EXTERNAL SERVICES STANDARD NOTES

CABLE INSTALLATION INTO DUCTS:

INSTALL CABLES INTO NEWLY PROVED AND CLEANED DUCT. USE LUBRICANTS, RECOMMENDED BY THE CABLE MANUFACTURER IN WRITING, TO ASSIST DRAWING PROCESS.
FLAME CABLE IF DRUMS OR REELS ARE NOT SUITABLE FOR JACKING.
AT INTERMEDIATE DRAW PITS WITH EXIT DUCT MORE THAN 15° OFF LINE OF ENTRY DUCT, FLAME CABLE BEFORE ENTERING OR PROVIDE COMPREHENSIVE SYSTEM OF CORNER PLATES, ROLLER AND BLOCKS.
USE MAXIMUM PRACTICAL SIZE OF TURNS WHEN FLAKING AND ENSURE DIRECTION IS CORRECT.
DO NOT EXCEED MANUFACTURER'S INSTALLATION TENSION ON CABLE AND ENSURE THE PULLING TENSION IS TAKEN ON CABLE ELEMENTS DESIGNED FOR THAT PURPOSE, THAT IS ARMOUR OR CONDUCTOR CORES AND NOT ON OTHER ELEMENTS. SUCH AS PLASTIC SHEATH OR CONDUCTOR INSULATION.
DO NOT ALLOW CABLES BEING PULLED INTO DUCTS TO TWIST. USE APPROPRIATE SWIVEL BETWEEN PULLING BOND AND CABLE STOCKING OR SIMILAR APPLIANCE.
BIND TREFOIL GROUPS OF SINGLE CORE CABLES INSTALLED INTO A SINGLE DUCT AT 1M INTERVALS. INSTALL EARTH OR PROTECTIVE CONDUCTORS INTO THE SAME DUCT AS THE ASSOCIATED CABLE WHERE PRACTICAL, THROUGH MANHOLES, DRAW PITS AND JOINTING CHAMBERS. BIND THE TWO CABLES TOGETHER. PULL ALL CABLES IN ONE DUCT AS A GROUP. ENSURE GROUP DOES NOT TWIST OR CROSS OVER. REPORT ANY DAMAGE TO CABLE SHEATH DURING INSTALLATION AND CARRY OUT ANY INSTRUCTED WORK TO REMEDY THE DAMAGE.
SEAL BETWEEN CABLE AND DUCT ENDS AFTER CABLE INSTALLATION.
ENSURE CABLE ENDS IN JOINTING CHAMBERS ARE TEMPORARILY SEALED WHERE REQUIRED.

SECURITY SYSTEMS NOTES

THE PURPOSE OF THIS DRAWING IS THAT THE CLOSED CIRCUIT TELEVISION SYSTEM AND COMPONENTS PROVIDED ARE IN COMPLIANCE WITH IT. WILL DELIVER THE WHOLE IN ACCORDANCE WITH NATIONAL CYCLING CENTRE (NCC) & MANCHESTER CITY COUNCIL (MCC) POLICIES AND BE PERTINENT TO THE NATURE OF THIS PROJECT AND IT'S SURROUNDINGS.

THESE SYSTEMS UTILISE THE STRUCTURED CABLING SYSTEM AND ACTIVE NETWORK INFRASTRUCTURE FOR DATA CONNECTIVITY AND TELECOMMUNICATIONS PURPOSES. PROVIDE A CCTV NETWORK SERVER c/w FIBRE OPTIC COMMUNICATIONS FACILITY TO ENABLE TRANSMISSION INTO THE NCC DATA/ COMMS ROOM. PROVIDE ALL EQUIPMENT AND LICENCES NECESSARY TO ENABLE REMOTE MONITORING BY LOCAL SURVEILLANCE COMPANIES.

