Aptus Utilities

LIGHTING DESIGN SCHEME : Northcote Road, Langho

LOCATION : Northcote Road, Langho, BB6 8BG

LOCAL AUTHORITY: Lancashire County Council

SCHEME NUMBER : AP0524-1221

OAK TREE DEVELOPMENTS

Friday 16th February 2024

Designed by : Abigail Aspin

Aptus House
Unit 19/20 Barrs Fold Road
Wingates Business Park
Bolton

APPROVED CONTRACTOR
UKAS PRODUCT CERTIFICATION 7975

CORPORATE MEMBER

Aptus Utilities Ltd Registered in England No 7209034 is part of the Aptus Group.
Registered Office: Aptus House, Units 19-20, Barrs Fold Road, Wingates Business Park, Bolton, Lancashire, BL5 3XP **www.aptusutilities.co.uk**

Contents

Aptus House
Unit 19/20 Barrs Fold Road
Wingates Business Park
Bolton

Introduction & Site Layout

Contained within this document is a proposal for lighting the private driveway at Northcote Road, Langho, BB6 8BG. In this document Aptus Utilities have laid out what is required to light this scheme sufficiently in accordance with BS5489-1:2020 with the inclusion of all relevant risk assessments, material data and proposed installation layout.

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Aptus House
Unit 19/20 Barrs Fold Road
Wingates Business Park
Bolton

NICEIC APPROVED CONTRACTOR
UKAS PRODUCT CERTIFICATION 7975
CORPORATE MEMBER ILP

Extent of Works

Description of Works	Included
Private/Shared Driveway lighting design including private cable network electrical calculations. No Local Authority design approval required	☑
Lighting Impact Report Relating to Bats Following Guidance from ILP Guidance Notice 8	☒
Simultaneous contact risk assessment with regards to Electric vehicle chargers.	☒
Environmental Impact Assessment Report	☒
Secured by Design	☒

Designers Risk Assessment - Page 1 of 2

	HAZARD IDENTIFICATION / ACTIVITY	APPLICABLE (Y/N)	ACTIVITY	WHAT IS THE HAZARD AND WHO / WHAT IS AT RISK	INITIAL RISK ASSESSMENT			DESIGN CONTROL MEASURES	INITIAL RISK ASSESSMENT			FURTHER CONTROL MEASURES / RECOMMENDATIONS
					SEVERITY (S)	LIKELIHOOD (L)	RISK (SxL)		SEVERITY (S)	LIKELIHOOD (L)	RISK (SxL)	
	During construction of the works.	Y	Installation of highway lighting equipment adjacent to footpath.	Public & Operations	5	3	15	Install barriers to protect public from works area.	2	2	4	Public & Operations
1	Electricity.	Y	Below ground works.	Striking underground electricity cable-electrocution / burning. Workforce and site personnel.	5	4	20	Ensure CAT scans are undertaken to locate services/utilities. No works to be undertaken without a valid permit to dig.	5	2	10	Public & Operations
2	Gas.	Y	Below ground works.	Striking underground gas main - explosion, gas leak. Workforce and site personnel.	5	4	20	Ensure CAT scans are undertaken to locate services/utilities. No works to be undertaken without a valid permit to dig.	5	2	10	Public & Operations
3	Water.	Y	Below ground works.	Striking underground water main - flooding hazard. Workforce and site personnel.	5	4	20	Ensure CAT scans are undertaken to locate services/utilities. No works to be undertaken without a valid permit to dig.	5	2	10	Public & Operations
4	Telecom / Data	Y	Below ground works.	Striking underground telecom's or data service cables.	5	4	20	Ensure CAT scans are undertaken to locate services/utilities. No works to be undertaken without a valid permit to dig.	5	2	10	Public & Operations
5	Highway Lighting.	Y	Below ground works.	Striking underground highway lighting cable - electrocution / burning hazard. Workforce and site personnel.	5	4	20	Ensure CAT scans are undertaken to locate services/utilities. No works to be undertaken without a valid permit to dig.	5	2	10	Public & Operations
6	Overhead data lines.	N	During lighting column installation or MEWP striking overhead lines.	Loss of service / injury to site personnel.	3	3	9	Contractor to be aware of any overhead cables.	5	1	2	Public & Operations

Designers Risk Assessment - Page 2 of 2

	HAZARD IDENTIFICATION / ACTIVITY	APPLICABLE (Y/N)	ACTIVITY	WHAT IS THE HAZARD AND WHO / WHAT IS AT RISK	INITIAL RISK ASSESSMENT			DESIGN CONTROL MEASURES	INITIAL RISK ASSESSMENT			FURTHER CONTROL MEASURES / RECOMMENDATIONS
					SEVERITY (S)	LIKELIHOOD (L)	RISK (SxL)		SEVERITY (S)	LIKELIHOOD (L)	RISK (SxL)	
7	Overhead power lines.	N	Installation of lighting columns.	Loss of service / injury to site personnel.	5	3	15	Columns to be located outside vicinity zone in accordance with G39.	2	1	2	Public & Operations
8	Working adjacent to highway.	Y	Maintenance of equipment.	Site personnel being struck by errant vehicles.	5	3	15	Columns to be sited to the rear of footway when possible.	4	1	2	Public & Operations
9	Working at height.	Y	Installation of luminaires	Dropping materials / tools from height.	4	3	12	Barriers to be placed around columns and suitable PPE shall be worn.	4	1	4	Public & Operations

	(S)	Severity	(S)	Likelihood	(RR)	Risk Rating (RR=SxL) Outcome	
	1	Negligible	1	Remote	1	Insignificant	Acceptable
	2	Minor	2	Unlikely	2	Low	Acceptable with effective control measures
	3	Lost Time Injuries	3	Possible	3 to 6	Medium	Not acceptable, risks need investigation to consider reasonable practical improvements.
	4	Severe	4	Likely	8 to 16	Significant	Review urgently required to determine if the risk can be removed or controls improved.
	5	Fatality	5	Probable	20 to 25	High	Risks must be removed to reduced.

General Notes, H&S and CDM Regulations - Page 1 of 2

GENERAL NOTES

1. All drawings and documents are to be read in conjunction with one another and are mutually compatible and shall be read as such.
2. All documents shall be checked to ensure they are compatible by the contractor before construction commences. In the event of apparent ambiguity or contradiction, the designer shall be notified immediately. Aptus Utilities accept no liability in the event of not being notified and where construction work has commenced.
3. Before construction commences, the site engineer shall ensure that all setting out information is mutually compatible with all the drawings and documents provided by the designers.
4. Where information is apparently contradictory or ambiguous, the design engineer is to be notified immediately. Aptus Utilities accept no liability for setting out errors where work is construction to incorrect information.
5. This design has been prepared in accordance with the HEMSA/HEA Guidance Note - CDM2015 Regulations, Issue 1.1 dated 09/04/15 - Procedure 3 and The Construction (Design and Management) Regulations 2015 - PART 3 Health and safety duties and roles - 9. Duties of designers.
6. All electrical installation works must be in accordance with BS7671:2018
7. This lighting design has been produced without a simultaneous contact risk assessment with regards to Electric vehicle chargers.

HEALTH & SAFETY NOTES

1. All materials to bear the relevant BS kitemark and comply fully with the specifications. All materials to be agreed with the overseeing organisation or site representative prior to ordering.
2. All statutory consents, opening notices etc. as required under Highways acts and water industries acts are to be obtained by the contractor prior to commencement of the works (unless otherwise stated). All works are to be inspected by Local Authority representative, NHBC or statutory authority as applicable.
3. Contractor to make advance allowance for the management and coordination of statutory undertakers' diversions within their programme of works. Presence of statutory undertakers' equipment in the highway should be verified by the contractor on site prior to starting any works. The location of statutory plant shown on any plans is indicative only and should not be relied upon for the location of any pipework or cabling. The contractor should confirm the location of all stats plant by hand dug trial trenches prior to commencing any works. Allowance for the presence of all stats appropriate protection / diversion measures is to be put in place by the contractor (unless stated otherwise) where stats equipment is found to be within the area of highway works.
4. The contractor is responsible for ensuring that all advance notices are in place and traffic management agreed for the works prior to commencing. The contractor is to make allowance for the advance provision of all electrical works and equipment for signals and street lighting within their programme of works.
5. This drawing to be read in conjunction with others for this project.

General Notes, H&S and CDM Regulations - Page 2 of 2

CDM REGULATIONS 2015

In line with the above regulations, we are obliged to inform the client of the risks that may be encountered in the construction of these works. Wherever possible risks have been eliminated from the design, however due to the very nature of this type of work it is not possible to remove all the risks from the works. We would also respectfully remind the client of his obligations to take all reasonable steps in ensuring that only competent contractors who have a valid safety policy are employed. they should also provide satisfactory responses at tender stage as to the manner in which they will deal with the elements of risk involved in this type of work and in particular those highlighted by below: -

1. Trench excavations in excess of 1.2m deep.
2. Guarding to edges of excavations to prevent people, materials and vehicles falling into excavation.
3. Guarding of excavations outside working hours to prevent unauthorised access.
4. Undermining to adjacent roads or structures.
5. Confined space operations.
6. Dealing with existing services.
7. Traffic management on existing highways and protection of site personnel and members of the public.
8. Procedure to be followed in event of accident or emergency.
9. Method of working where contaminated ground is present on site.
10. Confirmation will be required that all operatives are adequately trained, copies of relevant training certificates to be supplied. Any construction personnel, including operatives intending to construct the designs shown on this drawing should ensure that they have been regularly and thoroughly briefed by the principal contractor on all health and safety matters and have had sight of: -

- The full designers and contractors risk assessments and risk registers.
- The developed construction Health and Safety plan.
- The contractor's construction method statements.

The above list is by no means exhaustive, but it does highlight operations that present a risk to contractors and the general public.

