1. Read drawing in conjunction with drawing 3797/E-02.
2. Refer to current Periodic Inspection Report Schedule of Circuits details for final circuit cable types and destinations.
Notes:
1. Read drawing in conjunction with drawing 3797/E-01 & 03.
2. Refer to current Periodic Inspection Report Schedule of Circuits details for final circuit cable types and destinations.
3. Upgrade earthing in accordance with BS7671 - 17th Edition Regulation requirements.

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TENDER ISSUE

3797/E-02

Central Library
Abington Street
Northampton, NN1 2BA

Electrical Services
Distribution Schematic
PROPOSED

A
New 250A TPN 10W MCCB panelboard

Existing meter

REC cut-out

REC enc (redundant)

Remove existing switchfuses (will be redundant)

Existing DB1 onto which all the final circuits from DB2 & 3 are to be temp transferred. Existing DB1 is to be removed once all circuits have been transferred to new DB

Existing Sub main for DB9 to be extended via adaptable box/fixed terminals

Existing conduits

Existing DB1

New DB1 125A TPN 16W

Existing DB2, 3 and fans all removed

Existing sub main trunking (remove up to 2 comp for IT cables)

ELECTRICAL SWITCHROOM

ELEVATIONS

1/50

ELECTRICAL SWITCHROOM PLAN

1/100

New Main MCCB panelboard

16 STAIRS

18 ELEC RM

New DB1

DB 1

DB 4

Comm Rk

Central Library
Abington Street
Northampton, NN1 2BA

Ground floor
Electrical Services
Switchroom Room Layout

3797/E-03

TENDER ISSUE

Nortonshire County Council

FK Howard Ltd
CONSTRUCTION CONSULTANTS
John Clare House, 69 The Avenue, Cliftonville, Northampton, NN1 5BT
Tel: 01604 622721 Fax: 01604 232084 Email: mail@fkhoward.com
BASEMENT

Existing lighting conversion

Replacement TH spots lamps in existing spots lights with 3W GU10 LED spot lamps

Replace TH spots lamps in existing spots lights with 3W GU10 LED spot lamps

Rotate luminaires through 90 degrees to achieve light distribution

TENDER

SYMBOLS LEGEND - ELECTRICAL DISTRIBUTION

Device
Description
MT  MCCB panelboard
MM  Distribution board - 3 phase
MD  Distribution board - 1 phase
MF  Switchfuse (rating as detailed)

SYMBOLS LEGEND - LIGHTING

Luminaires type
Description

Type C1-D 2 x 35W T5 Surface HF Fluorescent Prismatic Luminaire
Type C2-D 1 x 35W T5 Surface HF Fluorescent Prismatic Luminaire
Type C3-D 2 x 35W T5 Surface HF Fluorescent Prismatic Luminaire
Type C4-D 1 x 49W T5 Surface HF Fluorescent Prismatic Luminaire
Type C5-D 2 x 35W T5 Surface HF Fluorescent Prismatic Luminaire
Type C6-D 1 x 49W T5 Surface HF Fluorescent Prismatic Luminaire
Type C7-D 2 x 35W T5 Suspended HF Dimmable Fluorescent Louvre Luminaire
Type C8-D 1 x 49W T5 Suspended HF Dimmable Fluorescent Louvre Luminaire
Type C9-D 2 x 35W T5 Surface HF Fluorescent Prismatic Luminaire
Type C10-D 1 x 49W T5 Surface HF Fluorescent Prismatic Luminaire
Type C11-D 2 x 35W Surface HF Fluorescent Prismatic Luminaire
Type C12-D 1 x 49W Surface HF Fluorescent Prismatic Luminaire
Type C13-D 2 x 35W Surface HF Fluorescent Prismatic Luminaire
Type C14-D 1 x 49W Surface HF Fluorescent Prismatic Luminaire
Type C15-D 2 x 35W Surface HF Fluorescent Prismatic Luminaire
Type C16-D 1 x 49W Surface HF Fluorescent Prismatic Luminaire
Type C17-D 2 x 35W Surface HF Fluorescent Prismatic Luminaire
Type C18-D 1 x 49W Surface HF Fluorescent Prismatic Luminaire
Type C19-D 2 x 35W Surface HF Fluorescent Prismatic Luminaire

Dimmable luminaires to be modified with dimmable ballast and controlled via separate dimmer switch.