ANY CONDUIT OR TRUNKING MUST SUPPORT THE FUNCTION OF THE CABLING SYSTEM AND PROVIDE PROTECTION, ADEQUATE SEPARATION DISTANCE AND PRESENTATION AS REQUIRED BY THE CABLING AND EMC DESIGN.

SECURITY DATA AND VOICE CABLING SHOULD BE SECURED WITHOUT DEFORMATION OF THE OUTER JACKET AND WITH A NON-COMPRESSIVE SECURING TIE.

ALL CABLE ROUTES MUST CARRY A PERMANENT AND VISIBLE IDENTIFIER WHICH IS CODED AS PART OF THE ADMINISTRATION SYSTEM.

INSTALL ALL FIRE STOPPING SYSTEMS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE TEST / ASSESSMENT / CERTIFICATION EVIDENCE PROVIDED BY THE INSTALLER / MANUFACTURER OF THE PENETRATION SEAL.

SUPPORT CENTRES FOR SERVICES PASSING THROUGH PENETRATION SEALS SERVING FIRE BARRIERS TO BE THE SAME AS THOSE COVERED BY THE TEST / ASSESSMENT / CERTIFICATION EVIDENCE PROVIDED BY THE INSTALLER / MANUFACTURER OF THE PENETRATION SEAL.

INSTALLATION:
INSTALL, COMMISSION AND SET TO WORK DATA COMMUNICATIONS SYSTEMS IN ACCORDANCE WITH THE CABLING SYSTEM STANDARDS, THE MANUFACTURER'S RECOMMENDATIONS AND TELECOMMUNICATIONS SERVICE PROVIDER'S REGULATIONS.

CABLE INSTALLATION:
INSTALL CABLES AS REQUIRED. PROTECT CABLES FROM MECHANICAL DAMAGE. INSTALL IN ACCORDANCE WITH:
BS 7671 REQUIREMENTS FOR ELECTRICAL INSTALLATIONS. IET WIRING REGULATIONS.
BS EN 50131-1 ALARM SYSTEMS. INTRUSION AND HOLD-UP SYSTEMS.
JOINTING - NO JOINTS PERMITTED.
SUPPORT INTERMEDIATE WIRING IN CONDUIT AND STEEL TRUNKING.

STRUCTURED CABLING INSTALLATION:
PLAN AND INSTALL THE CABLING SYSTEMS BS EN 50173-1, BS EN 50173-2, BS EN 50173-3, BS EN 50173-4, BS EN 50173-5 and BS EN 50173-6 and BS EN 50174-1, BS EN 50174-2, BS EN 50174-3.

