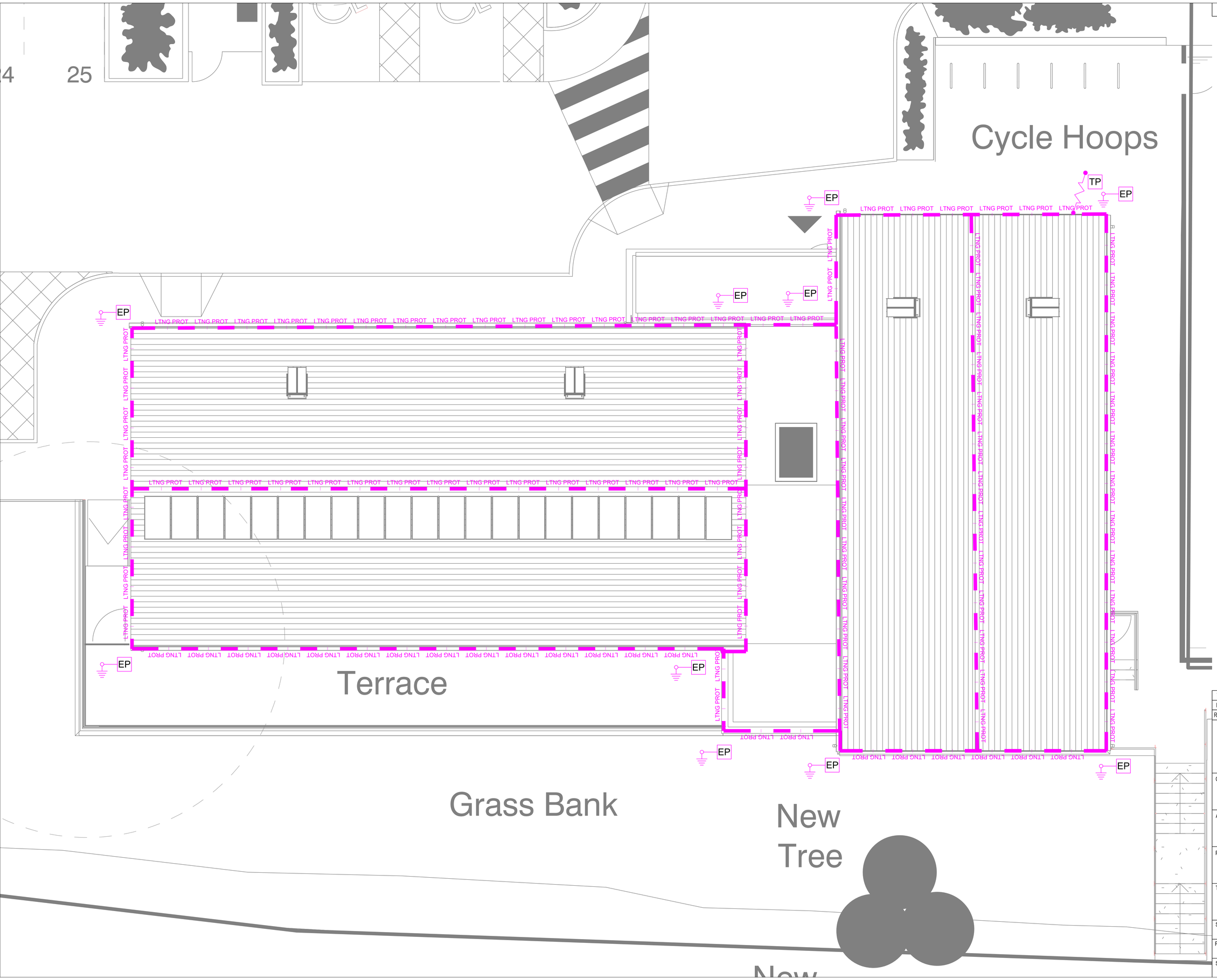

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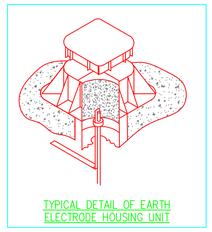
LIGHTNING PROTECTION

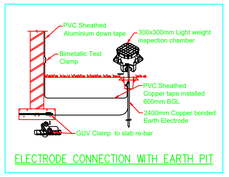
TP	SYSTEM TEST POINT
	BOND FROM STRUCTURE TO RODS
EP	EARTH TERMINATION POINT
LTNG PROT LTNG PROT	LIGHTNING PROTECTION TAPE

NOTES

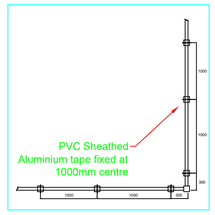
1. SYSTEM SHALL BE DESIGNED, INSTALLED, TESTED AND COMMISSIONED IN ACCORDANCE WITH BS EN 62305:2006, BS 7430 AND BSRIA TECHNICAL NOTE TN1/94, TOGETHER WITH ALL NECESSARY EQUIPMENT AND ACCESSORIES TO PROVIDE A FULLY FUNCTIONAL SYSTEM.
2. ELECTRICAL CONTINUITY OF ROOF REQUIRED. LIGHTNING PROTECTION SPECIALIST TO CONFIRM PRIOR TO INSTALLATION.
3. ALL EXTERNAL EXTRANEOUS AND EXPOSED METALWORK AND EQUIPMENT SHALL BE BONDED TO THE LPS. THE FOLLOWING LIST IS NOT EXHAUSTIVE – TV AERIALS, EXTRACT FLUES, GUTTERS AND DOWNPIPES (IF CONDUCTIVE) ETC.
4. THE CONTRACTOR SHALL ALLOW FOR A LIGHTNING PROTECTION SPECIALIST TO CARRY OUT A RISK ASSESSMENT TO VERIFY IF A LIGHTNING PROTECTION SYSTEM IS REQUIRED AND TO WHAT CLASS IN ACCORDANCE WITH BS EN 62305-3.



