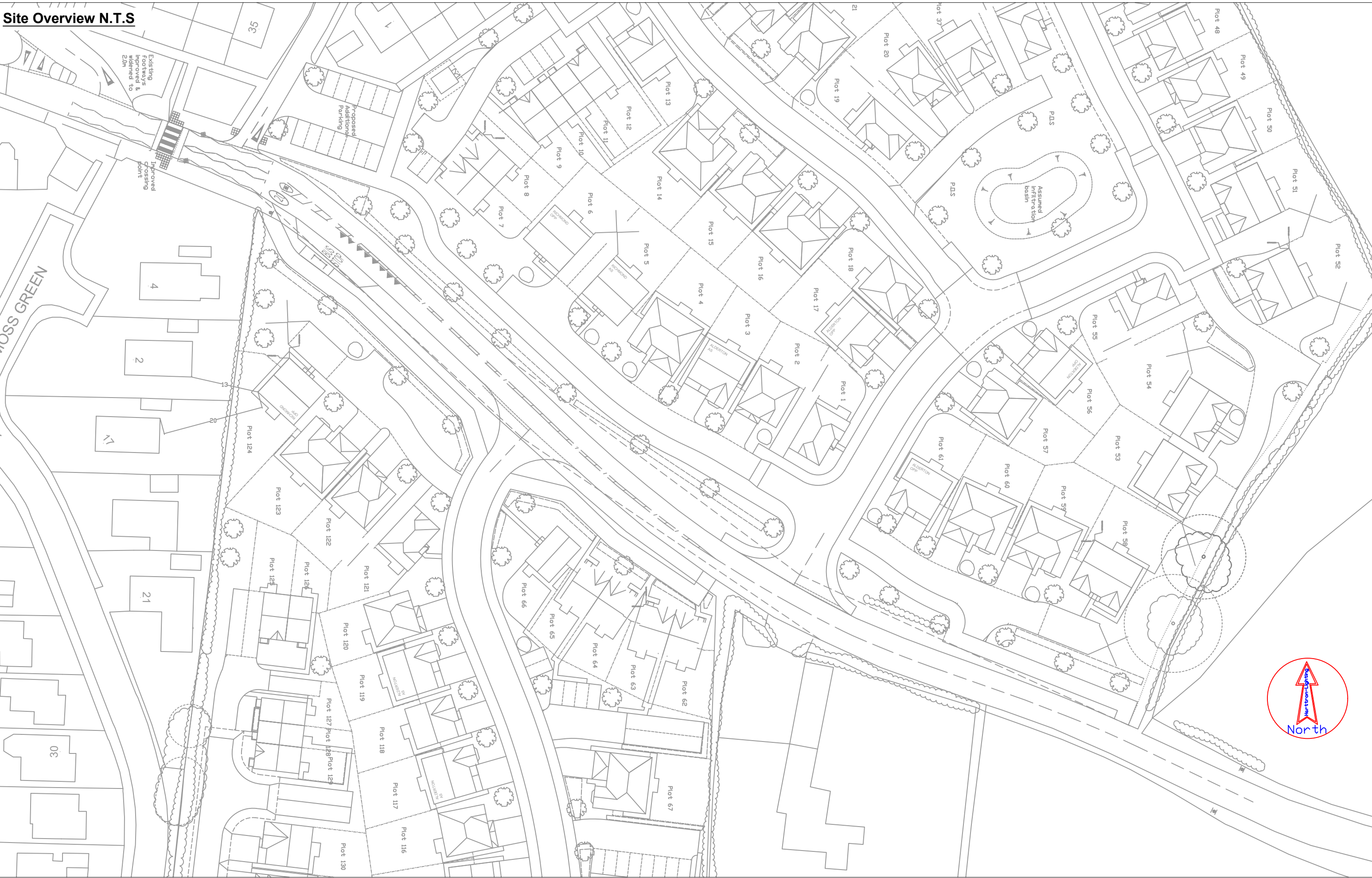


Site Overview N.T.S



Design Notes

Design Parameters:

-ADT (Average Daily Traffic)* = between 7000 and 40000. Traffic count figures for Rossett Road, Wrexham show an ADT figures of:

- Count point Center of location (Count Point Site Number - 951396)
 - 2017: 1580
 - 2018: 1503
 - 2019: 1501
- Road Speed = 70mph