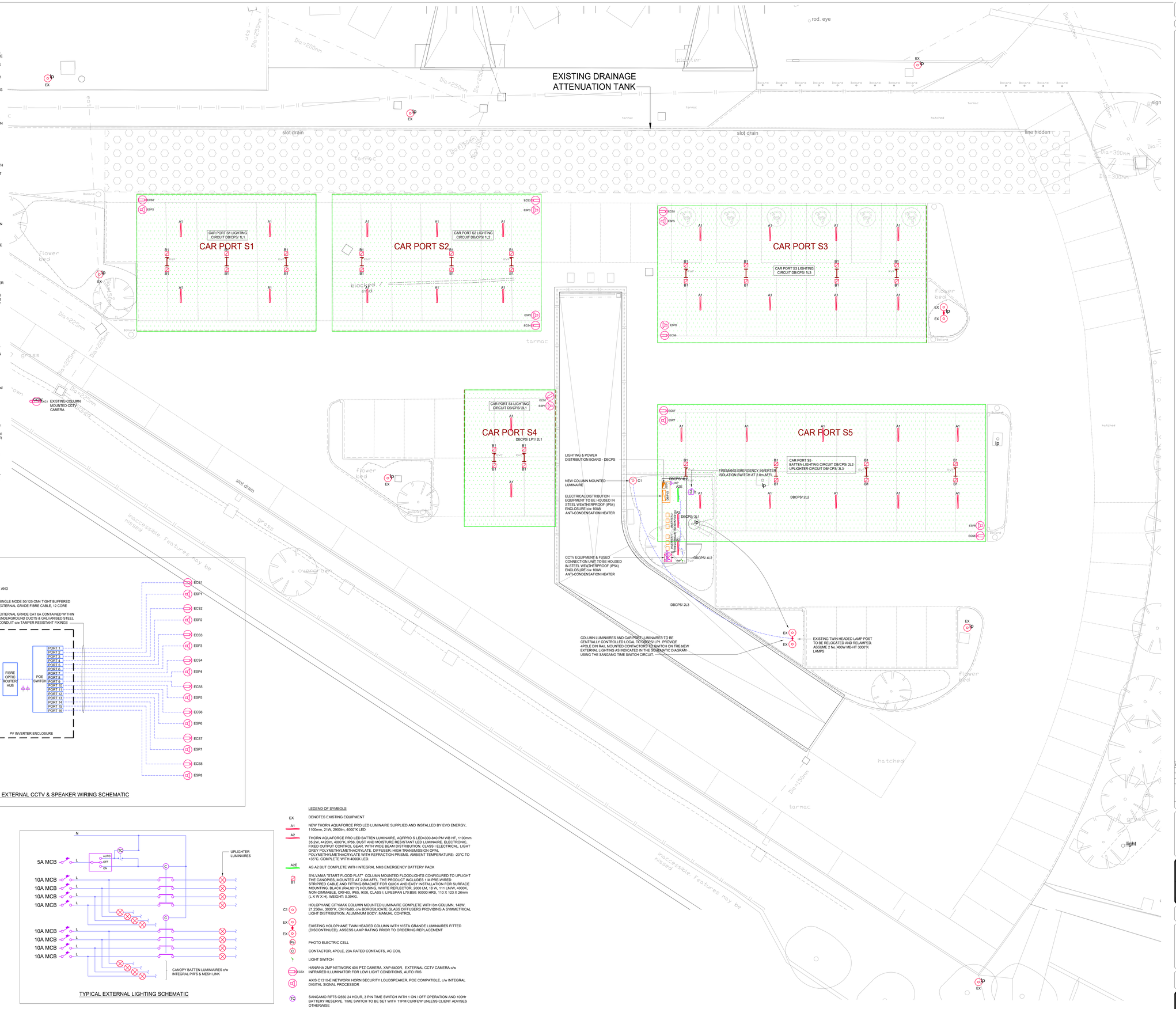
WORKMANSHIP FOR CONDUIT
DRAW-IN BOXES:
PROVIDE DRAW-IN BOXES IN CONDUIT AT MAXIMUM INTERVALS OF 10 METRES OR AFTER BENDS AND/OR SETS TOTALLING 180°.

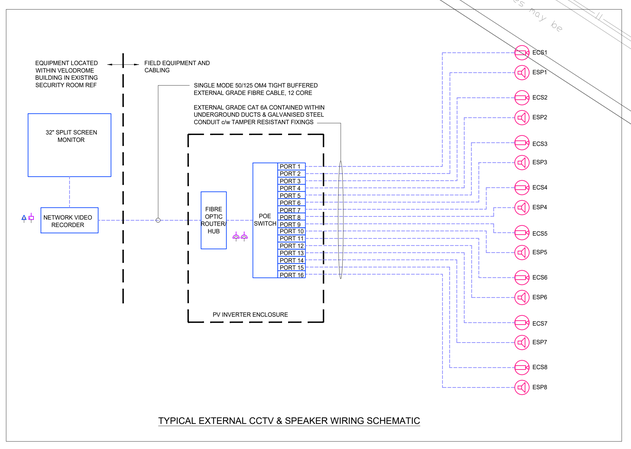
WORKMANSHIP FOR TRUNKING
ARRANGE TRUNKING TO ALLOW ACCESS TO WIRING. LOCATE COVERS ON TOP OR SIDES OF TRUNKING IF PRACTICABLE. ARRANGE ACCESS SO COVERS ARE ON A CONTINUOUS FACE AND CABLES CAN BE LAID IN THROUGHOUT THE LENGTH OF THE TRUNKING. NOTIFY WHERE EITHER CONDITION CANNOT BE ACHIEVED.