TYPICAL DETAIL OF EARTH ELECTRODE HOUSING UNIT



ELECTRODE CONNECTION WITH EARTH PIT



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Title
ELECTRICAL ENGINEERING SERVICES
PROPOSED LIGHTNING PROTECTION

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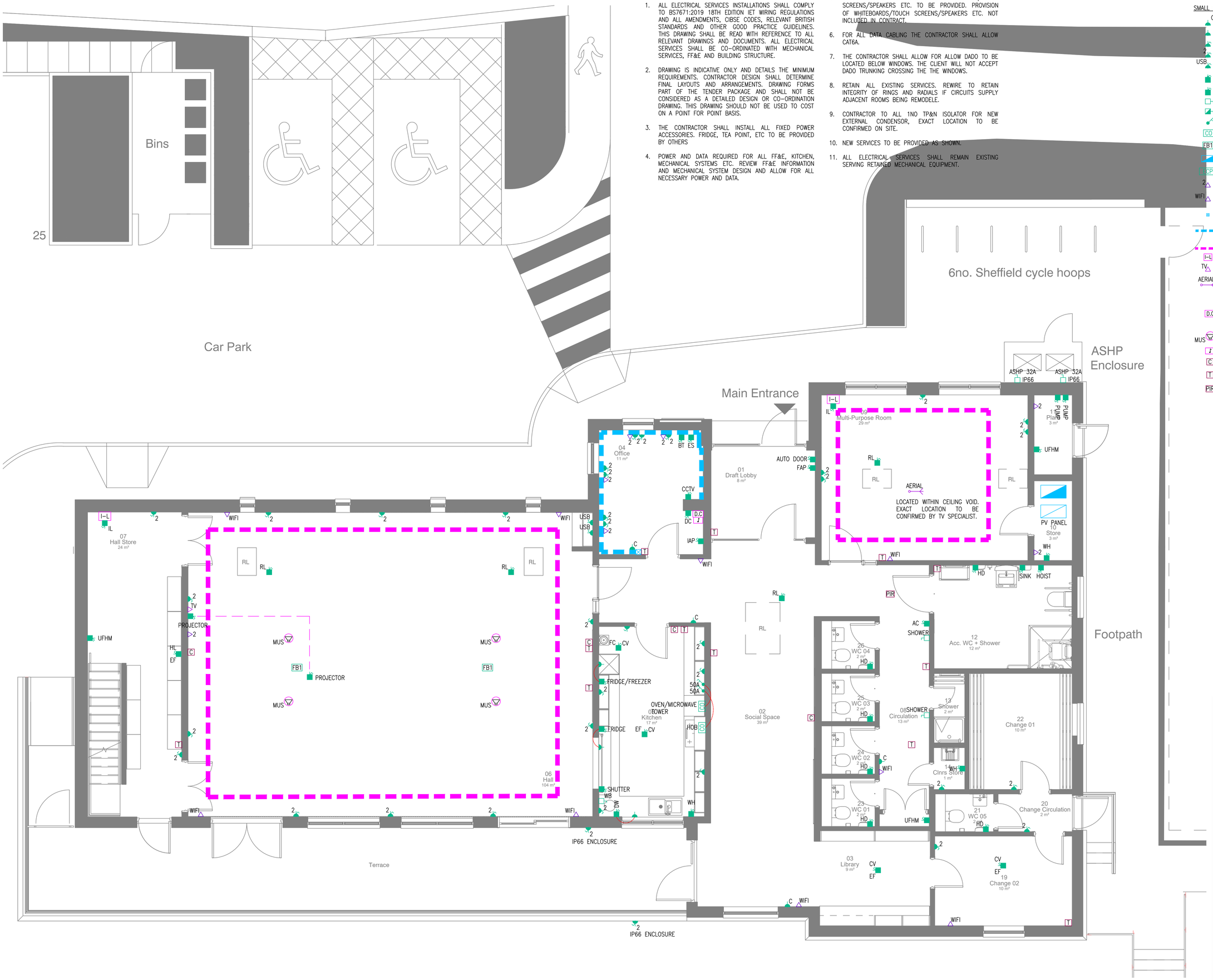
NOTES

1. ALL ELECTRICAL SERVICES INSTALLATIONS SHALL COMPLY TO BS7671:2019 18TH EDITION IET WIRING REGULATIONS AND ALL AMENDMENTS, CIBSE CODES, RELEVANT BRITISH STANDARDS AND OTHER GOOD PRACTICE GUIDELINES. THIS DRAWING SHALL BE READ WITH REFERENCE TO ALL RELEVANT DRAWINGS AND DOCUMENTS. ALL ELECTRICAL SERVICES SHALL BE CO-ORDINATED WITH MECHANICAL SERVICES, FF&E AND BUILDING STRUCTURE.
2. DRAWING IS INDICATIVE ONLY AND DETAILS THE MINIMUM REQUIREMENTS. CONTRACTOR DESIGN SHALL DETERMINE FINAL LAYOUTS AND ARRANGEMENTS. DRAWING FORMS PART OF THE TENDER PACKAGE AND SHALL NOT BE CONSIDERED AS A DETAILED DESIGN OR CO-ORDINATION DRAWING. THIS DRAWING SHOULD NOT BE USED TO COST ON A POINT FOR POINT BASIS.
3. THE CONTRACTOR SHALL INSTALL ALL FIXED POWER ACCESSORIES. FRIDGE, TEA POINT, ETC TO BE PROVIDED BY OTHERS
4. POWER AND DATA REQUIRED FOR ALL FF&E, KITCHEN, MECHANICAL SYSTEMS ETC. REVIEW FF&E INFORMATION AND MECHANICAL SYSTEM DESIGN AND ALLOW FOR ALL NECESSARY POWER AND DATA.
5. INFRASTRUCTURE FOR INTERACTIVE WHITEBOARDS/TOUCH SCREENS/SPEAKERS ETC. TO BE PROVIDED. PROVISION OF WHITEBOARDS/TOUCH SCREENS/SPEAKERS ETC. NOT INCLUDED IN CONTRACT.
6. FOR ALL DATA CABLING THE CONTRACTOR SHALL ALLOW CAT6A.
7. THE CONTRACTOR SHALL ALLOW FOR ALLOW DADO TO BE LOCATED BELOW WINDOWS. THE CLIENT WILL NOT ACCEPT DADO TRUNKING CROSSING THE THE WINDOWS.
8. RETAIN ALL EXISTING SERVICES. REWIRE TO RETAIN INTEGRITY OF RINGS AND RADIALS IF CIRCUITS SUPPLY ADJACENT ROOMS BEING REMODELE.
9. CONTRACTOR TO ALL 1NO TP&N ISOLATOR FOR NEW EXTERNAL CONDENSOR, EXACT LOCATION TO BE CONFIRMED ON SITE.
10. NEW SERVICES TO BE PROVIDED AS SHOWN.
11. ALL ELECTRICAL SERVICES SHALL REMAIN EXISTING SERVING RETAINED MECHANICAL EQUIPMENT.