Proposed Lantern Details

Thorn R2L2

A complete road lantern family at the forefront of LED technology to offer excellent lighting performance and cover all applications

- Comprehensive range available in three sizes with extensive optical, lumen and light distribution choice for all road applications

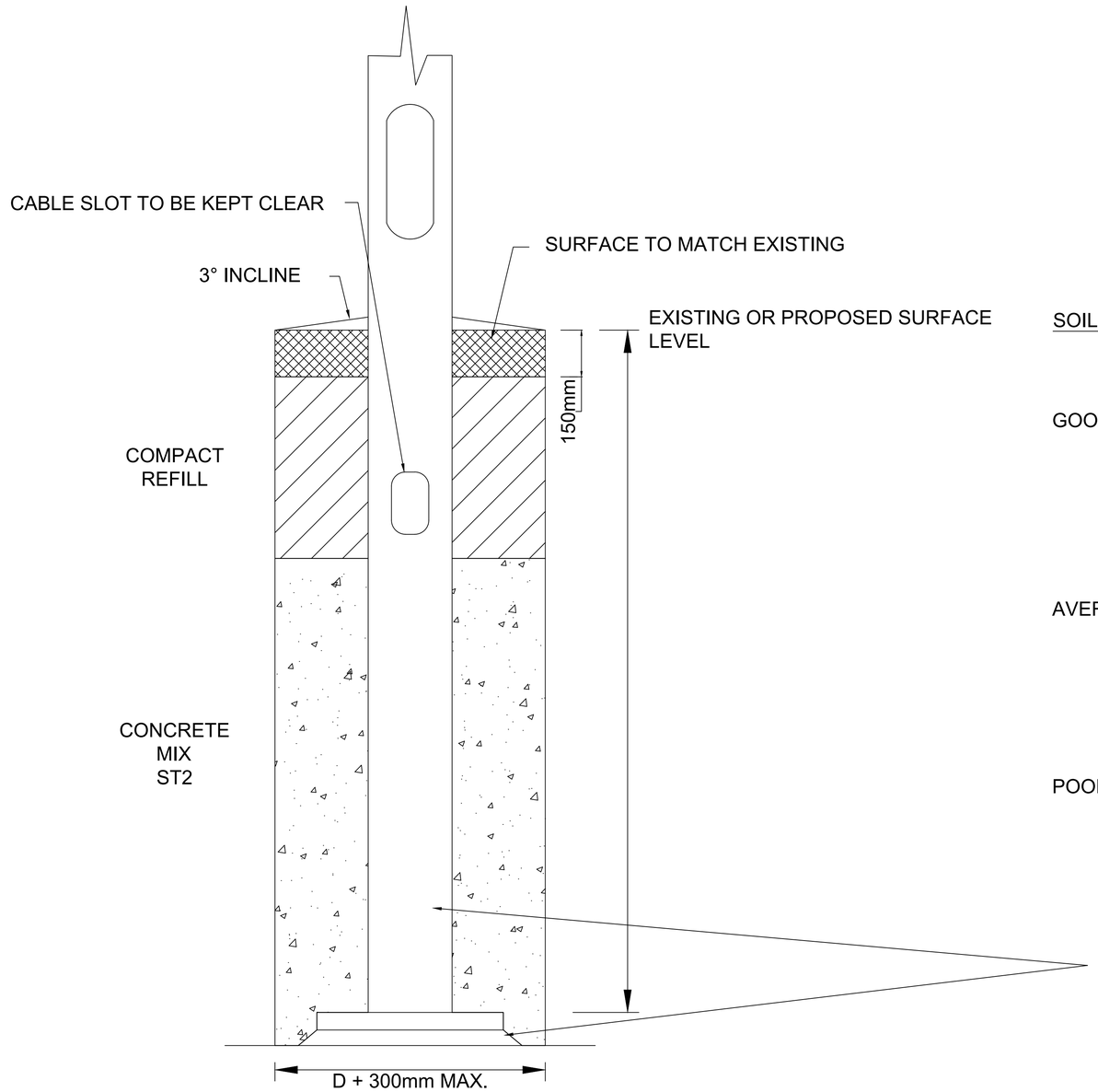
- Efficient (up to 153lm/W) R-PEC optic offering 15 types of light distribution for precise light placement with no waste light

- Maximises energy savings with a wide range of intelligent lighting control solutions from stand alone dimming to fully remote control via central monitoring system

- Attractive, universal and integrated spigot offering flexibility through top and side entry as well as tilt adjustment

DIMENSIONS IN MILLIMETERS - UNLESS STATED

DO NOT SCALE DRAWING - IF IN DOUBT, PLEASE CONTACT



PLANTING DEPTH - SEE TABLE BELOW

MOUNTING HEIGHT	PLANTING DEPTH
15m	2.0m
12m	1.7m
10m	1.5m
8m	1.2m
6m	1.0m
5m	0.8m

SOIL TYPE

GOOD — COMPACT WELL GRADED SAND AND GRAVEL, HARD CLAY, WELL GRADED FINE AND COURSE SAND.DECOMPOSED GRANITE ROCK AND SOIL. GOOD MATERIAL SHOULD BE WELL DRAINED AND IN LOCATIONS WHERE WATER WILL NOT STAND.

AVERAGE — COMPACT FINE SAND, MEDIUM CLAY, COMPACT WELL DRAINED SANDY LOAM, LOOSE COARSE SAND AND GRAVEL. AVERAGE SOILS SHOULD DRAIN SUFFICIENTLY WELL THAT WATER DOES NOT STAND ON THE SURFACE.

POOR — SOFT CLAY, CLAY LOAM, POORLY COMPACTED SAND, CLAYS CONTAINING A LARGE AMOUNT OF SILT AND VEGETABLE MATTER, AND MADE GROUND. POOR SOILS WILL NORMALLY BE WET AND HAVE POOR DRAINAGE

POOR SOIL CONDITIONS
REQUIRE C25P CONCRETE
INSIDE SHAFT AND 300 X 300 X 50
PC CONCRETE SLAB AND 25
SAND BED

DRAWING : TYPICAL COLUMN PLANTING FOUNDATION DETAIL		DRAWN BY:	A.ASPIN
		APPROVED BY:	A.CUNNINGHAM
REFERENCE : AU-SD-102	SCALE : NTS	DATE DRAWN:	18/12/2020
STATUS : CONSTRUCTION	REVISION : -	DATE APPROVED:	18/12/2020

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Bolton

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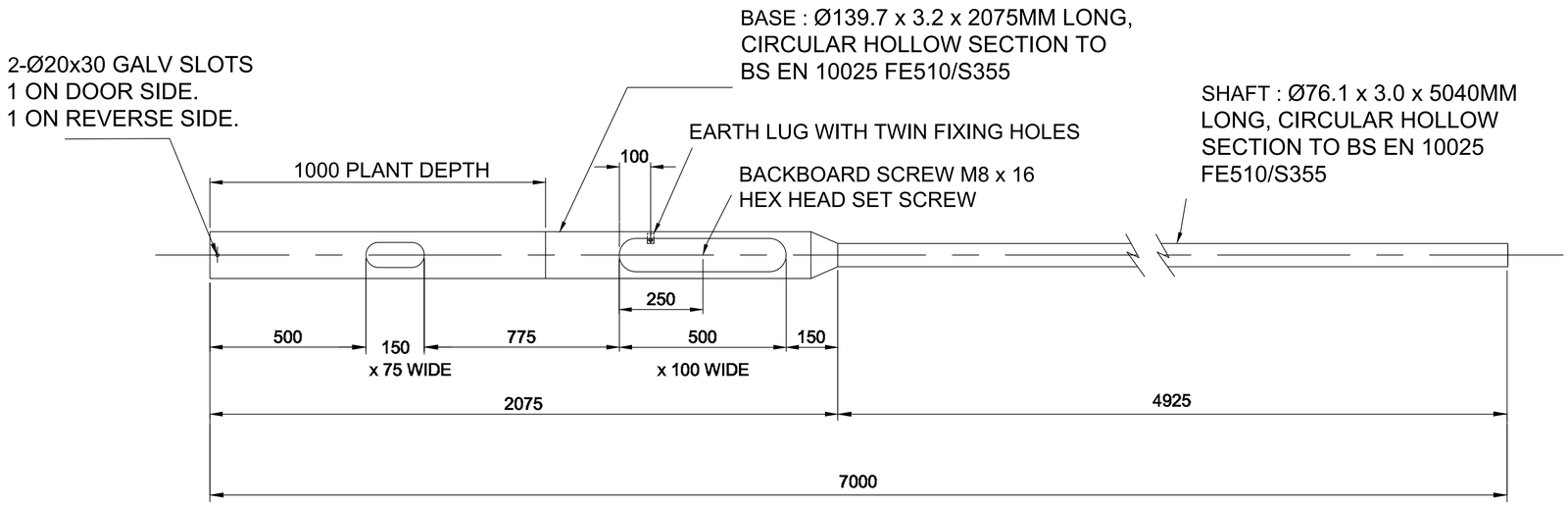
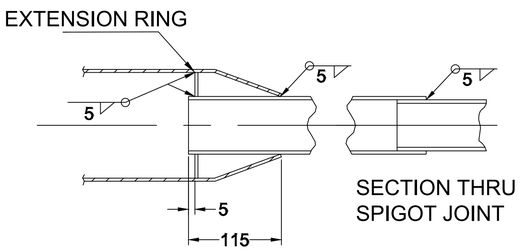
UKAS PRODUCT CERTIFICATION 7975
CORPORATE MEMBER