FIXING TRUNKING:
ENSURE TRUNKING IS INDEPENDENTLY FIXED AND SUPPORTED FROM BUILDING FABRIC. OBTAIN APPROVAL FOR PROPOSED FIXINGS/ SUPPORTS.

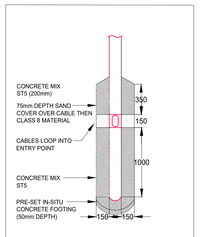
SUPPORT TRUNKING IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS, BS 7671 (IET WIRING REGULATIONS), AND THE LATEST EDITION OF GUIDANCE NOTE 1 SELECTION AND ERECTION PUBLISHED BY THE IET.
ENSURE CONDUIT IS NOT UNDER MECHANICAL STRESS. FIX CONDUIT BOXES INDEPENDENTLY OF CONDUIT. MAKE ALLOWANCE FOR ANY ADDITIONAL MECHANICAL LOADING SUPPORTED BY CONDUIT BOXES.
WHERE PROTECTION IS SPECIFIED AS IP44 OR GREATER ENSURE FIXINGS OF CONDUIT BOXES ARE SUITABLE TO MAINTAIN DEGREE OF PROTECTION.

CCTV SYSTEM REQUIREMENTS:




TYPICAL EXTERNAL CCTV & SPEAKER WIRING SCHEMATIC




TYPICAL LIGHTING COLUMN ROOT-MOUNTING DETAIL (NTS) IN SOFT LANDSCAPING

ALWAYS FOLLOW THE COLUMN & HEAD MANUFACTURERS RECOMMENDATIONS WHEN INSTALLING. DETAIL IS FOR GUIDANCE ONLY.