SMALL POWER & DATA LEGEND

- C — CLEANER SOCKET OUTLET.
- SOCKET OUTLET.
- SWITCHED SOCKET OUTLET.
- 2 — DOUBLE SWITCHED SOCKET OUTLET.
- USB — DOUBLE SWITCHED SOCKET OUTLET C/W USB.
- RED FIRE ALARM KEY SWITCH FUSED SPUR c/w NEON INDICATOR.
- FUSED CONNECTION UNIT c/w NEON INDICATOR.
- SP&N ISOLATOR.
- TP&N ISOLATOR.
- DOUBLE POLE ISOLATING SWITCH.
- CO — CABLE OUTLET PLATE.
- FB1 — 4NO SOCKETS & 4NO DATA OUTLETS.
- DISTRIBUTION BOARD.
- CP — ELECTRIC CHARGING POINT.
- 2 — DOUBLE DATA POINT.
- WIFI — WAP DISTRIBUTION POINT (DOUBLE DATA OUTLET, WIFI PROVIDED BY OTHERS). MOUNTED AT HIGH LEVEL/CEILING VOID.
- DADO TRUNKING RISER/DROPPER.
- DADO TRUNKING. WHERE SHOWN ON DESKS, TO BE FIXED TO INSIDE OF VANITY PANEL. WHERE DADO PASSES WINDOW ENSURE ALWAYS BELOW SILL, PVC 3COMPARTMENT.
- INDUCTION LOOP SPECIALIST DESIGN.
- I-L — INDUCTION LOOP.
- TV — TV AERIAL POINT.
- AERIAL — MAIN TV AERIAL RIG C/W POWER PROVISION AND NECESSARY ACCESSORIES TO SUPPORT FULL FUNCTION.
- D.C — NEW LOCKABLE DATA CABINET 600X600 C/W INTEGRAL 19" RACK MOUNT, 2NO 24 WAY PATCH PANELS, 6 WAY PDU VIA COMMANDO CONNECTOR. ALL ACTIVE EQUIPMENT PROVIDED BY OTHERS. DATA SPECIALIST TO CONFIRM.
- MUS — CEILING MOUNTED RECESSED MUSIC SYSTEM SPEAKER.
- RACK MOUNTED MUSIC SYSTEM.
- C — WALL MOUNTED CONTROLLER – PROVIDED BY OTHERS.
- T — WALL MOUNTED THERMOSTAT – PROVIDED BY OTHERS.
- PIR — CEILING MOUNTED PRESENCE DETECTOR – PROVIDED BY OTHERS.



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Title
ELECTRICAL ENGINEERING SERVICES
SMALL POWER AND DATA

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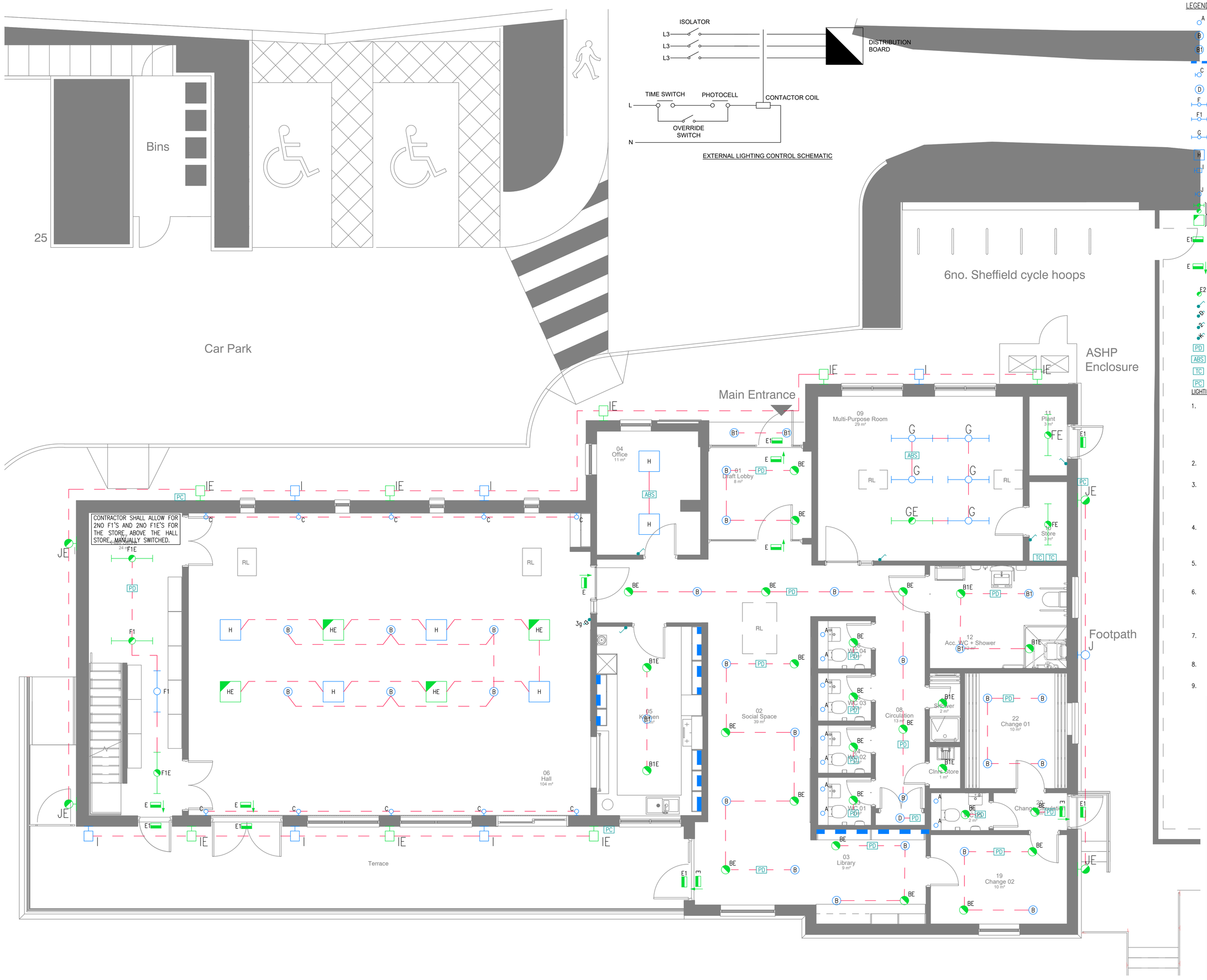