DIMENSIONS IN MILLIMETERS - UNLESS STATED

DO NOT SCALE DRAWING - IF IN DOUBT, PLEASE CONTACT





NOTES
REMOVE ALL BURRS AND SHARP EDGES.
ALL WELDS TO BS EN 1461
FABRICATED MASS = 50 KG
GALVANISED MASS = 53 KG

DRAWING : Typical Galivanised 6m Post Top Lighting Column with Planted Root		DRAWN BY:	A.ASPIN
		APPROVED BY:	A.CUNNINGHAM
REFERENCE : AU-SD-112	SCALE : NTS	DATE DRAWN:	18/12/2020
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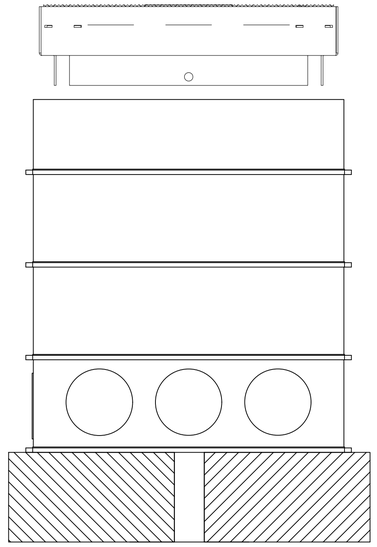
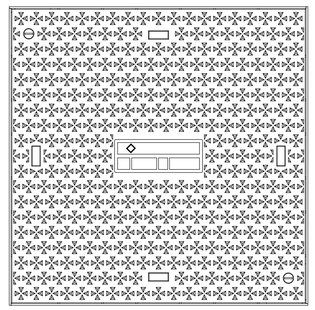
TYPICAL CHAMBER DETAIL - 450mm x 450mm





CHAMBER DETAIL

1. COMPOSITE MANHOLE COVER MUST BE MANUFACTURED FROM SHEET MOULDING COMPOSITE MATERIAL WITH MINIMAL SKID RESISTANT VALUES (SRV) OF 80. COVER/FRAME UNIT SHALL BE LOCKED AS STANDARD AND MEET THE REQUIREMENTS OF EN 124 WITH A B125 LOADING.

2. COMPOSITE COVERS MUST BE SUPPLIED WITH LOCKABLE STEEL FRAMES WHICH ARE HOT DIPPED GALVANISED TO BS EN ISO 1461:2009.

3. GALVANISED STEEL FRAMES MUST HAVE THE ABILITY TO BE ADJUSTED IN HEIGHT AND ANGLE WITHIN THE CHAMBER.

4. FRAMES MUST HAVE A MINIMUM UP STAND OF 80MM TO ENABLE PAVEMENT MATERIALS TO BE INSTALLED DIRECTLY AGAINST THE FRAME. FRAMES MUST NOT HAVE AN EXTERNAL FLANGE.

DRAWING : Typical Chamber Details – 450mm x 450mm		DRAWN BY:	A.ASPIN
		APPROVED BY:	A.CUNNINGHAM
REFERENCE : AU-SD-300	SCALE : NTS	DATE DRAWN:	18/12/2020
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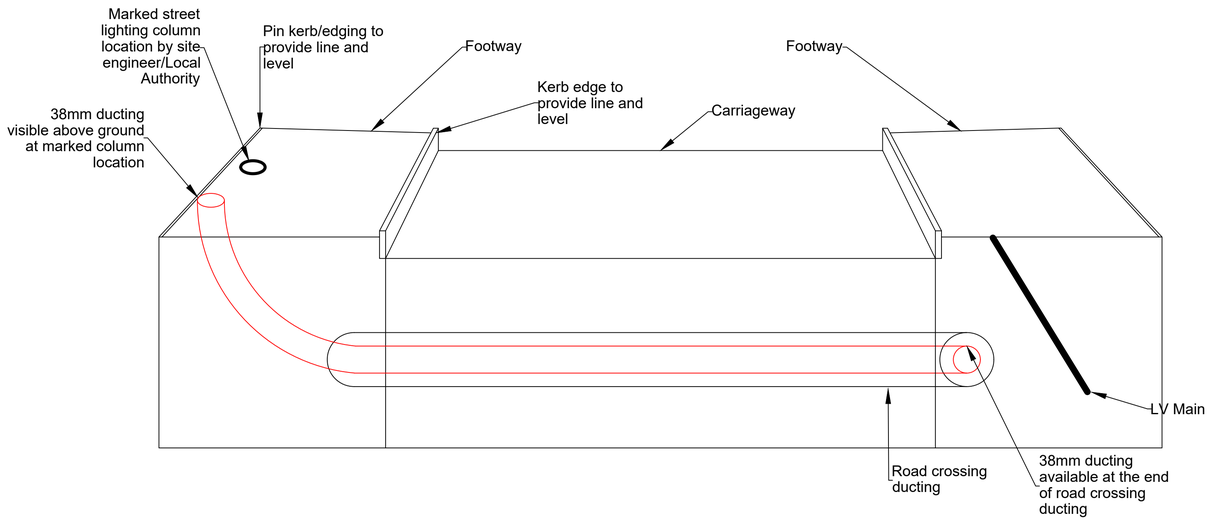
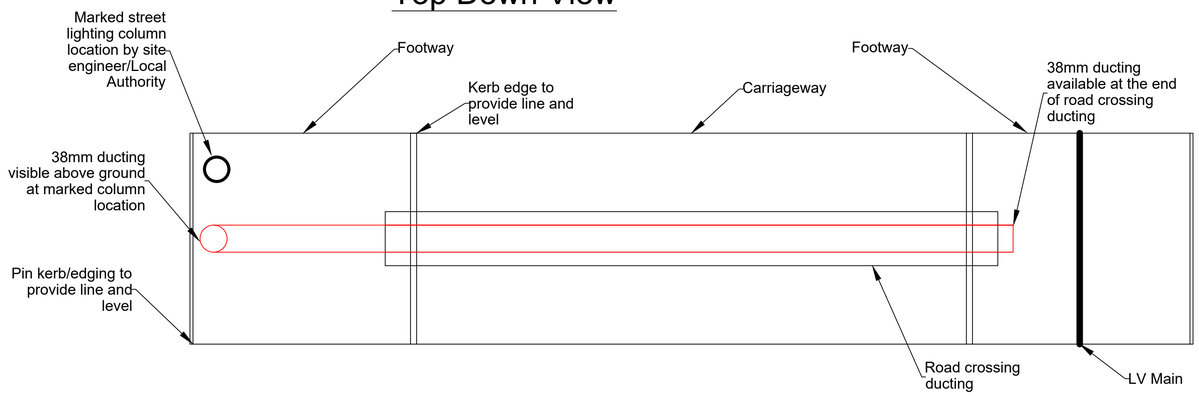
TYPICAL LOW VOLTAGE DNO/IDNO ROAD CROSSING FOR STREET LIGHTING SUPPLY

Profile View



Top Down View



NOTES

1. DUCTING SPECIFICATION TO BE PROVIDED BY UTILITY PROVIDER.
2. DUCTING TO BE LAID AS PER NJUG GUIDELINES.

DRAWING : Typical Low Voltage DNO/IDNO Road Crossing For Street Lighting Supply		DRAWN BY:	C.SMITH
		APPROVED BY:	J.FARNWORTH
REFERENCE : AU-SD-302	SCALE : NTS	DATE DRAWN:	18/03/2022
STATUS : CONSTRUCTION	REVISION : -	DATE APPROVED:	03/05/2022

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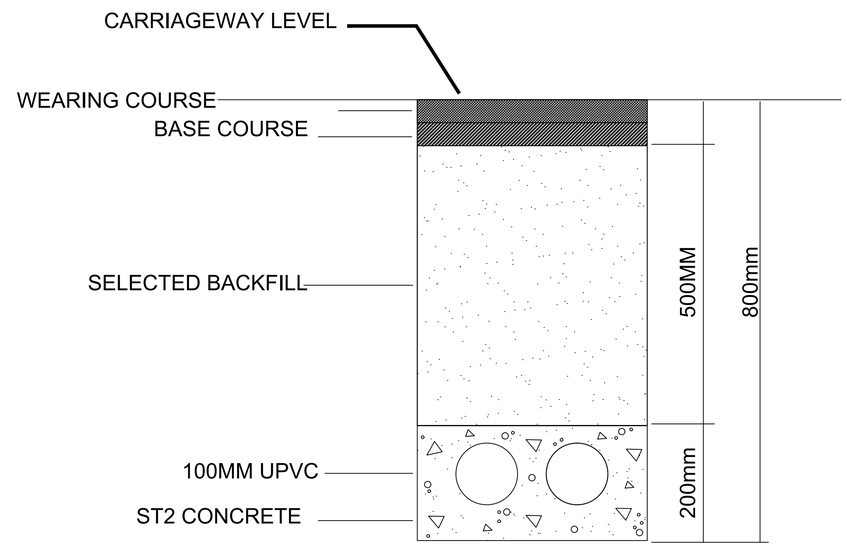
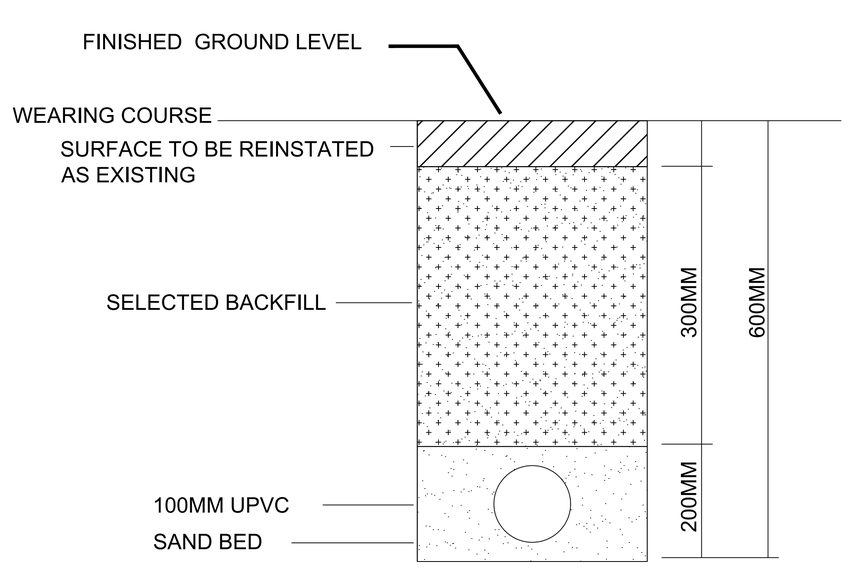
CARRIAGEWAY AND FOOTWAY DUCTING DETAILS