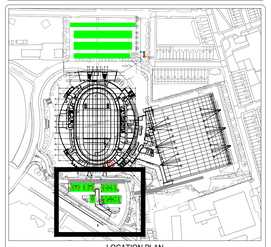

TYPICAL EXTERNAL LIGHTING SCHEMATIC

LEGEND OF SYMBOLS

| | |
|---|---|
| EX | DENOTES EXISTING EQUIPMENT |
| A1 | NEW THORN AQUAFORCE PRO LED LUMINAIRE SUPPLIED AND INSTALLED BY EVO ENERGY, 1100mm, 21W, 2900lm, 4000°K LED |
| A2 | THORN AQUAFORCE PRO LED BATTEN LUMINAIRE, AQFPRO S LED4300-840 PM WB HF, 1100mm 35.2W, 4420lm, 4000°K, IP66, DUST AND MOISTURE RESISTANT LED LUMINAIRE. ELECTRONIC, FIXED OUTPUT CONTROL GEAR, WITH WIDE BEAM DISTRIBUTION. CLASS I ELECTRICAL. LIGHT GREY POLYMETHYLMETHACRYLATE. DIFFUSER: HIGH TRANSMISSION OPAL POLYMETHYLMETHACRYLATE WITH REFRACTION PRISMS. AMBIENT TEMPERATURE: -20°C TO +35°C. COMPLETE WITH 4000K LED. |
| A2E | AS A2 BUT COMPLETE WITH INTEGRAL NM3 EMERGENCY BATTERY PACK |
| B1 | SYLVANIA "START FLOOD FLAT" COLUMN MOUNTED FLOODLIGHTS CONFIGURED TO UPLIGHT THE CANOPIES, MOUNTED AT 2.8M AFFL. THE PRODUCT INCLUDES 1 M PRE-WIRED STRIPPED CABLE AND FITTING BRACKET FOR QUICK AND EASY INSTALLATION FOR SURFACE MOUNTING. BLACK (RAL9017) HOUSING, WHITE REFLECTOR, 2000 LM, 18 W, 111 LM/W, 4000K, NON-DIMMABLE, CRI>80, IP65, IK06, CLASS I, LIFESPAN L70 B50: 90000 HRS, 110 X 123 X 26mm (L X W X H). WEIGHT: 0.39KG. |
| C1 | HOLOPHANE CITYMAX COLUMN MOUNTED LUMINAIRE COMPLETE WITH 8m COLUMN, 148W, 21,236lm, 3000°K, CRI Ra80, c/w BOROSILICATE GLASS DIFFUSERS PROVIDING A SYMMETRICAL LIGHT DISTRIBUTION, ALUMINIUM BODY. MANUAL CONTROL |
| EX | EXISTING HOLOPHANE TWIN HEADED COLUMN WITH VISTA GRANDE LUMINAIRES FITTED (DISCONTINUED). ASSESS LAMP RATING PRIOR TO ORDERING REPLACEMENT |
| PV | PHOTO ELECTRIC CELL |
| C | CONTACTOR, 4POLE, 20A RATED CONTACTS, AC COIL |
| | LIGHT SWITCH |
| CCTV | HANWHA 2MP NETWORK 40X PTZ CAMERA, XNP-6400R, EXTERNAL CCTV CAMERA c/w INFRARED ILLUMINATOR FOR LOW LIGHT CONDITIONS, AUTO IRIS |
| ECS | AXIS C1310-E NETWORK HORN SECURITY LOUDSPEAKER, POE COMPATIBLE, c/w INTEGRAL DIGITAL SIGNAL PROCESSOR |
| TC | SANGAMO RPTS Q550 24 HOUR, 3 PIN TIME SWITCH WITH 1 ON / OFF OPERATION AND 100Hr BATTERY RESERVE. TIME SWITCH TO BE SET WITH 11PM CURFEW UNLESS CLIENT ADVISES OTHERWISE |

0 — 100
This drawing may have been reduced — original scale : 100mm

Reference Drawings | Legend | Notes



LOCATION PLAN

LIGHTING & LIGHTING CONTROL STANDARD NOTES

THIS DRAWING SHALL BE READ IN ACCORDANCE WITH THE ELECTRICAL SPECIFICATION NOTES, DRAWINGS AND EQUIPMENT SCHEDULES. CATALOGUE NUMBERS INDICATED ON DRAWINGS ARE FOR GUIDANCE ONLY. THE CONTRACTOR MUST VERIFY ALL REFERENCE NUMBERS WITH THE MANUFACTURE AND PROVIDE A TECHNICAL SUBMITTAL FOR COMMENT BY THE ENGINEER FOR ALL LUMINAIRES PRIOR TO PROCUREMENT.

COORDINATE ALL ELECTRICAL WORKS ASSOCIATED WITH THE CANOPIES AND PV INVERTER ENCLOSURE WITH EVO ENERGY

COMPLY WITH THE FOLLOWING - REQUIREMENTS FOR ELECTRICAL INSTALLATIONS (IET WIRING REGULATIONS) BS 7671

LUMINAIRE STANDARDS
SUPPLY LUMINAIRES WITH PHOTOMETRIC DATA IN ACCORDANCE WITH BS EN 13032-1.
SUPPLY LUMINAIRES IN ACCORDANCE WITH BS EN 60598.
FIXED GENERAL PURPOSE LUMINAIRES TO BS 4533-102 1 (EN 60598-2-1)
LUMINAIRES FOR ROAD AND STREET LIGHTING TO BS 5489-1.
LED MODULES FOR GENERAL LIGHTING TO BS EN 62031.