LEGEND:

- A — RECESSED MINI DOWNLIGHT LUMINAIRE WITHIN WC BULKHED.
- B — RECESSED LED DOWNLIGHTER LUMINAIRE.
- B1 — RECESSED LED IP65 DOWNLIGHTER LUMINAIRE.
- LED LINEAR STRIP – 3000K.
- C — WALL MOUNTED UPLIGHTER LUMINAIRE.
- D — SURFACE MOUNTED LED LUMINAIRE.
- F — LINEAR SURFACE MOUNTED LED LUMINAIRE c/w IP66 RATED PROTECTION.
- F1 — LINEAR SURFACE MOUNTED LED LUMINAIRE.
- G — LINEAR SUSPENDED MOUNTED LED UPWARD/DOWNWARD LUMINAIRE.
- H — RECESSED LED 600 x 600 GRID LUMINAIRE
- I — EXTERNAL SQUARE WALL MOUNTED UP/DOWNLIGHTER C/W IP65 + IK10 PROTECTION LUMINAIRE.
- J — EXTERNAL ROUND WALL MOUNTED C/W HOOD, IP65 + IK10 PROTECTION LUMINAIRE.
- HATCHING DENOTES EMERGENCY VERSION OF FITTING c/w 3 HOUR EMERGENCY CONTROL GEAR.
- E1 — SURFACE MOUNTED EMERGENCY LED MAINTAINED BULKHEAD c/w IP65 RATED PROTECTION AND 3 HOUR EMERGENCY CONTROL GEAR.
- E — SURFACE MOUNTED EMERGENCY LED MAINTAINED BULKHEAD C/W 3 HOUR EMERGENCY CONTROL GEAR AND DIRECTIONAL SIGNAGE.
- E2 — RECESSED LED EMERGENCY OPEN AREA LUMINAIRE – THORLUX FIREFLY.
- SINGLE SWITCH.
- DIMMER SWITCH.
- TWO WAY SWITCH – D DENOTES DIMMABLE.
- EMERGENCY TEST KEY SWITCH.
- PD — PRESENCE DETECTOR.
- ABS — PRESENCE DETECTOR.
- TC — DIGITAL TIME-CLOCK C/W MANUAL OVER RIDE.
- PC — PHOTOCELL.

LIGHTING NOTES

1. ALL ELECTRICAL SERVICES INSTALLATIONS SHALL COMPLY TO BS7671:2018 18TH EDITION IET WIRING REGULATIONS AND ALL AMENDMENTS, CIBSE CODES, RELEVANT BRITISH STANDARDS AND OTHER GOOD PRACTICE GUIDELINES. THIS DRAWING SHALL BE READ WITH REFERENCE TO ALL RELEVANT DRAWINGS AND DOCUMENTS. ALL ELECTRICAL SERVICES SHALL BE CO-ORDINATED WITH MECHANICAL SERVICES, FF&E AND BUILDING STRUCTURE.
2. THIS DRAWING SHALL BE READ WITH REFERENCE TO ALL RELEVANT DRAWINGS AND DOCUMENTS.
3. ALL ELECTRICAL SERVICES SHALL BE CO-ORDINATED WITH MECHANICAL SERVICES AND INCLUDE FOR CO-ORDINATING THE INSTALLATION OF THE LUMINAIRES WITH THE INSTALLATION OF THE CEILING FINISHES AND OTHER SERVICES TAKING COGNIZANCE OF THE DEPTH OF ANY STRUCTURAL BEAMS ABOVE THE CEILING.
4. THE WIRING INSTALLATION SHALL BE CONCEALED INSTALLED WITHIN THE CEILING VOID LAID ON BASKET UTILISING MULTI R E LSZH CABLES IN GALVANISED CONDUITS AND TRUNKING TO FORM A NEW INSTALLATION.
5. THE CONTRACTOR SHALL ALLOW FOR ALL SUSPENSION WIRING, BRACKETS, ADAPTERS, ANCILLARY DEVICES, KEYS, DRIVERS, BALLASTS ETC.
6. LIGHT SWITCHES SHOULD BE POSITIONED BETWEEN 900MM AND 1.1M ABOVE FLOOR LEVEL AND ALL EMERGENCY LIGHTING INSTALLATIONS SHALL BE COMPLETE WITH EMERGENCY TEST KEY SWITCH'S LOCAL TO DISTRIBUTION BOARDS ENGRAVED TO DENOTE DUTY AND CARRIED OUT IN ACCORDANCE WITH BS5266.
7. LIGHTING CONTROL SPECIALIST TO ADVISE ON BEST LOCATION, NUMBER AND TYPE OF LIGHTING CONTROL SENSORS TO ENSURE EFFECTIVE LUMINAIRE CONTROL.
8. EMERGENCY LIGHTING TO COMPLY WITH BS5266. SIGNAGE TO BE PROVIDED BY ARCHITECT.
9. ALL EMERGENCY TEST KEY SWITCHES TO BE LOCAL TO DISTRIBUTION BOARDS.

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ELECTRICAL ENGINEERING SERVICES
GENERAL & EMERGENCY LIGHTING
LAYOUT

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NOTES

1. THE CONTRACTOR SHALL SUPPLY, INSTALL TEST AND COMMISSION A GENT OR EQUAL AND APPROVED ANALOGUE ADDRESSABLE FIRE ALARM AND DETECTION SYSTEM TO AFFORD CATEGORY L1 PROTECTION AND TO PROVIDE SIGNALS FOR AUTOMATIC PLANT SHUTDOWN IN THE EVENT OF A FIRE ACTIVATION.