DRAWING : Carriageway and Footway Ducting Details		DRAWN BY:	A.ASPIN
		APPROVED BY:	A.CUNNINGHAM
REFERENCE : AU-SD-320	SCALE : NTS	DATE DRAWN:	18/12/2020
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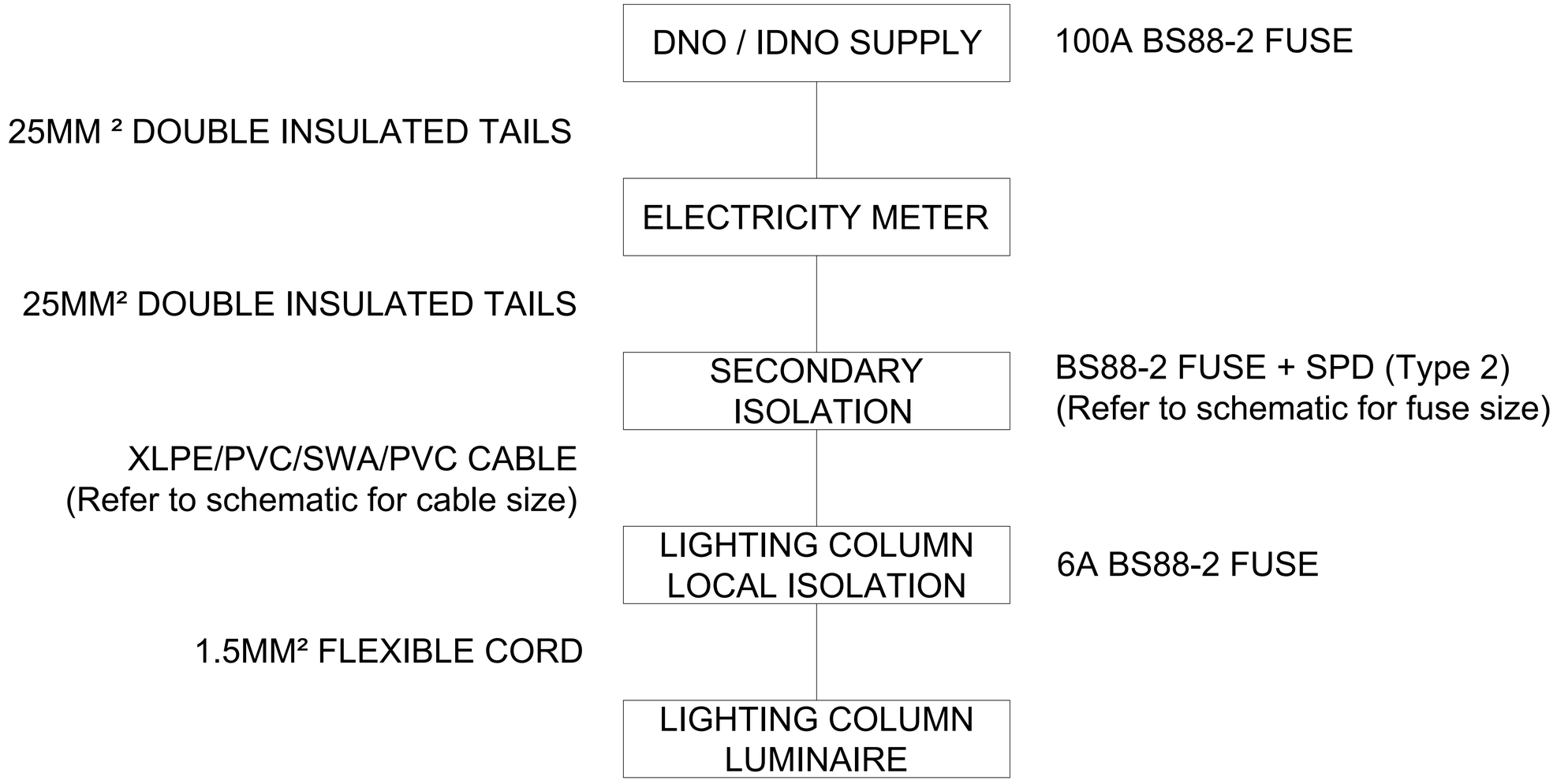
METERED FEEDER PILLAR - SCHEMATIC



DRAWING : Typical Metered Feeder Pillar Schematic		DRAWN BY:	A.ASPIN	© Aptus Utilities Aptus House, Unit 19-20 Barrs Fold Road, Wingates Industrial Estate, Bolton, BL5 3XP. Telephone : 01204 325000
		APPROVED BY:	A.CUNNINGHAM	
REFERENCE : AU-SD-350	SCALE : NTS	DATE DRAWN:	18/12/2020	
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DIMENSIONS IN MILLIMETERS - UNLESS STATED

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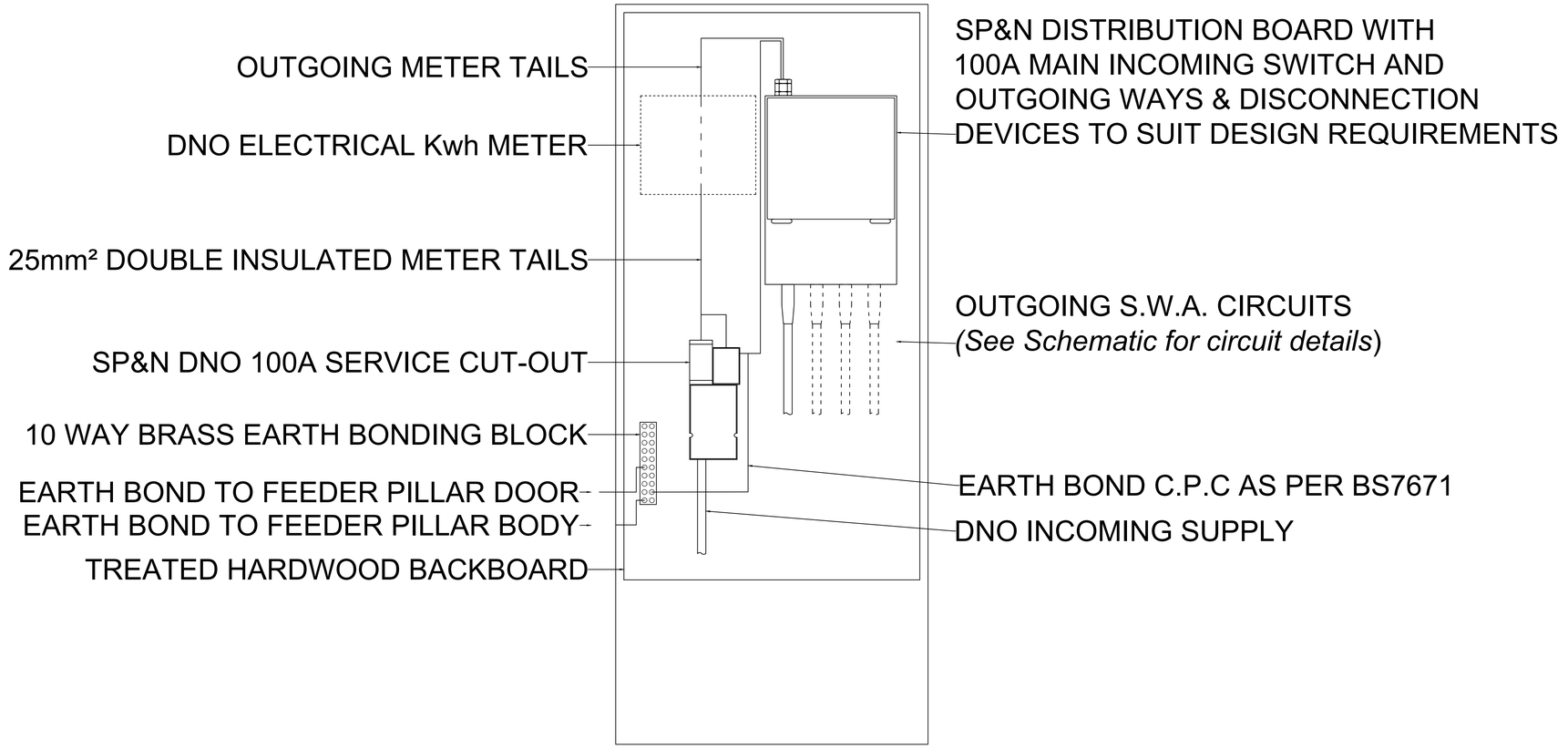
TYPICAL METERED FEEDER PILLAR DETAIL



DRAWING : Typical Metered Feeder Pillar Detail		DRAWN BY:	A.ASPIN	© Aptus Utilities Aptus House, Unit 19-20 Barrs Fold Road, Wingates Industrial Estate, Bolton, BL5 3XP. Telephone : 01204 325000
		APPROVED BY:	A.CUNNINGHAM	
REFERENCE : AU-SD-351	SCALE : NTS	DATE DRAWN:	18/12/2020	
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DIMENSIONS IN MILLIMETERS - UNLESS STATED