INSPECTION AND TEST PROCEDURE:
a. COMPLY WITH BS 7671 (IET WIRING REGULATIONS). PROVIDE COMPLETION CERTIFICATES IN ACCORDANCE WITH BS 7671 (IET WIRING REGULATIONS).
b. CARRY OUT SITE TESTING AND INSPECTION AND PROVIDE TEST CERTIFICATES FOR SPECIALIST INSTALLATIONS. RECORD ALL RESULTS AND READINGS. PROVIDE COPIES OF ANY TEST AND INSPECTION RESULT.
c. CHECK CORRECT OPERATION OF DEVICES. CONFIRM INTERLOCKS AND SEQUENCES OPERATE CORRECTLY. PROVIDE TEST EQUIPMENT AND CONSUMABLES TO COMPLETE TESTS AND RETEST ANY FAILED INSTALLATIONS FOLLOWING CORRECTIVE MEASURES. CHECK AND CONFIRM CORRECT SEQUENCE IN MULTIPHASE CIRCUITS.

IDENTIFICATION - GENERAL:
APPLY IDENTIFICATION NOTICES IN ACCORDANCE WITH BS 7671 (IET WIRING REGULATIONS) CLAUSE 514 AND APPENDIX 7 TO ALL ELECTRICAL CABLES PLANT AND EQUIPMENT.
- PHASE COLOUR - BROWN, BLACK, GREY
- PHASE MARKING - L1,L2,L3
- FIX USING MATERIALS COMPATIBLE WITH THE NOTICES AND FIXING SURFACE. OBTAIN APPROVAL PRIOR TO MANUFACTURE OF ALL NOTICES. PROVIDE SAMPLE FOR APPROVAL.
- APPLY IDENTIFICATION MARKERS IN ACCORDANCE WITH BS 7671 (IET WIRING REGULATIONS), CLAUSE 514 TO ALL CONDUCTOR TERMINATION POINTS.
- IN ALTERATIONS OR ADDITIONS TO AN EXISTING INSTALLATION, IDENTIFY CONDUCTORS AND TERMINALS AS BS 7671 APPENDIX 7.

LABELS LABEL ALL ELECTRICAL PLANT AND EQUIPMENT USING SAFETY SIGNS IN BS EN ISO 7010.

DISTRIBUTION BOARDS IDENTIFICATION
IDENTIFY EVERY OUTGOING WAY WITH A RENEWABLE CIRCUIT CHART IN A TRANSPARENT PLASTIC ENVELOPE PERMANENTLY FITTED INSIDE DISTRIBUTION BOARD COVER. CLEARLY INDICATE IN TYPED SCRIPT, CIRCUIT IDENTIFICATION NUMBER, CABLE SIZE, FUSE OR CIRCUIT BREAKER RATING AND A DESCRIPTION OF ITEM SUPPLIED AND WEA SUPPLIED BY CIRCUIT.

CABLE IDENTIFICATION: PROVIDE ALL CABLES WITH LABELS FIXED AT EACH END OF CABLE. ENSURE LABELS SHOW CIRCUIT REFERENCE NUMBER OF CABLE.

OFF-SITE PAINTING AND ANTI-CORROSION TREATMENTS - GENERAL REQUIREMENTS:
PROTECT ALL EQUIPMENT AND ANCILLARIES AGAINST CORROSION. PROTECT FERROUS METALS WITH COATINGS AT WORKS. PROVIDE ALL ITEMS FOR DECORATIVE FINISHING PRIMED TO SUIT BASE MATERIAL AND FINISH.

LIGHTING AND POWER - PRODUCTS/MATERIALS
SUPPLY LAMPS AND LUMINAIRES AS SCHEDULED IN THE ELECTRICAL SPECIFICATION AND SCHEDULES
SAFETY SUPPORT FOR COMPONENTS - PROVIDE SECONDARY SUPPORT FOR TRANSLUCENT COVERS, DIFFUSERS AND GEAR TRAYS SO THEY ARE PREVENTED FROM FALLING WHEN THEIR PRIMARY FIXING IS RELEASED.

