
Section No. 5 – Equipment Schedules

Schedule No. 1	Manufacturers
Schedule No. 2	Schedule of Luminaires
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Schedule No. 5	Tender's Selected Manufacturers
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SCHEDULE NO. 1 - APPROVED MANUFACTURERS

Notes: - Tenderers are required to note that the manufacturers listed in the undernoted schedule are deemed an acceptable standard for the contract. Tenderers are required to include for equipment specified (or equal) and to identify same in Schedule No 4.

ITEM	NAME OF APPROVED MANUFACTURER
Sub Distribution Board	Parkmore, Troy Panels,
Digital Multimeters	Crompton
MCB'S/RCBO'S	Merlin Gerin / MEM / ABB /Siemens/Hager
Electric LV Cable	BASEC Approved
Cat6A Cables	Excel/Krone/ BranRex
HDMI Ultra High Speed Cables	Lindy Connection
USB High Speed cables	Lindy Connection
Trunking/Tray/Basket	Mita / Marshall-Tufflex / Legrand
3 Compartment Trunking	Mita / Marshall-Tufflex / Legrand
Conduit	Walsall / Simplex / Mita
Cable Tray	Mita Cablofil
Electrical Accessories	MEM/ MK/ Crabtree/ Click/ Legrand
Fire Alarm System	As per existing system
Intruder Alarm System	As per existing system
CCTV System	As per existing system
Timeclock/Time switches	Sangamo Suntracker Single Channel 7 Day Solar Timer
Earthing Materials	Furse

SCHEDULE NO. 2 – SCHEDULE OF LUMINAIREs

All luminaires are to be supplied complete with all necessary supports, suspensions, accessories and lamps. Modular luminaires shall be suitable for 15 mm or 24 mm exposed tee grids unless otherwise stated.

Note the contractor must check the latest Architect ceiling details to ensure compatibility of trim for all luminaires, particularly recessed luminaires.

All LED luminaires to be supplied c/w manufacturers 5-year warranty, this includes LED lamp and also all component parts, including electronic control gear and all other components.

All LED lamps / luminaires should be capable of 80% output at 50,000hrs (Minimum)

Ref	Description	Dimensions [mm]	Power [W]	Luminaire Efficacy [lm/W]	IP & IK Rating	Colour	Image
A	Surface mounted linear luminaire as per DEXTRA - GRD L80 OPTPA	1500mmx 215mm	42.1W	156.6lm/w	IP40 IK08	4000K	
B	Surface mounted linear luminaire as per DEXTRA - GRD L63 OPTPA	1500mmx 215mm	34.6W	150lm/w	IP40 IK08	4000K	

EMERGENCY LIGHTING SCHEDULE

Ref	Description	Manufacturer / Model	Cat.No.	Image
E3	Non-maintained Surface mounted Emergency LED Bulkhead.	VENITLUX	VIPER	

SW	Push to make retractive lighting switch			
PIR	Typical Sensor surface mounted Occupancy Sensor PIR. absence detection long range			
PIR	Typical Sensor flush mounted Occupancy Sensor PIR. absence detection & daylight sensing photocell. DALI Dimmable			
PIR	Typical Sensor flush mounted Occupancy Sensor PIR. Absence detection & daylight sensing photocell. DALI Dimmable			

NOTES:

1. ALL FITTING TO HAVE CRI >80 AND AN UGR <19.
2. MOTION SENSORS ARE TO COVER ENTIRE AREA THAT THEY ARE LOACTED IN.

LIGHTING CALCULATIONS

The lighting layouts and design calculation are based on the technical information provided in the schedules. The Electrical Contractor must also provide full design calculations for approval prior to ordering the light fittings

CLASSROOM OPERATION

- Push switch to bring lighting on to full output.
- Lighting will adjust depending on daylight entering room and dim lighting accordingly.
- Teacher can adjust lighting up/down by pressing retractive switch.
- When room is vacated Lighting will switch off after a preset time and will only activate by pushing retractive switch.

GENERAL AREAS.

- PIR control of Lighting in corridors and toilets.
- Time Delay switches employed in stores.

OFFICES

- Push switch to bring lighting on to full output.
- When room is vacated Lighting will switch off after a preset time and will only activate by pushing retractive switch.

Typical Lux levels as per TGDs as noted below.