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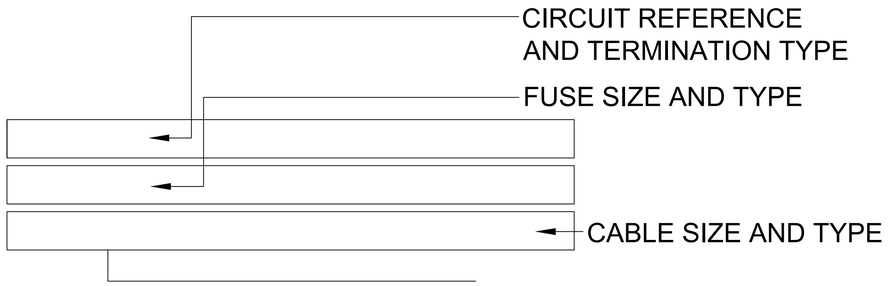
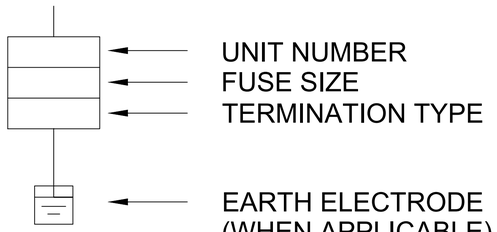
ELECTRICAL SCHEMATIC DETAIL KEY

SINGLE PHASE DISTRIBUTION BOARD



EQUIPMENT DETAILS



NOTES

1. DISTRIBUTION BOARD CIRCUITS NOT SHOWN ARE NOT AFFECTED BY THE WORKS OR SPARE.

DRAWING : Electrical Schematic Detail Key		DRAWN BY:	A.ASPIN
		APPROVED BY:	A.CUNNINGHAM
REFERENCE : AU-SD-400	SCALE : NTS	DATE DRAWN:	18/12/2020
STATUS : CONSTRUCTION	REVISION : -	DATE APPROVED:	18/12/2020

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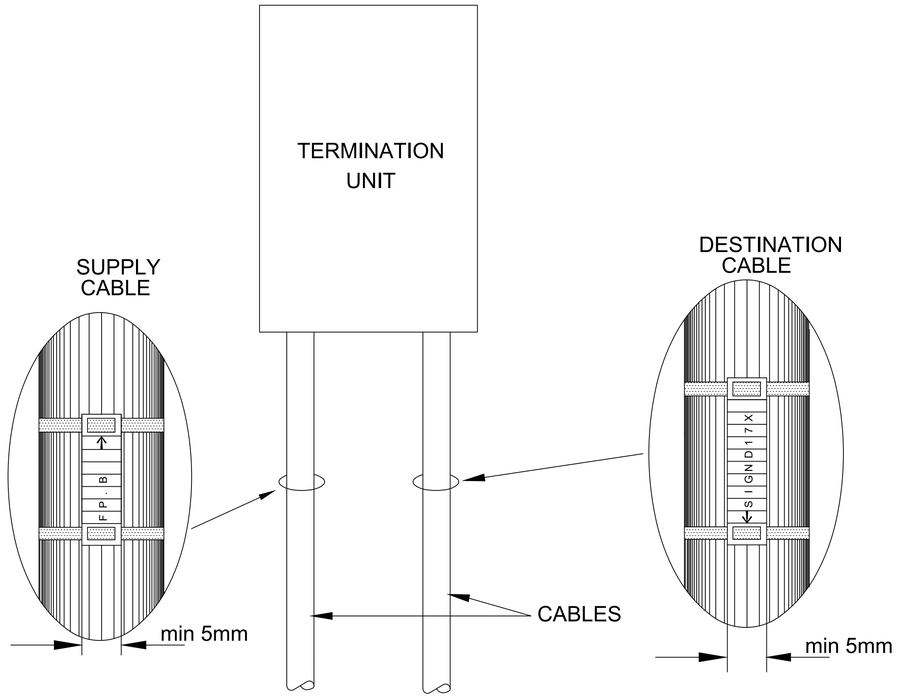
SOURCE/DESTINATION LABELLING DETAIL



LABELLING NOTES:

1. ALL CABLES SHALL BE MARKED TO INDICATE THE SUPPLY SOURCE/DESTINATION. FINAL DETAILS TO BE SPECIFIED BY THE ENGINEER

2. ALL CABLE MARKERS SHALL BE BLACK ON WHITE BACKGROUND AND SHALL BE MANUFACTURED FROM PLASTICIZED PVC AND HELD IN POSITION WITH BLACK PLASTIC TIE WRAP OR SIMILAR APPROVED BY ENGINEER.

3. EACH SOURCE/DESTINATION LABEL SHALL BE A MAXIMUM OF FIFTEEN ALPHANUMERIC CHARACTERS.

DRAWING : Source/Destination Labelling Detail		DRAWN BY:	A.ASPIN
		APPROVED BY:	A.CUNNINGHAM
REFERENCE : AU-SD-401	SCALE : NTS	DATE DRAWN:	18/12/2020
STATUS : CONSTRUCTION	REVISION : -	DATE APPROVED:	18/12/2020

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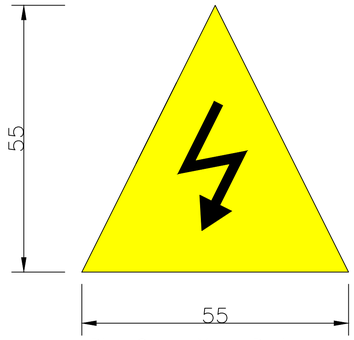
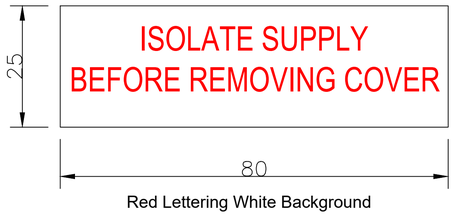
Electrical Equipment Labels

Label 'A'



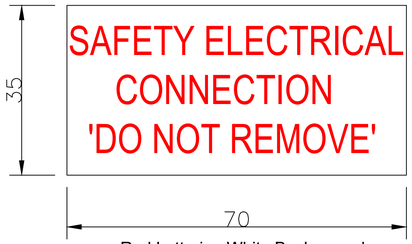
Black Symbol Yellow Background

Label 'B'



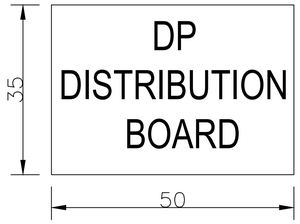
Red Lettering White Background

Label 'C'



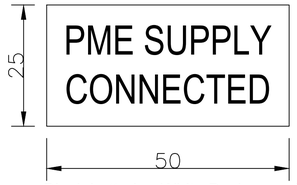
Red Lettering White Background

Label 'D'



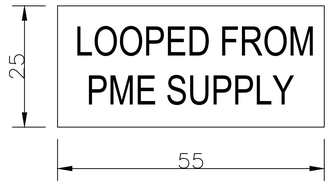
Black Lettering White Background

Label 'E'



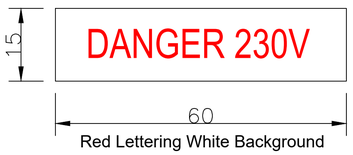
Black Lettering White Background

Label 'F'



Black Lettering White Background

Label 'G'



Red Lettering White Background

DRAWING : Electrical Equipment Labels		DRAWN BY:	A.ASPIN
		APPROVED BY:	A.CUNNINGHAM
REFERENCE : AU-SD-402	SCALE : NTS	DATE DRAWN:	18/12/2020
STATUS : CONSTRUCTION	REVISION : -	DATE APPROVED:	18/12/2020

Aptus House, Unit 19-20 Barrs Fold Road, Wingates Industrial Estate, Bolton, BL5 3XP.
Telephone : 01204 325000

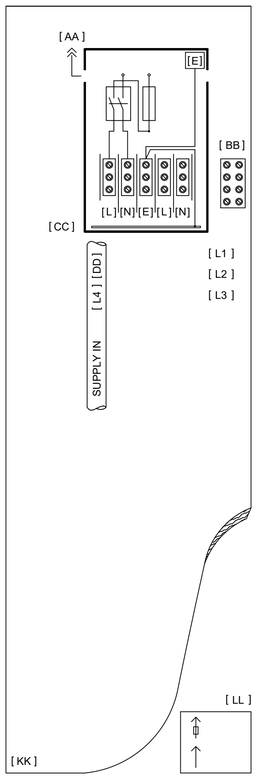
Aptus House
Unit 19/20 Barrs Fold Road
Wingates Business Park
Bolton

APPROVED CONTRACTOR
UKAS PRODUCT CERTIFICATION 7975
CORPORATE MEMBER

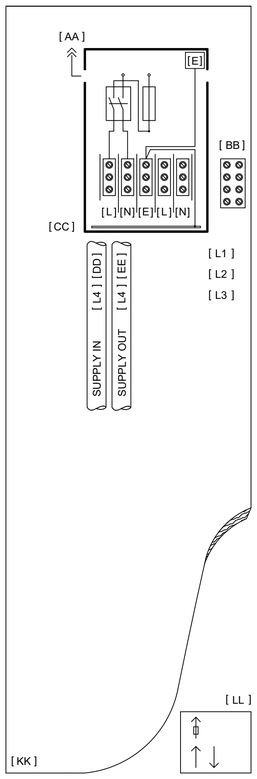
DIMENSIONS IN MILLIMETERS - UNLESS STATED