2. THE DESIGN SHALL BE IN FULL COMPLIANCE WITH THE FOLLOWING STANDARDS:

   - ELECTRICITY AT WORK ACT 1989.
   - HEALTH AND SAFETY AT WORK ACT 2014.
   - BS7671:2018. IET WIRING REGULATIONS.
   - BS5839 PARTS 1:2017, FIRE DETECTION AND ALARM SYSTEMS IN BUILDING.
   - BS EN 54: PART 11: 2001 MANUAL SYSTEM
   - BS EN54-23.
   - ALL RELEVANT BRITISH STANDARDS.
   - ALL RELEVANT BUILDING REGULATIONS.
   - LPCB REQUIREMENTS 2014.

3. THE ENTIRE FIRE DETECTION AND ALARM INSTALLATION/SYSTEM SHALL BE DESIGNED, INSTALLED AND COMMISSIONED BY A SPECIALIST INSTALLER/PROVIDER WHO MUST BE BAFE SP203 ACCREDITED INSTALLER. CONFIRMATION OF THIS SHALL BE PROVIDED BY THE CONTRACTOR.

4. A DEDICATED MAINS SUPPLY DIRECT FROM THE MAIN LV PANEL BOARD SHALL BE PROVIDED TO THE FIRE ALARM PANEL, AND SHALL TERMINATE VIA A LOCAL TOOL OPERATED COMPLIANT ISOLATION UNIT ADJACENT TO THE FIRE ALARM CONTROL PANEL. THE DEDICATED SUPPLY SHALL BE RED AND PADLOCKED IN THE ON POSITION AND CLEARLY LABELLED WITH A RED TRAFFOLYTE LABEL INDICATING THAT A FIRE ALARM SYSTEM IS DERIVED FROM THIS DEVICE. ADJACENT THE MAIN PANEL BOARDS MAIN ISOLATOR A RED TRAFFOLYTE LABEL SHALL BE INSTALLED INDICATING THAT A FIRE ALARM SYSTEM IS DERIVED FROM THIS PANEL AND SHOULD NOT BE ISOLATED.

5. CABLING FOR THE SYSTEM SHALL BE CARRIED OUT IN FP RATED CABLING. CABLES FIXED DIRECTLY TO THE BUILDING STRUCTURE OR UPON CABLE BASKET SHALL BE SECURELY FASTENED USING METALLIC RESTRAINTS TO SUIT THE MANUFACTURERS AND BRITISH STANDARD REQUIREMENTS WITH INTERMEDIATE SUPPORT BEING PROVIDED USING PLASTIC CLIPS. THE CONTAINMENT/SUPPORT SYSTEM SHALL BE CONTINUOUS AS SUCH THAT CABLES ARE CONTAINED/SUPPORTED TO WITHIN 500mm OF THEIR TERMINATION POINTS.

6. VISUAL NOTIFICATION SHALL GENERALLY BE PROVIDED THROUGHOUT THE BUILDING FOR OCCUPANTS/STAFF WITH IMPAIRED HEARING. VISUAL ALARM DEVICES SHALL BE BSEN54-23 COMPLIANT AND THE REQUIRED ILLUMINANCE LEVELS SHALL BE ACHIEVED. NUMBER OF VAD'S REQUIRED WILL BE DETERMINED BY THE MANUFACTURERS EQUIPMENT PERFORMANCE.

7. SOUNDERS SHALL BE DESIGNED TO ACHIEVE AUDIBILITY LEVELS AS REQUIRED BY ANNEX B OF THE BRITISH STANDARD WHICH STATES TYPICAL NOISE LEVELS.

8. MANUAL CALL POINTS SHALL BE PROVIDED c/w PROTECTIVE CLEAR PERSPEX COVERS.

9. THE FIRE DETECTION AND ALARM SYSTEM SHALL INCLUDE INTERFACES FOR THE FOLLOWING SYSTEMS AS WELL AS ANY OTHER DEEMED NECESSARY TO FORM A COMPLETE SYSTEM:

   - MECHANICAL SERVICES CONTROL PANELS – CEASE OPERATION IN THE EVENT OF A FIRE CONDITION.
   - ELECTRICALLY OPERATED DOORS FORMING PART OF THE ESCAPE ROUTE.
   - KITCHEN VENTILATION INTERLOCK
   - GAS CONTROL PANEL
   - GAS SOLENOID VALVE

10. THE CONTRACTOR SHALL ENSURE THAT WHEN THE FIRE ALARM IS IN TEST, ALL INTERFACES ARE NOT ACTIVATED.

11. THE CONTRACTOR SHALL CARRY OUT ALL TESTING AND COMMISSIONING ON COMPLETION OF THE SYSTEM IN ACCORDANCE WITH ALL THE RELEVANT REGULATIONS, STANDARDS AND THIS SPECIFICATION.

12. THE CONTRACTOR SHALL PROVIDE A ZONAL DIAGRAM AT THE FIRE ALARM PANELS LOCATED IN THE BUILDING TO SUIT THE SITE FIRE ALARM SYSTEM. THE CONTRACTOR SHALL ALSO BE EXPECTED TO PRODUCE ON SITE DRAWINGS AT THE END OF THE WORKS SO THERE ARE A FULL SET OF COMPREHENSIVE AS BUILT DRAWINGS THAT CLEARLY IDENTIFY THE INTERFACES AND SYSTEM EXTENT.

13. OUTLETS AND CONTROLS OF ELECTRICAL FIXTURES AND SYSTEMS TO BE POSITIONED AT LEAST 350mm FROM ANY INTERNAL CORNER OR PROJECTING WALL AND NOT MORE THAN 1200mm ABOVE FLOOR LEVEL. THIS SHOULD INCLUDE FIXTURES SUCH AS SOCKETS, SWITCHES, FIRE ALARM CALL POINTS AND TIMER CONTROLS OR PROGRAMMERS.

Do Not Scale

FIRE ALARM LEGEND

- MANUAL CALL POINT.
- SMOKE DETECTOR – CV DENOTES CEILING VOID.
- HEAT DETECTOR.
- SMOKE DETECTOR c/w SOUNDER BASE.
- HEAT DETECTOR c/w SOUNDER BASE.
- SMOKE DETECTOR c/w SOUNDER BEACON BASE.
- HEAT DETECTOR c/w SOUNDER BEACON BASE.
- CARBON MONOXIDE DETECTOR.
- CEILING VOID LED NOTIFICATION
- FAP — FIRE ALARM PANEL.
- FAI — FIRE ALARM INTERFACE.
- FIRE ALARM SOUNDER c/w INTEGRAL LED BEACON.
- WP — FIRE ALARM SOUNDER – 'WP' DENOTES WEATHERPROOF.