AREA	LUX LEVEL	CONTROL	LIGHTING TYPE	MINIMUM LM/WATT
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**Refurbishment of Science Rooms,
Scoil Mhuire Secondary School, Buncrana, Co. Donegal**
Specification for Electrical Services
Issue No. 1



<i>Classroom</i>	<i>300lux</i>	<i>Manual on/off Switch-daylight sensing and absence detection.</i>	<i>LED</i>	<i>125/w</i>
<i>Science Classroom</i>	<i>500lux</i>	<i>Manual on/off Switch-daylight sensing and absence detection.</i>	<i>LED</i>	<i>125/w</i>
<i>Technology area rooms</i>	<i>500lux</i>	<i>Manual on/off Switch-daylight sensing and absence detection.</i>	<i>LED</i>	<i>125/w</i>
<i>Toilets</i>	<i>120lux</i>	<i>Presence Detection</i>	<i>LED</i>	<i>125/w</i>
<i>Corridor</i>	<i>120lux</i>	<i>Zoned so that window areas can be switched of during the day. Presence detection.</i>	<i>LED</i>	<i>125/w</i>
<i>Stores</i>	<i>120lux</i>	<i>Auto release time delay switches</i>	<i>LED</i>	<i>125/w</i>
<i>Toilets</i>	<i>120lux</i>	<i>Auto release time delay switches</i>	<i>LED</i>	<i>125/w</i>
<i>Disabled Toilets</i>	<i>200lux</i>	<i>Auto release time delay switches</i>	<i>LED</i>	<i>125/w</i>

LIGHT CONTROLS COMMISSIONING CERTIFICATE

A Light Controls Commissioning Certificate as per DoES TGD documents to be amended as required by the Electrical Contractor and the Lighting Controls Specialist.

The Electrical Engineer should ensure that all commissioning has taken place prior to Witness by Principal & Building Service Engineer which will be required to take place prior to hand over

SAMPLE LIGHTING CONTROLS COMMISSIONING CERTIFICATE									
PART B									
RECORDED DATA RELATED TO LIGHTING CONTROLS									
SCHOOL NAME:						ROLL No:			
Ground Floor	Design Standards to be Met				Commissioning Levels Achieved			Witnessed By	
Rooms	Lux Level	Operating Range (M)	Time (min)	Lag	Lux Level	Operating Range (M)	Time Lag (min)	Building Services consulting Engineer	Commissioning Firm
Classroom 1	500	7M	5Min						
Classroom 2	500	7M	5Min						
Prep Room 1	500	7M	5Min						
Store	150	7M	3Min						
Store	150	7M	3Min						
Classroom 3	500	7M	5Min						
Prep room 2	500	7M	5Min						
Classroom 4	500	7M	5Min						
Classroom 5	500	7M	5Min						
Classroom 6	500	7M	5Min						
Prep Room 1	500	7M	5Min						
Store	150	7M	3Min						
Classroom 1	500	7M	5Min						
Classroom 2	500	7M	5Min						
Prep Room 1	500	7M	5Min						
COMMISSIONING FIRM NAME (NAME)									
Name:				Signed:			Date:		
BUILDING SERVICES CONSULTING ENGINEER (NAME)									
Name:				Signed:			Date:		

**Refurbishment of Science Rooms,
Scoil Mhuire Secondary School, Buncrana, Co. Donegal**
Specification for Electrical Services
Issue No. 1



PROJECT NUMBER	6447		
DIST. BOARD REF	SDB (NEW)	BUSBAR RATING	125A 25KA
ISOLATOR RATING	100 4P TP&N	SURGE PROTECTION DEVICE	TYPE II
FED FROM	SDB		