DO NOT SCALE DRAWING - IF IN DOUBT, PLEASE CONTACT

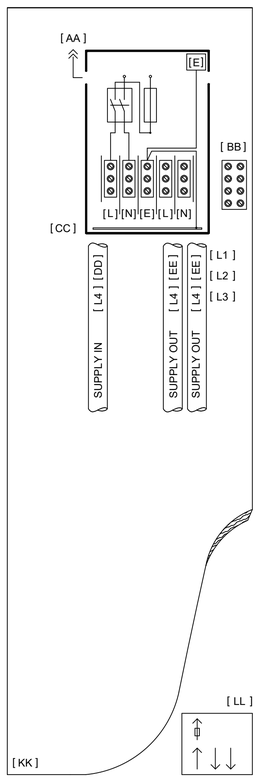
CABLE TERMINATION TYPE: 1



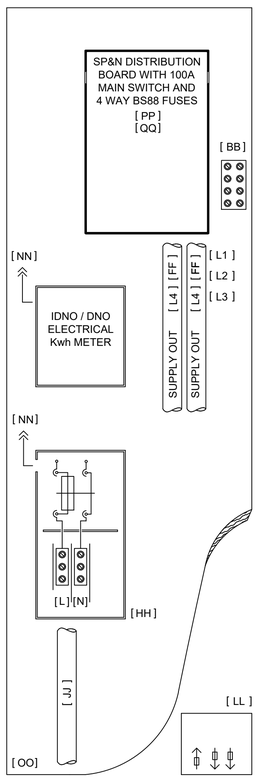
CABLE TERMINATION TYPE: 2



CABLE TERMINATION TYPE: 3



CABLE TERMINATION TYPE: 4



TERMINATION KEY

ITEM	DESCRIPTION	CLAUSE
[AA]	CABLE TO LIGHTING UNIT.	1419
[BB]	BRASS EARTH BLOCK WITH INDIVIDUAL PVC 6491X GREEN/YELLOW EARTH	
	CABLES BONDED TO THE FOLLOWING COMPONENTS:	1420
	> CUT-OUT GLAND PLATE	
	> BASE COMPARTMENT DOOR;	
	> BASE COMPARTMENT MAIN EARTH STUD;	
	> DISTRIBUTION NETWORK OPERATOR CUT-OUT.	
	(ALL EARTH CABLES SHALL BE SIZED IN ACCORDANCE WITH BS7671:2008)	
[CC]	CUT-OUT INCORPORATING THE FOLLOWING COMPONENTS:	1416
	> DOUBLE POLE ISOLATION SWITCH;	
	OUTGOING WAYS FUSED USING BS88 FUSE LINKS.	
	> EXTENSION BOX WITH TERMINAL BLOCK;	
	> 3mm BRASS GLAND PLATE WITH 3No. INCOMING/OUTGOING WAYS.	1423
	> BRASS CABLE GLANDS COMPLYING WITH BS6121, TYPE CW.	
	NATURAL RUBBER CABLE GROMMETS.	
[DD]	INCOMING PRIVATE SUPPLY CABLE.	1419/1421
[EE]	OUTGOING PRIVATE SUPPLY CABLE.	1419/1421
[FF]	OUTGOING PRIVATE SUPPLY CABLE FUSED.	1419/1421
[GG]	6mm² PVC/PVC 6181Y SINGLES.	1419
[HH]	DISTRIBUTION NETWORK OPERATOR CUT-OUT.	
[JJ]	DISTRIBUTION NETWORK OPERATOR SUPPLY CABLE.	
[KK]	BASE COMPARTMENT BACKBOARD.	
[LL]	SCHEMATIC REPRESENTATION OF TERMINATION ARRANGEMENT.	
[NN]	25mm² PVC/PVC 6181Y SINGLES.	
[OO]	MINI PILLAR BACKBOARD.	
[PP]	4 WAY SP&N DISTRIBUTION BOARD INCORPORATING THE FOLLOWING COMPONENTS:	
	> METAL CLAD CASE.	
	> DOUBLE POLE ISOLATION SWITCH.	
	> BS88 FUSE LINKS.	
	> BRASS CABLE GLAND COMPLYING WITH BS6121 TYPE CW REQUIRED FOR EACH OUTGOING WAY.	
	> NATURAL RUBBER GROMMET FOR INCOMING CABLES [GG & NN].	
[QQ]	SURGE PROTECTION DEVICE (TYPE 2)	
[L1]	EARTH BLOCK LABEL "SAFETY ELECTRICAL CONNECTION - DO NOT REMOVE"	
[L2]	PME WARNING LABEL "WARNING PME SERVICE POINT"	
[L3]	PME WARNING LABEL "PRIVATE CABLE NETWORK LOOPED VIA PME SERVICE POINT"	
[L4]	SOURCE/DESTINATION IDENTIFICATION MARKER	

Notes	
1	REF. [DD], [EE] & [FF] - CABLE SHALL BE CLEATED TO THE BASE COMPARTMENT BACKBOARD APPROX. 200mm BELOW CUT-OUT.
2	REF. [DD], [EE] & [FF] - CABLE TYPE AS DEFINED ON EACH TERMINATION DRAWING.
3	REF. [AA] - A DRIP LOOP SHALL BE FORMED IN THE CABLE USING A BLACK TIE WRAP.
4	LABELS [L2],[L3] SHALL BE INSTALLED WHERE APPLICABLE TO THE ELECTRICAL INSTALLATION.
5	LABEL [L1] SHALL BE INSTALLED ADJACENT TO THE EARTH BLOCK [BB]

DRAWING : Cable Termination Type T1-T4 & Key Information

DRAWN BY:	A.ASPIN
APPROVED BY:	A.CUNNINGHAM

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Telephone : 01204 325000

REFERENCE : AU-SD-405

SCALE : NTS

DATE DRAWN: 18/12/2020

STATUS : CONSTRUCTION

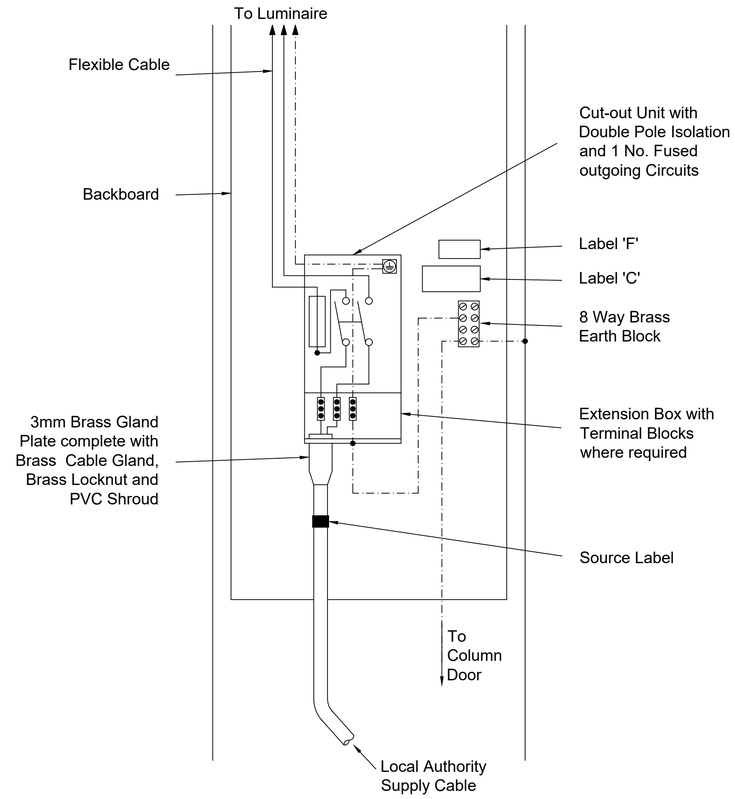
REVISION : -

DATE APPROVED: 18/12/2020

DIMENSIONS IN MILLIMETERS - UNLESS STATED

DO NOT SCALE DRAWING - IF IN DOUBT, PLEASE CONTACT

Cable Termination Type T1

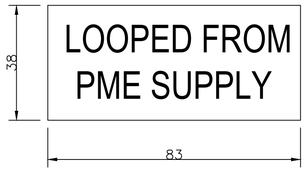


Electrical Equipment Labels

Label 'C'

Red Lettering White Background

Label 'F'



Black Lettering White Background

Termination Notes

1. All fused cut-outs shall provide double pole isolation and lock 'off' facility.
2. All cable terminations within lighting columns and lit signs/bollards shall comply with Local Authority and BS7671.
3. All column internal wiring shall comply with Local Authority and BS7671.
4. For BS88 fuse ratings see Schematic Diagrams.
5. All equipment shall be fixed to the backboard using stainless steel screws.
6. Interconnecting wiring shall be suitably rated in accordance with the circuit protective device.
7. Cable glands shall be to CW type for armoured cables and A2 for concentric cables.
8. Supply cables between cut-out unit and luminaire shall be 2.5mm² cables for 8.0m mounting height columns and above and 1.5mm² cables for all other street furniture below 8.0m mounting height.
9. All cut-outs shall be supplied with integral earth terminal blocks.
10. Earth cable connection to the column door shall be suitably sized flexible type.

Source/Destination Label Notes

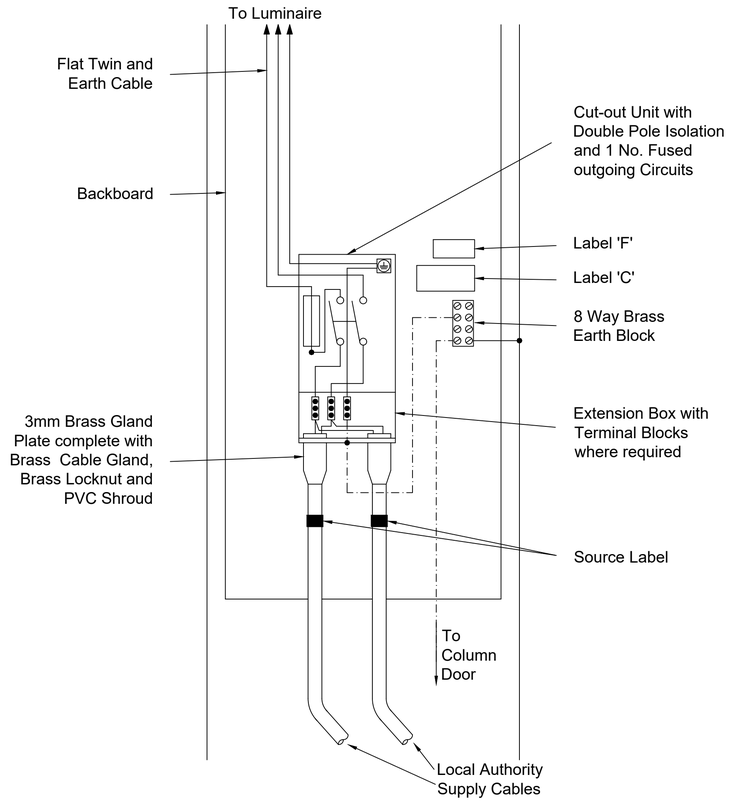
1. All cables shall be marked to indicate the supply source/destination. Final details to be agreed by the Overseeing Organisation.
2. All cables markers shall be black on white and shall be manufactured from plasticized PVC and held in position with black plastic tie wrap or similar approved by the Overseeing Organisation.
3. Each source/destination label shall be a maximum of twelve alphanumeric characters.