SECURITY LEGEND

- IAP — INTRUDER ALARM PANEL.
- INTRUDER ALARM WALL MOUNTED PIR MOTION DETECTOR.
- KR — INTRUDER ALARM REMOTE KEYPAD.
- DC — INTRUDER ALARM DOOR CONTACT.
- INTRUDER ALARM INTERNAL SOUNDER.
- INTRUDER ALARM EXTERNAL SOUNDER – * DENOTES DUMMY SOUNDER.
- B — FRONT DOOR BELL SOUNDER.
- PB — FRONT DOOR PUSH BELL.
- DISABLED WC ALARM PULL CORD.
- RU — DISABLED WC ALARM RESET UNIT.
- OLG — DISABLED WC ALARM OVERDOOR LAMP/SOUNDER.
- PTO — ACCESS CONTROL PUSH TO OPEN.
- PTE — ACCESS CONTROL PUSH TO EXIT BUTTON.
- CCTV — FULL COLOUR (PoE) CCTV CAMERA. * DENOTES EXTERNAL GRADE VANDAL RESISTANT AND IP RATED.
- PSU — CCTV POWER SUPPLY UNIT.
- NVR — NETWORK VIDEO RECORDER.
- TVM — CCTV 19" TV MONITOR.

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FIRE ALARM & SECURITY LAYOUT

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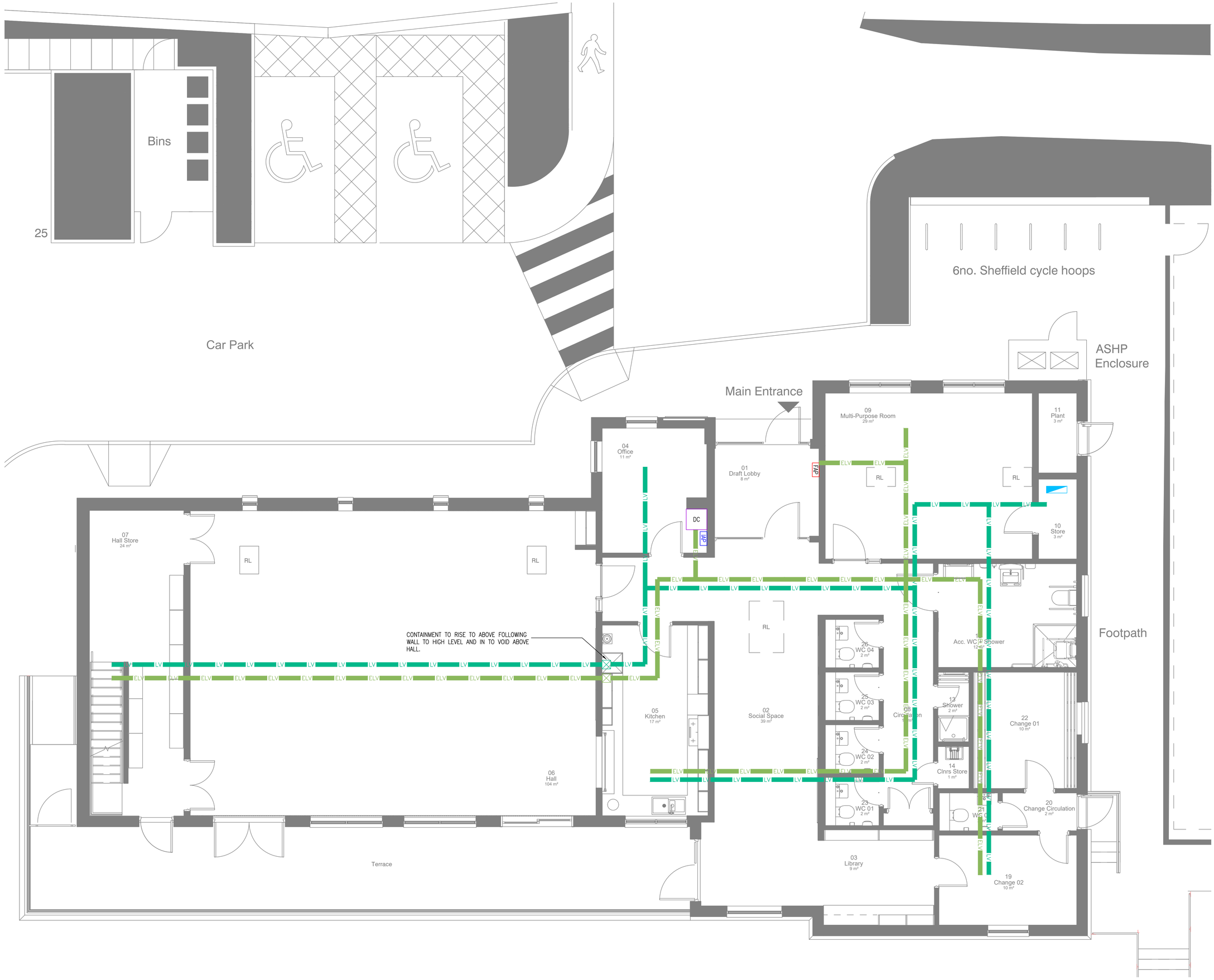

LEGEND

LV LV LV	300mm LV BASKET
ELV ELV ELV	300mm BASKET C/W WITH SUB-DIVIDERS 150mm DATA 100mm SECURITY/CONTROLS & 50mm FA BASKET.
	SUB-DISTRIBUTION BOARD.
	RISE/DROPS.
FAP	FIRE ALARM PANEL.
DC	DATA CABINET.
IAP	INTRUDER ALARM PANEL.