WAY	PHASE	RATING	TYPE	RCBO	RING	RADIAL	DESCRIPTION	CSA MM ²	CABLE TYPE	CPC CSA
1	L123						DEHN guard DG M TNS 275 surge protection devices			
2	L1	10A	B	✓		✓	LIGHTING: SCIENCE CLASSROOM 1	1.5	Isf singles	1.5
2	L2	10A	B	✓		✓	LIGHTING: SCIENCE CLASSROOM 2	1.5	Isf singles	1.5
2	L3	10A	B	✓		✓	LIGHTING: PREP ROOM/STORE/CHEMICAL STORE	1.5	Isf singles	1.5
3	L1	20A	B	✓		✓	WATERHEATER: CLASSROOM 1	2.5	Isf singles	2.5
3	L2		B	✓		✓	CONTACTOR			
3	L3		B	✓		✓	TIMECLOCK			
4	L1	20A	B	✓		✓	WATERHEATER – CLASSROOM 2	4.0	Isf singles	4.0
4	L2		B	✓		✓	CONTACTOR			
4	L3		B	✓		✓	TIMECLOCK			
5	L1	20A	B	✓		✓	WATERHEATER - PREPROOM	4.0	Isf singles	4.0
5	L2		B	✓		✓	CONTACTOR			
5	L3		B	✓		✓	TIMECLOCK			
6	L1	20A	B	✓		✓	CLASSROOM 1 - SOCKET CIRCUIT	4.0	Isf singles	2x4.0
6	L2	20A	B	✓		✓	CLASSROOM 1 - SOCKET CIRCUIT	4.0	Isf singles	2x4.0
6	L3	20A	B	✓		✓	CLASSROOM 1 - STUDENT PEDESTAL SC1	4.0	Isf singles	2x4.0
7	L1	20A	B	✓		✓	CLASSROOM 1 - STUDENT PEDESTAL SC 2	4.0	Isf singles	2x4.0
7	L2	20A	B	✓		✓	SPARE			
7	L3	20A	B	✓		✓	SPARE			
8	L1	20A	B	✓		✓	CLASSROOM 2 - SOCKET CIRCUIT	4.0	Isf singles	2x4.0
8	L2	20A	B	✓		✓	CLASSROOM 2 - SOCKET CIRCUIT	4.0	Isf singles	2x4.0
8	L3	20A	B	✓		✓	CLASSROOM 2 - STUDENT PEDESTAL SC 1	4.0	Isf singles	2x4.0
9	L1	20A	B	✓		✓	CLASSROOM 2 - STUDENT PEDESTAL SC 2	4.0	Isf singles	2x4.0
9	L2	20A	B	✓		✓	SPARE			
9	L3	20A	B	✓		✓	SPARE			
10	L1	20A	B	✓		✓	STORE - SOCKET CIRCUIT	4.0	Isf singles	4.0
10	L2	20A	B	✓		✓	PREP ROOM - SOCKET CIRCUIT	4.0	Isf singles	2X4.0
10	L3	16A	B	✓		✓	PREP ROOM - FRIDGE/FREEZER	2.5	Isf singles	2.5
11	L1	16A	B	✓		✓	PREP ROOM - DISHWASHER	2.5	Isf singles	2.5
12	L2						SPARE			
12	L3						SPARE			
12	L123	16A	B	✓		✓	FUME CUPBOARD FAN	2.5	Isf singles	2.5
13	L1						SPARE			
13	L2						SPARE			
13	L3						SPARE			

Schedule No. 6

Enabling Works Checklist

Prior to any works taking place including the Strip Out works the Electrical Contractor is responsible for making appropriate assessment of the existing electrical systems, including electrical installations that may be affected by the Building Fabric upgrade works which form part of this energy upgrade project, and shall report any significant finding to the Design team

Below is a list of items that should be assessed by the electrical contractor prior to the works starting on site

Item	Description	Comments	Date
1	Existing Electrical Installation condition (as Per Section 3.2.2 of the Particular Specification		
2	Condition of existing Fire Alarm System and capacity for new equipment as art of these works To be confirmed by Incumbent Fire Alarm Specialist		
3	Condition of existing CCTV Verification & Number of existing operating CCTV Cameras To be confirmed by Incumbent Specialist		
4	Condition of existing Intruder Alarm System Existing Door/ Window contacts To be confirmed by Incumbent Specialist		
5	Condition of existing Door Access System To be confirmed by Incumbent Specialist		
6	Condition of existing PA/School Bell system Verification & Number of existing operating external speakers/ bells To be confirmed by Incumbent Specialist		

7	Condition of existing external perimeter Lighting Verification of operation of existing timeclocks		
8	Condition of existing Water Heaters Verification of operation of existing timeclocks		
9	Space provision for new Meterboards is adequate and is agreed with the ESB prior to ordering same		
10	Space provision for new Distribution Boards is adequate		
11	Existing Services in the roof spaces have been visually checked and provision is made with the main contractor to facilitate installation of thermal insulation to avoid over heating		
12	M&E Co-ordination drawing have been produced and are available on-site		
13	Final position of EV Charger and future ducting is agreed with the design Team		

Existing Electrical Services Checked By

Name:	Signed:	Date:
Witness by (School representative)		
Name:	Signed:	Date:

Note: This list is not exhaustive and is to be completed by the electrical contractor and issued to the design team at the start of the contract period.

Schedule No. 7 Verification of Existing Electrical Systems Checklists

On completion of the contract, the Electrical Contractor shall provide full commissioning certification. This shall include verification that all existing electrical systems modified during the contract period have been left fully operational and to the satisfaction of the school.

Below is a list of items that shall be confirmed as operational and functioning as they were prior to the works taking place.

Item	Description	Comments	Date
1	Fire Alarm Installation All modification to be logged in the maintenance charts		
2	CCTV Installation		
3	Intruder Alarm		
4	Door Access System		
5	PA / School Bell		
6			
7			

Existing Electrical Services Checked By		
Name:	Signed:	Date:
Witness by (School representative)		
Name:	Signed:	Date:

Note: This list is not exhaustive and is to be completed by the electrical contractor and issued to the design team prior to handover the contract.