Date
3797/E-04

Digital conversion to new lighting schemes to book racks, MW detection to office 47.

Wireless equipment added, minor amendments.

Amendments to book store 26 fitting types.

SYMBOLS LEGEND - SWITCHING

Switching type
Description

了些 1 way switch
了些 2 way switch
了些 1 way switch
了些 2 way switch
了些 2 way switch
了些 2 way switch
了些 2 way switch
了些 2 way switch
了些 2 way switch
了些 2 way switch
了些 2 way switch
了些 2 way switch

Central Library
Abington Street
Northampton, NN1 2BA

FK Howard Ltd
CONSTRUCTION CONSULTANTS
**MEZZ LEVEL**

**Main Library Entrance**

- **Electrical Switchroom** - Refer to FKH proposed layouts & scope of works.
- **Main Electrical Switchroom**
- **Ducting and Conduit Work**
- **Emergency Lighting**
- **Lighting to be Controlled via RF Input Units**
- **RF Controller**
- **Suspension System**
- **Emergency Lighting Test Keyswitches**
- **Photocells**
- **Relay Controllers**
- **Distribution Board - 3 Phase**
- **Distribution Board - 1 Phase**
- **Switchfuse (rating as detailed)**
- **MCCB Panelboard**

**Main Library**

- **Childrens Library**
  - **Type K2E-PC Luminaire** with integral emergency and photocell
  - **Type L1E**
  - **Type A1-D**
  - **Type A2-D**
  - **Type A3-D**
  - **Type A4-D**
  - **Type B1-D**
  - **Type C1**
  - **Type C5**
  - **Type D4E-D**
  - **Type E1-C**
  - **Type H1E-P**
  - **Type K1**
  - **Type L2E-PC**
  - **Type M1**
  - **Type N1**
  - **Type P**
  - **Type T**

**Ground Floor**

- **Primary & Emergency Lighting**
  - **26W PL Recessed CF Downlight c/w IP44 Lens and 3hr Emer**
  - **28W 2D Surface HF Fluor Bulkhead c/w 3hr Emer & Photocell**
  - **38W 2D Surface HF Fluor Bulkhead**
  - **24W LED Surface Decorative Bulkhead c/w 3hr Emer**
  - **3 Hr SC Maintained LED Surface Emergency Exit Sign**
  - **2 x 49W T5 Surface HF Dimmable Fluor Pris Luminaire c/w 3hr Emer**
  - **2 x 49W T5 Surface HF Fluorescent Prismatic Luminaire**
  - **2 x 35W T5 Surface HF Fluorescent Prismatic Luminaire**
  - **1 x 49W T5 Surface HF Fluorescent Prismatic Luminaire**
  - **2 x 35W T5 Suspended HF Dimmable Fluorescent Opal Diff Luminaire**
  - **2 x 35W T5 Suspended HF Dimmable Fluorescent Louvre Luminaire**
  - **2 x 49W T5 Suspended HF Dimmable Fluorescent Louvre Luminaire**

**Symbols and Legends**

- **Electrical Distribution**
- **Lighting**
- **Emergency Lighting**
- **Intermediate Switch**
- **PIR Override Switch**
- **Wireless PIR Control Unit - AT/BB**
- **Wireless RF Relay Controller - AT-SL- DDR-SA**
- **Wireless PIR Sensor with Dimming Capability - CP Range EBD**
- **Microwave Sensor with Time/Daylight Adjustment - CP Range MW**

*Symbols Legend - Electrical Distribution*

- **Type K**
- **Type L**
- **Type A**
- **Type D**
- **Type B**
- **Type C**
- **Type E**
- **Type H**
- **Type K2**
- **Type L1**
- **Type A1**
- **Type A2**
- **Type A3**
- **Type A4**
- **Type B1**
- **Type C1**
- **Type C5**
- **Type D4**
- **Type E1**
- **Type H1**
- **Type K1**
- **Type L2**
- **Type M1**
- **Type N1**
- **Type P**
- **Type T**

*Symbols Legend - Lighting*

- **Symbol**
- **Description**
- **Type K**
- **Type L**
- **Type A**
- **Type D**
- **Type B**
- **Type C**
- **Type E**
- **Type H**
- **Type K2**
- **Type L1**
- **Type A1**
- **Type A2**
- **Type A3**
- **Type A4**
- **Type B1**
- **Type C1**
- **Type C5**
- **Type D4**
- **Type E1**
- **Type H1**
- **Type K1**
- **Type L2**
- **Type M1**
- **Type N1**