DRAWING : Cable Termination Type T1		DRAWN BY:	A.ASPIN	© Aptus Utilities Aptus House, Unit 19-20 Barrs Fold Road, Wingates Industrial Estate, Bolton, BL5 3XP. Telephone : 01204 325000
		APPROVED BY:	A.CUNNINGHAM	
REFERENCE : AU-SD-411	SCALE : NTS	DATE DRAWN:	18/12/2020	
STATUS : CONSTRUCTION	REVISION : -	DATE APPROVED:	18/12/2020	

DIMENSIONS IN MILLIMETERS - UNLESS STATED

DO NOT SCALE DRAWING - IF IN DOUBT, PLEASE CONTACT

Cable Termination Type T2

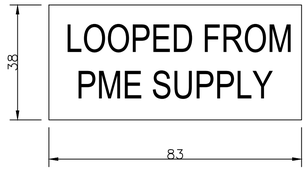


Electrical Equipment Labels

Label 'C'

Red Lettering White Background

Label 'F'



Black Lettering White Background

Termination Notes

1. All fused cut-outs shall provide double pole isolation and lock 'off' facility.
2. All cable terminations within lighting columns and lit signs/bollards shall comply with Local Authority and BS7671.
3. All column internal wiring shall comply with Local Authority and BS7671.
4. For BS88 fuse ratings see Schematic Diagrams.
5. All equipment shall be fixed to the backboard using stainless steel screws.
6. Interconnecting wiring shall be suitably rated in accordance with the circuit protective device.
7. Cable glands shall be to CW type for armoured cables and A2 for concentric cables.
8. Supply cables between cut-out unit and luminaire shall be 2.5mm² cables for 8.0m mounting height columns and above and 1.5mm² cables for all other street furniture below 8.0m mounting height.
9. All cut-outs shall be supplied with integral earth terminal blocks.
10. Earth cable connection to the column door shall be suitably sized flexible type.

Source/Destination Label Notes

1. All cables shall be marked to indicate the supply source/destination. Final details to be agreed by the Overseeing Organisation.
2. All cables markers shall be black on white and shall be manufactured from plasticized PVC and held in position with black plastic tie wrap or similar approved by the Overseeing Organisation.
3. Each source/destination label shall be a maximum of twelve alphanumeric characters.

DRAWING : Cable Termination Type T2		DRAWN BY:	A.ASPIN
		APPROVED BY:	A.CUNNINGHAM
REFERENCE : AU-SD-412	SCALE : NTS	DATE DRAWN:	18/12/2020
STATUS : CONSTRUCTION	REVISION : -	DATE APPROVED:	18/12/2020

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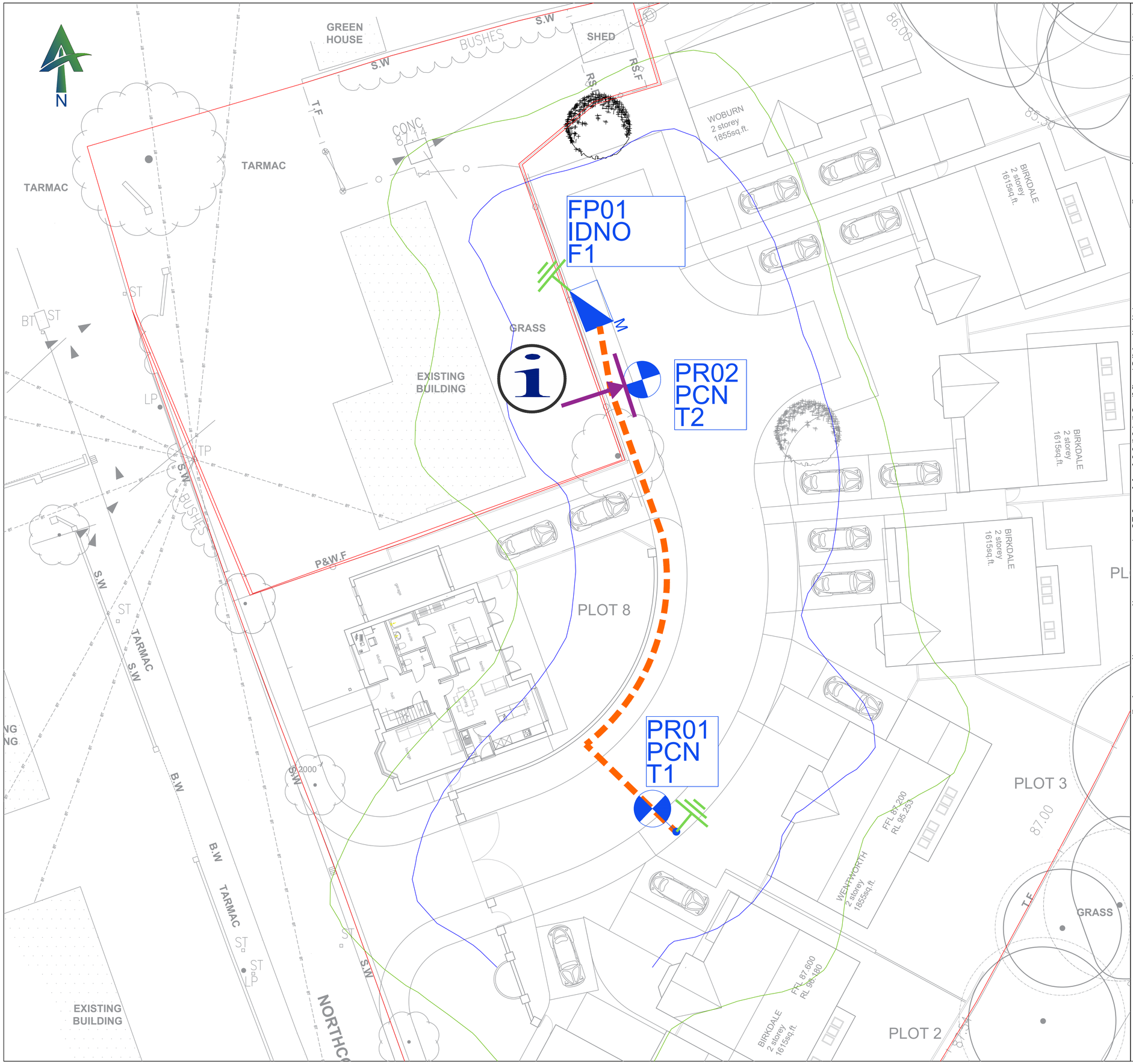
Telephone : 01204 325000

Aptus House
Unit 19/20 Barrs Fold Road
Wingates Business Park
Bolton

APPROVED CONTRACTOR
UKAS PRODUCT CERTIFICATION 7975
CORPORATE MEMBER



HEALTH & SAFETY NOTES

1. All materials to bear the relevant BS kitemark, comply fully with the specifications and to be agreed with the overseeing organisation/site representative prior to ordering.
2. All statutory consents, opening notices etc. required under Highways acts and water industries acts to be obtained by the contractor prior to commencement of the works (unless otherwise stated). All works to be inspected by Local Authority representative, NHBC or statutory authority as applicable.
3. Contractor to make allowance for the management and coordination of statutory undertakers diversions within the programme of works. Statutory undertakers equipment in the highway to be verified by the contractor prior to starting any works. Statutory plant shown on any plans is indicative and should not be relied upon for the final location. The contractor should confirm the location via hand dug trial trenches prior to commencing. Allowance for the presence of appropriate protection / diversion measures is to be put in place by the contractor (unless stated otherwise) where stats equipment are found.
4. The contractor is responsible for ensuring all advance notices are in place and traffic management agreed for the works prior to commencing. The contractor is to make allowance for the advance provision of all electrical works and equipment for signals and street lighting within their programme of works.
5. This drawing to be read in conjunction with others for this project.

CDM REGULATIONS 2015

In line with the above regulations we are obliged to inform the client of the risks that may be encountered in the construction of these works. Wherever possible risks have been eliminated from the design, however due to the nature of these activities it is not possible to remove all the risks. We would also remind the client of their obligations to take all reasonable steps appointing competent contractors with valid safety policies. Satisfactory responses should be provided at tender stage as to the manner in which they will deal with the risks involved in particular those highlighted by below:-

1. Trench excavations in excess of 1.2m deep.
2. Guarding to edges of excavations to prevent falling into excavation.
3. Guarding of excavations outside working hours to prevent unauthorised access.
4. Undermining to adjacent roads or structures.
5. Confined space operations.
6. Dealing with existing services.
7. Traffic management on existing highways and protection of site personnel and members of the public.
8. Procedure for accident or emergency.
9. Method of working where contaminated ground is present on site.