PHOTOMETRIC PERFORMANCE - ENSURE LUMINAIRES OF SIMILAR TYPE HAVE SAME PHOTOMETRIC PERFORMANCE AS PUBLISHED DATA WITHIN THE TOLERANCES DEFINED BY BS EN 13032-1.

EMERGENCY LIGHTING LUMINAIRES: COMPLY WITH BS EN 60598-2-22.

LUMINAIRE EFFICACY: THE SYSTEM IS DESIGNED TO ACHIEVE AN AVERAGE INITIAL CIRCUIT OF AT LEAST 65 LUMENS/ CIRCUIT WATT FOR FIXED LIGHTING EQUIPMENT. PROVIDE LUMINAIRES WITH A MINIMUM COLOUR RENDERING INDEX VALUE OF ≥70

LAMPS AND LUMINAIRES INSTALLATION
d. INSTALL LUMINAIRES IN HORIZONTAL PLANE UNLESS OTHERWISE SHOWN.
e. ENSURE LUMINAIRES ARE CLEAN.
f. ENSURE CLASSIFICATION OF LUMINAIRES IS APPROPRIATE.
g. SUPPORT AND FIXING
h. WHERE LUMINAIRE IS SUPPORTED FROM CONDUIT, PROVIDE A CONDUIT BOX FORMING AN INTEGRAL PART OF CONDUIT SYSTEM AT EACH POINT OF SUSPENSION. WHERE CONDUIT ENTERS LUMINAIRE, USE BUSHNUTS AND WASHERS TO SECURE LUMINAIRE TO CONDUIT.
i. USE WASHERS, NUT AND LOCKNUT AT TOP AND BOTTOM OF ROD FOR ROD SUSPENSIONS.
j. SUPPORT LUMINAIRES DIRECTLY FROM BUILDING FABRIC.
k. DO NOT SUPPORT LUMINAIRES DIRECTLY FROM ANY FLAMMABLE NON-METAL OR HEAT SENSITIVE MATERIALS.
l. ENSURE SUSPENSIONS ARE VERTICAL UNLESS OTHERWISE SHOWN.

CONNECTIONS TO LUMINAIRES:
CONNECT CIRCUIT WIRING TO LUMINAIRES. USE GROMMET WHERE CABLES ENTER LUMINAIRE BODY. CONNECT THE EARTHING TERMINAL OF CLASS I LUMINAIRES TO THE CIRCUIT PROTECTIVE CONDUCTOR OF THE SUPPLY CIRCUIT. CLIP LOOSE WIRING WITHIN LUMINAIRE, AT 300mm INTERVALS.

ELECTRICAL ACCESSORY INSTALLATION: PROVIDE CPC BETWEEN EARTH LUG ON METAL BOX AND ACCESSORY EXCEPT FOR PLASTIC ACCESSORIES. ENSURE THERE IS NO DAMAGE TO ACCESSORIES DURING INSTALLATION. PROTECT SURFACE MOUNTED ACCESSORIES FROM PAINTING. INSTALL FRONT PLATES OF FLUSH MOUNTED ACCESSORIES AFTER PAINTING. ALIGN ACCESSORIES TO BUILDING FINISHES. MOUNT GROUPED ACCESSORIES IN LINE, PARALLEL AND EQUIDISTANT
APPEARANCE, ARRANGE CONDUIT AND TRUNKING, PLUMB WHERE VERTICAL, NEATLY PARALLEL WITH OTHER SERVICES RUNS AND THE STRUCTURE

ACCESS. LOCATE COVERS ON TOP OR SIDES OF TRUNKING TO ALLOW ACCESS TO WIRING.

