with 3 or 4 bedrooms with gas central heating. For housing estate, a coincident diversity may be applied.	



**Building Type**                      **Apartments / Houses (Option 1 - Gas for Cooking & Heating Employed)**

**Calc's: SR**

**Total Estimated Electrical Loads Schedule (incl. Site Services)**

**Rev A**

Preliminary

09 March 2020

Building Area Description	Units Number	Total Floor Elec Load per unit (watts)	Lighting - w/m <sup>2</sup>	Small Appliances w/m <sup>2</sup>	HVAC/Pumps /Lifts (w/m <sup>2</sup> )	Total Loads (in watts)
5 Bedroom Houses	1	5500				5,500
4 Bedroom Houses	13	5500				71,500
3 Bedroom Houses	22	5500				121,000
2 Bedroom Duplex	6	3000				18,000
3 Bedroom Duplex	31	3000				93,000
1 Bedroom Apartments	36	3000				108,000
2 Bedroom Apartments	11	3000				33,000
Creche	(W/m2)	75	9	25	50	6,300
Public Lighting						1,500
Pumping Station						10,000
<b>Total Estimated Electrical Load (kW)</b>						<b>468</b>
<b>Allow for 10% Future Expantion</b>						<b>515</b>
<b>Application of Cos Phi = 0.95</b>						<b>542</b>
<b>Allowence of 0.6 Diversity Factor</b>						<b>325</b>
<b>Total Transformer Output Rating (KVA)</b>						<b>325</b>
<b>Total Load IN MVA</b>						<b>0.32</b>



Building Type Apartments / Houses (Option 2 - Without Gas for Cooking Employed)

Calc's: SR

Total Estimated Electrical Loads Schedule (incl. Site Services)

Rev A

Preliminary

09 March 2020

Building Area Description	Units Number	Total Floor Elec Load per unit (watts)	Lighting - w/m <sup>2</sup>	Small Appliances w/m <sup>2</sup>	HVAC/Pumps /Lifts (w/m <sup>2</sup> )	Total Loads (in watts)
5 Bedroom Houses	1	5500				5,500
4 Bedroom Houses	13	5500				71,500
3 Bedroom Houses	22	5500				121,000
2 Bedroom Duplex	6	7500				45,000
3 Bedroom Duplex	31	7500				232,500
1 Bedroom Apartments	36	7500				270,000
2 Bedroom Apartments	11	7500				82,500
Creche	(W/m <sup>2</sup> )	75	9	25	50	6,300
Public Lighting						1,500
Pumping Station						10,000
<b>Total Estimated Electrical Load (kW)</b>						<b>846</b>
<b>Allow for 10% Future Expantion</b>						<b>930</b>
<b>Application of Cos Phi = 0.95</b>						<b>979</b>
<b>Allowence of 0.6 Diversity Factor</b>						<b>588</b>
<b>Total Transformer Output Rating (KVA)</b>						<b>588</b>
<b>Total Load IN MVA</b>						<b>0.59</b>