*Table of Equipment*

- **IP44 Surface LED Luminaire above skylight**
- **26W PL Recessed CF Downlight c/w IP44 Lens and 3hr Emer**
- **28W 2D Surface HF Fluor Bulkhead c/w 3hr Emer & Photocell**
- **38W 2D Surface HF Fluor Bulkhead**
- **24W LED Surface Decorative Bulkhead c/w 3hr Emer**
- **3 Hr SC Maintained LED Surface Emergency Exit Sign**
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- **2 x 49W T5 Suspended HF Dimmable Fluorescent Louvre Luminaire**

*Revision Text*

- **3 Hr Switchfuse (rating as detailed)**
- **MCCB Panelboard**
- **Distribution Board - 3 phase**
- **Distribution Board - 1 phase**

*Symbols Legend - Entering*

- **Symbol**
- **Description**
- **1 G**
- **1 F**
- **1 K**
- **1 R**
- **1 S**
- **1 W**
- **1 X**
- **1 Y**
- **1 Z**

*Symbols Legend - Electrical Distribution*

- **Type K**
- **Type L**
- **Type A**
- **Type D**
- **Type B**
- **Type C**
- **Type E**
- **Type H**
- **Type K2**
- **Type L1**
- **Type A1**
- **Type A2**
- **Type A3**
- **Type A4**
- **Type B1**
- **Type C1**
- **Type C5**
- **Type D4**
- **Type E1**
- **Type H1**
- **Type K1**
- **Type L2**
- **Type M1**
- **Type N1**

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*Revision Text*

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- **Distribution Board - 3 phase**
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- **Symbol**
- **Description**
- **1 G**
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- **1 K**
- **1 R**
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*Symbols Legend - Electrical Distribution*

- **Type K**
- **Type L**
- **Type A**
- **Type D**
- **Type B**
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- **Type E**
- **Type H**
- **Type K2**
- **Type L1**
- **Type A1**
- **Type A2**
- **Type A3**
- **Type A4**
- **Type B1**
- **Type C1**
- **Type C5**
- **Type D4**
- **Type E1**
- **Type H1**
- **Type K1**
- **Type L2**
- **Type M1**
- **Type N1**
Lift control panel to be devired from the nearest convenient distribution supply and installation of 2Nr Type J1E luminaires to provide primary and emergency lighting to the roof voids above Library areas 26 & 30. Include for the via the roof ladder at 1st floor rear staircase.

TO PROJECT LUMINAIRE SCHEDULE FOR EXISTING LUMINAIRE POSITIONS. REFER DETAILS OF THE PROPOSED FITTINGS.

MODIFIED FOR DIMMABLE DAYLIGHT COMPENSATION FEATURE.

Retain existing lighting to and emergency lighting above 26B - Library ltg & bsmt to be removed conduits to Existing 3G for 30 - Library to be removed.

Existing lighting scheme to Carnegie Hall is to be investigated. Lampholder - existing ltg cct. Replace existing fitting with H1E-P luminaires.

Exact location of RF unit to RF Input units for RF Relay Controllers installed in new cupboard for DB 9. Hatch to roof.

Exact locations of RF Relay controller to be devired from the nearest convenient distribution supply and installation of 2Nr Type L1E luminaires.


Microwave sensor with time/daylight adjustment - CP Range MW. PIR sensor with time/daylight adjustment - CP Range EBD. PIR Override switch.


5A M Type N1 to U/L plastic to be retained. Switchfuses.

Project No: 3797/E-06

FK Howard Ltd
CONSTRUCTION CONSULTANTS

Central Library
Abington Street
Northampton, NN1 2BA

Namptonshire County Council

Central Library
Abington Street
Northampton, NN1 2BA

First Floor
Electrical Services
Primary & Emergency Lighting

Site: 58.00
Scheme: 3797/E-06

Line: 01604 622721 Fax: 01604 232084 Email: mail@fkhoward.com
Interface system with existing basement vent system. Remove existing Minerva system and associated wiring back to the BGU at the escape lobby.

Smoke detector to ceiling void

Interface to existing access control

Line of susp clg

Remove existing BGU and associated wiring. Provide new BGU on addressable system

FA cables installed within suspended ceiling void areas.