PROTECTIVE CONDUCTORS: USE CABLE PROTECTORS THROUGHOUT. DO NOT USE CONDUIT OR TRUNKING AS PROTECTIVE CONDUCTORS.

CABLE INSTALLATION - ARMOURED CABLE: HANDLE AND INSTALL CAREFULLY TO PREVENT DAMAGE TO SHEATH AND ARMOURING. DO NOT INSTALL IF CABLE AND AMBIENT TEMPERATURE ARE, OR HAVE BEEN FOR THE LAST 24 HOURS, BELOW 0C. FIT GALVANIZED STEEL GUARDS WHERE CABLES ARE LIABLE TO MECHANICAL DAMAGE. BOND ARMOUR TO EQUIPMENT AND MAIN EARTHING SYSTEM. MAKE MOISTURE PROOF CONNECTIONS TO APPARATUS USING SEALED GLANDS AND THERMOPLASTIC (PVC) SHROUDS.

CABLE INSTALLATION - THERMOPLASTIC (PVC) SHEATHED CABLES: DO NOT INSTALL CABLES WHEN TEMPERATURE IS NEAR OR BELOW FREEZING DO NOT INSTALL IN CAVITIES OF EXTERNAL WALLS.
FIT INSULATING CABLE GLANDS AT ENTRIES TO EQUIPMENT. TERMINATE CABLE SHEATHS WITHIN BOXES.

CABLES LAID DIRECTLY IN THE GROUND: BEFORE LAYING CABLES, ENSURE THAT BOTTOM OF TRENCH IS EVEN AND FREE FROM SHARP STONES, ROOTS, ETC. LAY CABLES ON A 75mm BED OF SAND.
WHERE TWO OR MORE CABLES ARE LAID IN THE SAME TRENCH, SPACE AS BS 7671 (IET WIRING REGULATIONS) AND ERA REPORTS. COVER EACH CABLE WITH 100MM OF SAND OVERLAID WITH CABLE MARKER TAPE TO BS EN 12613. MARK EACH CHANGE IN DIRECTION OF CABLES WITH A PRECAST CONCRETE SLAB, SIZE 300 X 300 X 100mm THICK, IMPRESSED WITH LV CABLE AND LAID LEVEL WITH FINISHED GROUND LEVEL.

CABLES (ENTERING BUILDINGS) FROM BELOW GROUND: SEAL BOTH ENDS OF PIPE DUCT, TO A DEPTH OF NOT LESS THAN 150mm, WITH AN APPROVED NON-HARDENING, NON-CRACKING, WATER RESISTANT COMPOUND. A PROPRIETARY MOULDED DUCT SLEEVE SEAL.

TESTING BURIED CABLES: TEST CONTINUITY AND INSULATION OF BURIED CABLES IMMEDIATELY BEFORE AND AFTER BACK-FILLING. TEST CONTINUITY AND INSULATION OF BURIED CABLES PRIOR TO HANDOVER.

| Revision | Description | Drawn | Checked | Date |
|---|---|---|---|---|
| C01 | CONSTRUCTION ISSUE | CM | CM | NOV 22 |
| T1 | TENDER ISSUE | CM | CM | May 22 |
| P2 | CCTV equipment updated. Uplighting added to columns | CM | CM | May 22 |
| P1 | Preliminary | CM | CM | MAR 22 |

Revisions

MANCHESTER CITY COUNCIL — Warden

Project
NATIONAL CYCLING CENTRE
Stuart Street, Manchester, M11 4DQ

Title
PROVISION OF SOLAR CAR PORTS, SOUTH CAR PARK - LIGHTING & SECURITY LAYOUT

| Scale/Size | Drawn | Designed | Software |
|---|---|---|---|
| 1:100 @ A0 | CM | CM | AutoCAD |
| | Date FEB 22 | Date FEB 22 | © Drawing Copyright |

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| Project number | Drawing number | Revision |
|---|---|---|
| 1631 | 1631 / E7 | C01 |