NOTES

1. DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT M&E DOCUMENTATION.
2. ALL ELECTRICAL SERVICES SHALL BE CO-ORDINATED WITH MECHANICAL SERVICES AND INCLUDE FOR CO-ORDINATING WITH THE INSTALLATION OF THE CEILING FINISHES AND OTHER SERVICES TAKING COGNIZANCE OF THE DEPTH OF ANY STRUCTURAL BEAMS ABOVE THE CEILING.
3. THE CONTRACTOR SHALL PROVIDE, TEST AND INSTALL A COMPLETE CABLE CONTAINMENT SYSTEM WHICH WILL INCLUDE THE CABLE SUPPORT SYSTEMS, INCLUDING CABLE TRUNKING AND CONDUITS. THE MAIN CONTAINMENT SHALL BE ROUTED THROUGH THE CEILING VOID. CONTAINMENT SHOWN IS MINIMUM REQUIREMENT. CONTRACTOR CAN EXTEND SYSTEMS TO ENABLE SIMPLER SITE INSTALLATION. ALL SIZES MINIMUM.
4. ANY ADDITIONAL CONTAINMENT DEEMED AS NECESSARY BY THE CONTRACTOR TO ROUTE CABLES TO FINAL LOCATIONS OF M&E SERVICES SHALL BE PROVIDED. ALL SECONDARY CONTAINMENT FOR ELECTRICAL SERVICES AND MECHANICAL CONTROLS SHALL BE PROVIDED.
5. THE CONTRACTOR SHALL ALLOW TO CO-ORDINATE THE CONTAINMENT WITH ALL OTHER SERVICES INCLUDING MECHANICAL PIPE WORK AT HIGH LEVEL AND STRUCTURE. THERE WILL BE A REQUIREMENT FOR BENDS AND SETS NOT SHOWN ON THIS DRAWING.
6. PRIMARY CONTAINMENT SHOWN ONLY, CONTRACTOR TO ALLOW FOR SECONDARY CONTAINMENT AS REQUIRED TO PROVIDE A FULLY CONTAINED ELECTRICAL WIRING INSTALLATION. SECONDARY CONDUITS/TRUNKING NOT INDICATED ON THE DRAWING HOWEVER SHALL BE INCLUDED WITHIN THE CONTRACTORS TENDER RETURN SO ALL CABLES ARE FULLY SUPPORTED IN THEIR ENTIRETY.
7. SIZES SHOWN ON THIS DRAWING ARE MINIMUM REQUIREMENT FOR FULL CONTAINMENT OF CABLING. CONTAINMENT SHALL NOT BE LIABLE TO PREMATURE COLLAPSE IN THE EVENT OF A FIRE.
8. PENETRATION OF FIRE WALLS/COMPARTMENTS TO BE INTUMESCENTLY SEALED TO CORRECT RATING AS REQUIRED.

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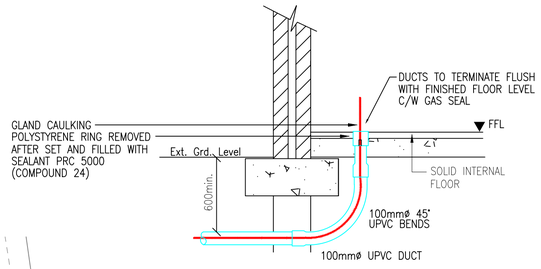
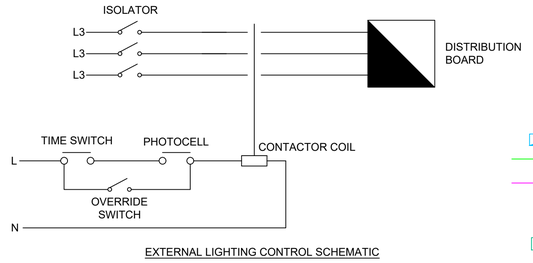


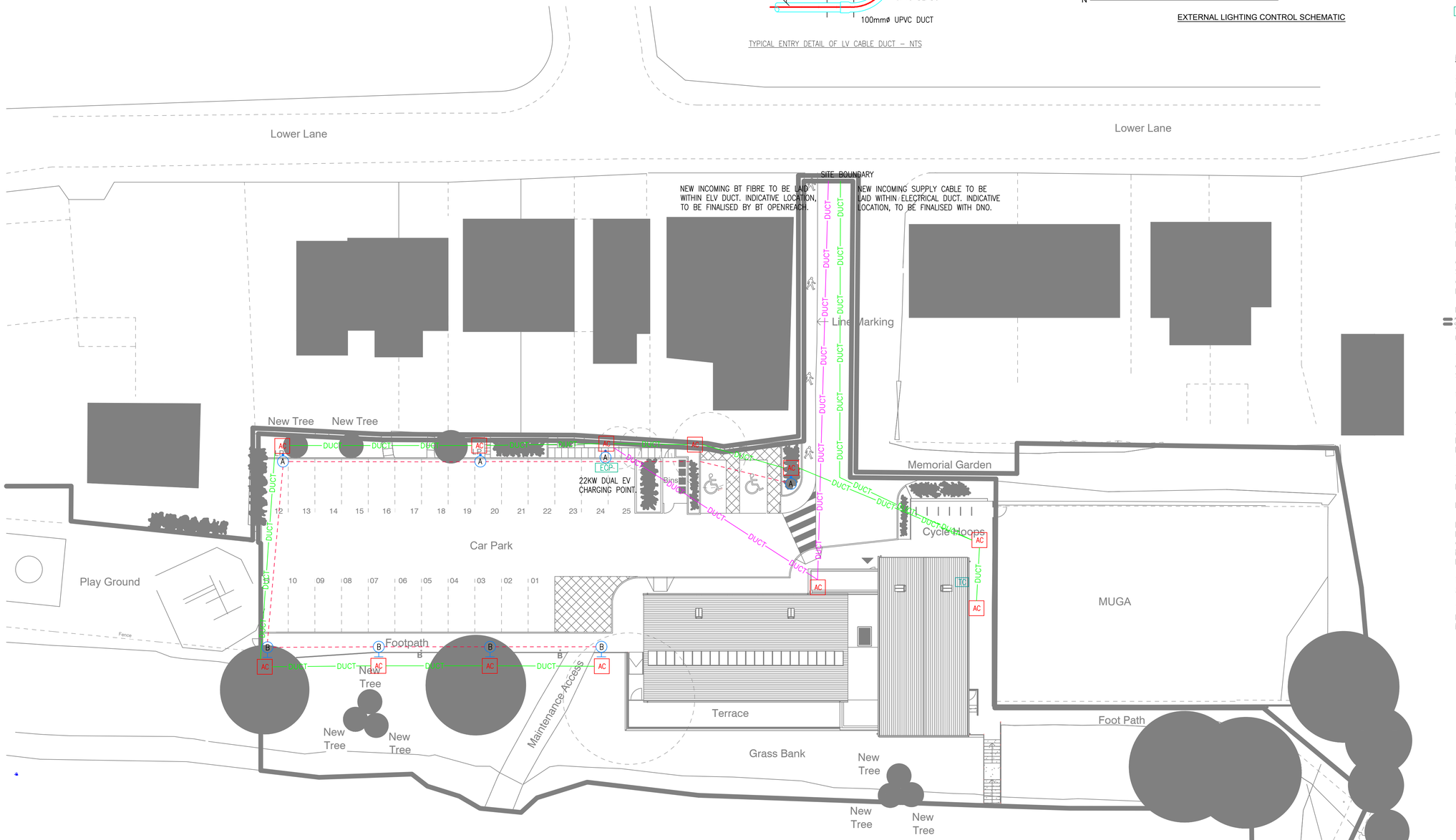
TYPICAL ENTRY DETAIL OF LV CABLE DUCT – NTS