FA cables run in false ceiling.

Traps to be provided for access.

FA cables installed surface to book admin/store areas, plantroom & rear staircase

Surface cabling

FA cables installed within false/suspended ceilings & surface lift lobby areas

FA cables installed surface to underside of Discovery Library area ceiling.

Works to Book store 46 and associated offices/admin rooms to be undertaken in normal working hours, with access for staff under escort as required.

Works to Staircase 60 to be undertaken out of normal working hours. Access to be maintained to staff at all times.

Works to Main Staircase 55, Discovery 40 and Lift Lobby 44 to be undertaken out of normal working hours.

SYMBOLS LEGEND - FIRE ALARM SYSTEM

Device

Description

Fire Alarm Panel

Fire Alarm Repeater Panel

Wireless detection Translator Unit

Smoke detector

Heat detector

Smoke detector - wireless

Heat detector - wireless

Multi detector - wireless (V denotes void mounted)

Break glass unit

Sounder incorporated onto ceiling point detector

Strobe incorporated into ceiling point detector

Strobe - wall or ceiling mounted

Interface unit (IP/OP)

Monitoring Communicator

Telephone line

13A unswitched spur

Door access controller

Firemans switch - 3 position for Auto/On/Off
WORKS ZONES
- 02, 04, 06 & 08.
- Staircase 13 & 36.
- Lift lobby 11.
- Side staircase 17.
- Main Mini Library area.
- Community/Children's Library.
- Staircase 16.

BARRIER ROUTE
- Staff access maintained.
- Public will be guided.

PREPARED BY
- J. F. Howard Ltd.

REVISION HISTORY
- A - 28 May 2012
- B - 23 July 2012
- C - 28 August 2012

SYMBOLS LEGEND - FIRE ALARM SYSTEM

- FA-P
- FA-R
- DC
- FA-W
- TU
- M
- W
- S
- INT
- H
- FS
- C

TENDER

3797/E-08

C

Central Library
Abingdon Street
Northampton, NN1 2BA
T: 01604 232084
E: mail@fkhoward.com
Interface system with lift controller for ground floor homing feature.
Lighting cct from DB

RC unit ceiling mounted in small white GRP/ABS adaptable box adjacent the fgl at the start of the circuit.

Max of 10 Nr ballasts per RC unit

Max range of RF unit to RC controller - 30m for constricted area, 100m for clear area

13A unswitched spur from DB 1

13A unswitched spur from DB 1

13A unswitched spur from DB 1

Max of 10 Nr ballasts per RC unit

13A spur for 240/12 DC power supply for RF unit

Momentary switch for remote control of lighting via RF/RC units. Gangs as per layout drgs

NOTES
1. Single loop BS 5839 Cat L4 addressable fire alarm system for basement area. System to provide warning to Central Monitoring Station, operate smoke extract and fail safe open pedestrian escape gates/door access control system.
2. Refer to drawings 3797/E-07 to 09 for fire alarm installation.
3. Refer to drawings 3797/E-04 to 06 for primary and emergency lighting installation.

SYMBOLS LEGEND - FIRE ALARM SYSTEM

Device

Description

Fire Alarm Panel
Fire Alarm Repeater Panel
Wireless detection Translator Unit
Smoke detector
Heat detector
Smoke detector - wireless
Heat detector - wireless
Multi detector - wireless (V denotes void mtd)
Break glass unit
Smoke incorporated into ceiling point detector
Smoke incorporated into ceiling point detector
Electronic sounder - wall mounted
Electronic sounder & strobe unit - wall mounted
Detector remote indicator
Strobe - wall or ceiling mounted
Interface unit (IP/OP)
Monitoring Communicator
Telephone line
13A unswitched spur
Door access controller
Firemans switch - 3 position for Auto/On/Off
An-10 PIR - CP Range EBD
An-10 Relay Controller - AT-SL-DIR-SA
An-10 RF Unit - AT/BB

Lighting cct from DB

Single addressable fire alarm loop - 2 core 1.5mm PH60 cable

13A unswitched spur from local DB

Enhanced cable - 2 core 1.5mm Red PH120 cable

Monitoring Communicator c/w integral PSU & battery

Telephone line by Client

Repeater panel located at Ground

FIRE ALARM SCHEMATIC

Diagrammatic only, locations of equipment dependant on wired position on loop)