Confirmation will be required that all operatives are adequately trained, copies of relevant training certificates to be supplied. Any construction personnel, including operatives intending to construct the designs shown on this drawing should ensure that they have been regularly and thoroughly briefed by the principal contractor on all health and safety matters and have had sight of:-

- The full designers and contractors risk assessments and risk registers.
- The developed construction Health and Safety plan.
- The contractors construction method statements.

The above list is by no means exhaustive but it does highlight operations that present a risk to contractors and the general public.

GENERAL NOTES

1. All drawings and documents are to be read in conjunction with one another and are mutually compatible and shall be read as such. All documents shall be checked to ensure they are compatible by the contractor before construction commences. In the event of apparent ambiguity or contradiction, the designer shall be notified immediately. Aptus Utilities accept no liability in the event of not being notified and where construction work has commenced.
2. Before construction commences, the site engineer shall ensure that all setting out information is mutually compatible with all the drawings and documents provided by the designers. Where information is apparently contradictory or ambiguous, the design engineer is to be notified immediately. Aptus Utilities accept no liability for setting out errors where work is construction to incorrect information.
3. This design has been prepared in accordance with the HEMSA/HEA Guidance Note - CDM2015 Regulations, Issue 1.1 dated 09/04/15 - Procedure 3 and The Construction (Design and Management) Regulations 2015 - PART 3 Health and safety duties and roles - 9. Duties of designers.
4. All electrical installation works must be in accordance with BS7671:2018
5. This lighting design has been produced without a simultaneous contact risk assessment with regards to Electric vehicle chargers.

	Total In Project:	2	
	Column Height:	6 Metre	
	Proposed galvanised tubular steel lighting column with a planted base as supplied by Fabrikat		
Column Reference:	6M01A - 36478		
Luminaire:	Proposed post top mounted Thorn R2L2 Luminaire.		
Luminaire Type/Reference:	R2L2 S - 12 x Warm White 3000K LED CRI 70 350mA - EWR Optic RS12L35EWR730		
Luminaire Tilt:	0 °	Lumen Output:	1.81klm
Luminaire Temperature:	3000K		
Control Gear:	Osram dimmable electronic 350mA		
Control Type:	Zodion SS5 PECU 10 lux (1:1 ratio)		
Dimming Profile:	N/A		
Supply:	PCN		
Primary Isolator:	Tofco 144		
Secondary Isolator:	N/A		
Internal Wiring:	Internal wiring to luminaire shall be 1.5mm² flexible PVC/PVC cable		

ELECTRICAL CONNECTION TYPE:

IDNO -Proposed Independent DNO Supply Connection
PCN -Proposed Private Cable Network Supply Connection

COLUMN IDENTIFICATION KEY:

PR** - Private Lighting Column Identification Number
FP** - Feeder Pillar Identification Number

ISOLUX CONTOUR KEY

0.6 LUX
0.1 LUX

Shield to be fitted to prevent light spill for the protection of bats. See symbol on lantern for orientation. The effect of a shield cannot be added to a lighting reality calculation. This is in reference to the Bat Conservation Trust/ILP Guidance Note 08/18.

M

Proposed galvanised steel feeder pillar Model: Tofco CPP Ltd FP140 or equivalent incorporating single phase electrical Kwh meter and service by:DNO/IDNO

Proposed 6 mm² XLPE/SWA/PVC 3 core cable with copper conductors laid in 100mm orange UPVC ducting denoted with 'STREET LIGHTING' at 1000mm intervals diametrically opposed, laid in trench, depth to invert to be minimum 450mm in footway and minimum 750mm in carriageway.

Feeder Pillar and Ducting location's shown are indicative only and final setting out positions to be determining by site engineer or overseeing organisation.

Earth Electrode

ELECTRICAL DETAIL

FP01	F1
MCB BS EN 60898	16A
6MM² 3 CORE CU XLPE/PVC/SWA/PVC	

PR02
6A
T2

PR01
6A
T1

REV	DRAWN	CHECKED	APPROVED	DATE
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STATUS: DETAILED DESIGN

CLIENT: OAKTREE DEVELOPMENTS

APTUS CONTRACT NUMBER: AP0524-1221

DRAWING: Private Street Lighting Design

DRAWN:	DATE:	CHECKED:	DATE:
ABIGAIL ASPIN	14/02/2024	J.FARNWORTH	15/02/2024

SHEET NO: 1 OF 1 | SCALE: 1:200 @ A1 | REV: -

DEVELOPMENT: Northcote Road, Langho, BB6 8BG

DRAWING NO: SL1221.APT.HLG.XX.DR.Y.933001

Aptus
MULTI-UTILITIES MASTERED
Aptus House, Unit 19-20, Barrs Folds Road, Wingates Industrial Estate, Bolton, BL5 3XP
Tel : 01204 325000

CORPORATE MEMBER

REF: 610444000

DATE: 12 February 2024
DESIGNER: Abigail Aspin
PROJECT No: AP0524-1221
PROJECT NAME: Northcote Road, Langho

Private Lighting Design - Not fully lit to lighting standards to the Bats/wildlife within the area.

Key :
BS-Back Shield

Maintenance Factor : 0.90
S/P Ratio : N/A
Tilt : 0°

Desired Lighting Levels : P5
Eav : 3.00 to 4.50
Emin : 0.60

Outdoor Lighting Report

PREPARED BY: Abigail Aspin
Aptus Utilities
Units 19, 20 Barrs Fold Rd,
Westhoughton, Bolton
BL5 3XP
01204 325000
E-mail: abigail.aspin@aptusutilities.co.uk
Website: https://aptusutilities.co.uk/

Layout Report

General Data

Dimensions in Metres Angles in Degrees

Calculation Grids

ID	Grid Name	X	Y	X' Length	Y' Length	X' Spacing	Y' Spacing
1	Contours	144.47	-2.42	151.40	144.22	1.50	1.49
2	Grid 2	193.32	61.72	40.87	62.62	1.46	1.49

Luminaires

Luminaire A Data

Supplier	Thorn Lighting UK & Ireland
Type	R2L2 Small 12LED 350mA EWR optic
Lamp(s)	LED 3000K CRI 70
LampFlux(klm)/Colour	1.81 3000/70
File Name	RS12L35EWR730.LDT
Maintenance Factor	0.90
Imax70,80,90(cd/klm)	615.4, 67.1, 0.0
No. in Project	2

Layout

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1	A	219.01	71.66	5.00	136.00	0.00	0.00	0.40			
BS - 2	A	214.56	101.61	5.00	18.00	0.00	0.00	0.40			

9196277995

DATE: 12 February 2024 DESIGNER: Abigail Aspin

PROJECT No: AP0524-1221 PROJECT NAME: Northcote Road, Langho

Horizontal Illuminance (lux)

Contours

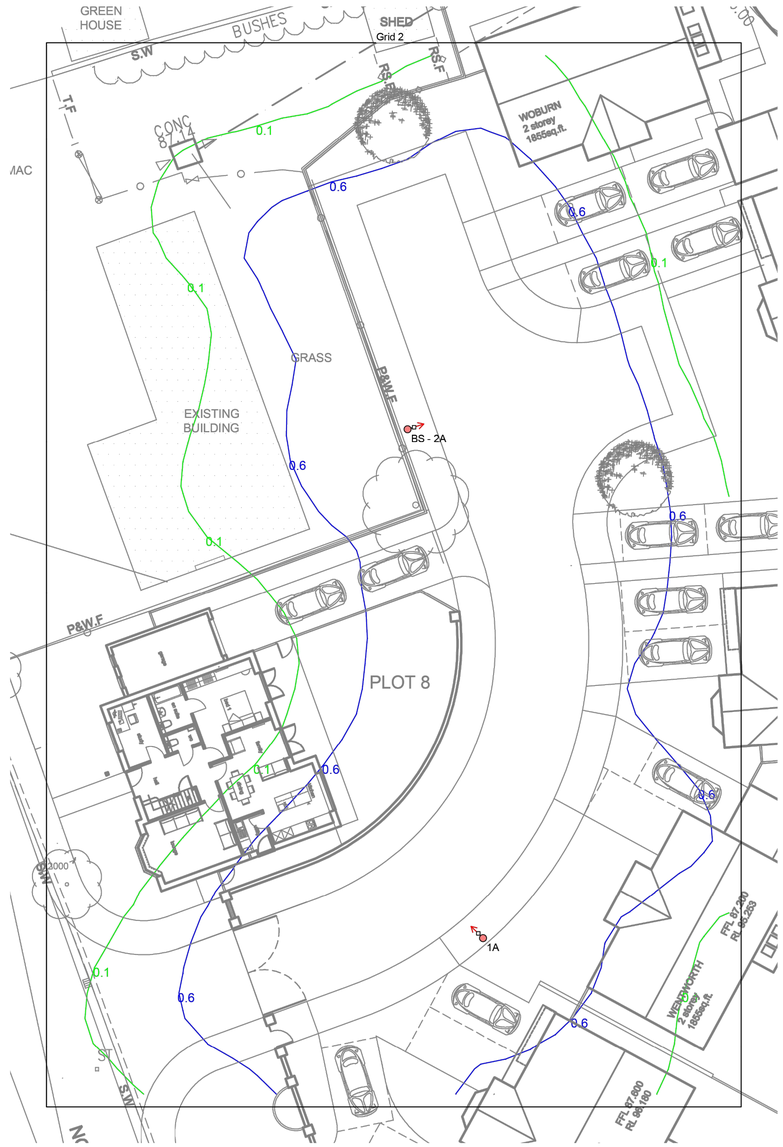
9196277995

DATE: 12 February 2024 DESIGNER: Abigail Aspin

PROJECT No: AP0524-1221 PROJECT NAME: Northcote Road, Langho

Horizontal Illuminance (lux)

Grid 2



Results

Eav	3.00
Emin	0.07
Emax	12.36
Emin/Emax	0.01
Emin/Eav	0.02

9196277995