EXTERNAL LIGHTING CONTROL SCHEMATIC

EXTERNAL LIGHTING LEGEND:

- (A) COLUMN MOUNTED LUMINAIRE C/W MINI PHOTOCELL AND 5 METRE COLUMN.
- (B) BOLLARD MOUNTED LUMINAIRE.
- TC TIME CLOCK
- 3 PHASE DISTRIBUTION BOARD.
- 150mm BLACK LV DUCTS C/W WARNING TAPE.
- 100mm PURPLE ELV DUCTS C/W WARNING TAPE.
- AC ACCESS CHAMBER
- ECP ELECTRIC CHARGING POINT.



NOTES

ALL ELECTRICAL SERVICES INSTALLATIONS SHALL COMPLY TO AND BE TESTED TO BS7671:2018 2018, 18TH EDITION IET WIRING REGULATIONS AND ALL AMENDMENTS, CIBSE CODES, BS AND OTHER GOOD PRACTICE GUIDELINES.

THIS DRAWING SHALL BE READ WITH REFERENCE TO ALL RELEVANT DRAWINGS AND DOCUMENTS.

ALL DUCTS SHALL BE SEALED AND FILLED WITH EXPANDING FOAM DURING AND AFTER INSTALLATION TO PREVENT INGRESS OF WATER DEBRIS OR RODENTS. DRAW ROPES TO BE INSTALLED IN DUCTS. DUCTS TO BE PROVIDED UNDER HARD STANDING AND INTO BUILDING – ALL HAVE SLOW BENDS.

MINIMUM NUMBER OF ACCESS/INSPECTION CHAMBERS SHOWN. CONTRACTOR SHALL AUGMENT AS NECESSARY ON SITE TO SUIT THE INSTALLATION REQUIREMENTS. ACCESS CHAMBERS SHALL BE PROVIDED WITH WEATHER TIGHT INSPECTION COVERS FITTED WITH TAMPERPROOF FIXINGS SUITABLE FOR ROADS.

CONTRACTOR SHALL PROVIDE ACCESS CHAMBERS AS REQUIRED TO SUIT THE INSTALLATION. ACCESS CHAMBERS TO BE PROVIDED FOR CHANGE IN DIRECTIONS AND AT INCOMING/OUTGOING POINTS TO BUILDINGS.

EXACT SERVICES AND ROUTES TO BE DETERMINED ON SITE

Application Side By Side Comparison

ONLY CABLE DUCTING IN ACCORDANCE WITH THE NATIONAL JOINT UTILITIES GROUP GUIDELINES (NJUG):

THE LV DUCT MUST BE COLOURED BLACK AND INDELIBLY AND CLEARLY MARKED WITH THE LEGEND "ELECTRIC CABLE DUCT". ELV SHALL BE PURPLE

150MM DUCTS ARE REQUIRED FOR LV & 100MM FOR ELV CABLES.

ONLY TILE TAPE IN ACCORDANCE WITH THE ENERGY NETWORKS ASSOCIATION'S TECHNICAL SPECIFICATION ENA–TS 12–23 IS ACCEPTABLE. THE TILE TAPE MUST BE INSTALLED 100MM ABOVE THE DUCTING AND MUST BE CLEANLY CUT, SQUARE AND WITH NO SHARP EDGES.

THE CONTRACTOR SHALL ALLOW TO CAT SCAN THE UNDERGROUND SERVICES AS SOON AS THEY ARE ON SITE TO ESTABLISH ANY EXISTING UNDERGROUND SERVICES AFFECTED BY THE WORKS.

DUCTING MUST BE INSTALLED AT THE CORRECT DEPTH, AS FOLLOWS;

FOR LOW–VOLTAGE AND ELV CABLES (230/400 VOLTS) THE 100mm DUCT MUST BE LAID SO THAT THE TOP OF THE DUCT IS A MINIMUM OF 450mm BELOW THE FINAL SURFACE LEVEL OF PATHWAYS AND A MINIMUM OF 600mm BELOW THE FINAL SURFACE LEVEL OF ROADWAYS.

THE MAIN CONTRACTOR SHALL CARRY OUT ALL THE TRENCHING ASSOCIATED WITH LAYING THE NEW EXTERNAL DUCTS.

THE CONTRACTOR SHALL MAKE ALLOWANCE TO RECONNECT 3NO EXTERNAL LIGHTING COLUMNS TO THE EAST OF THE SITE IN TO THE NEW INFRASTRUCTURE, EXACT LOCATIONS TO FOLLOW ON.

REV.	DATE	DRN	CHKD	DESCRIPTION
T1	17.01.22	MK	PF	TENDER ISSUE.
P1	17.12.21	MK	PF	RIBA STAGE 3.

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Client

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D3 ASSOCIATES
ARCHITECTURE & ENERGY

Project
CHINLEY COMMUNITY CENTRE

Title
ELECTRICAL ENGINEERING SERVICES
EXTERNAL SERVICES LAYOUT

Scale:	Sheet:	Date:	Drawn by: MK
1:50	A1	DEC. 2021	Checked by: PF

Project No.:	Drg. No.:	Revision:
3001	(96)_001	T1

Status: TENDER