Lighting Class for Road selected as M4** (C3)***. For lighting calculations refer to Lighting Reality reports 22475-A-01/02 and 22475-R-01/02

Reference(s):

- * Traffic figures obtained from the following website:
'https://roadtraffic.dft.gov.uk/manualcountpoints/20563'
- ** BS5489-1:2020 - Table A.2 lighting classes for traffic routes (V>40mph)
- *** BS5489-1:2020 - Table A.4 lighting classes for Conflict areas

Note

Until technical approval has been obtained from the relevant adopting authority, it should be understood that all drawings issued are preliminary and NOT for construction. Should the contractor commence site work prior to approval being given, it is entirely at his own risk.

Additional Notes

Double pole isolation device with a 6A BS88 fuse to be utilised above the DNO cut out. Tofco model to be used.

- 1.5mm Flex for the downleads.
- BS 951 'safety electrical connection' table in base.
- Copper grease on door hinge & door retaining bolt
- 6A discrimination DNO to private cut out.
- Conductors doubled over in the terminals

Table A.4— Lighting classes for conflict areas

Traffic route lighting class	Conflict area lighting class
M1	C0
M2	C1
M3	C2
M4	C3
M5	C4
M6	C5

Table A.2— Lighting classes for traffic routes (v > 40 mph)

Traffic flow	Lighting class		
	Dual carriageway		Single carriageway
	Junction density: high	Junction density: low	
High to very highA)	M2	M3	M2
Low to moderateB)	M3	M4	M3
Very lowC)	M4	M5	M4 - See NOTE 3*

NOTE 1 High junction density would be junction centres spaced < 3 km apart.

NOTE 2 Where a single carriageway has a high density of junctions, a risk assessment can determine whether

Some of the junctions constitute conflict areas (see A.3.2).

NOTE 3 Highlighted box indicates situations that would not usually occur in the UK.

A) High to very high traffic flow might be defined as either having an average daily traffic (ADT) > 40,000 or where the flow exceeds 65% of the lane maximum capacity for dual or multi-lane carriageways or 45% for single carriageways.

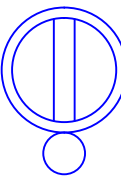
B) Low to moderate traffic flow might be defined as either having an ADT of between 7,000 and 40,000 or where the flow is between 35% and 65% for dual or multi-lane carriageways or between 15% and 45% for single carriageways.

C) Very low traffic flow might be defined as either having an ADT of <7,000, or where the flow is < 35% for dual or multi-lane carriageways or < 15% for single carriageways.

Table A.3 gives lighting classes for traffic routes in terms of the lighting classes in BS EN 13201-2:2015, Table 1, to be used for the following situations:

- speed: v ≤ 40 mph;
- users: motorized traffic, slow-moving vehicles, cyclists and pedestrians.

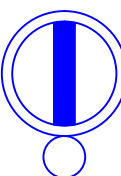
BoQ



AMPERA MIDI 5144 Flat glass Zebra left 32 OSLON SQUARE GIANT@700mA NW 740 230V 415052
lamp(s): 32 OSLON SQUARE GIANT@700mA NW 740 230V
candela file 'AMPERA MIDI 5144 32 OSLON SQUARE GIANT 700mA NW 740 69.5W 415052 Flat glass Zebra left 230V TF.Idt'
1 lamp(s) per luminaire, 8994 initial lumens per lamp
Maintenance Factor = 0.820, watts per luminaire = 70
Outreach (from mounting axis to photometric center)= 300 mm
mounting height= 6 m
number locations= 2, number luminaires= 2
kw all locations= 0.1



AMPERA MIDI 5119 Flat glass 48 OSLON SQUARE GIANT@550mA NW 740 230V 403192
lamp(s): 48 OSLON SQUARE GIANT@550mA NW 740 230V
candela file 'AMPERA MIDI 5119 48 OSLON SQUARE GIANT 550mA NW 740 79W 403192 Flat glass 230V TF.Idt'
1 lamp(s) per luminaire, 10867 initial lumens per lamp
Maintenance Factor = 0.820, watts per luminaire = 79
Outreach (from mounting axis to photometric center)= 300 mm
tilt angle= 5 deg
mounting height= 6 m
number locations= 11, number luminaires= 11
kw all locations= 0.9



AMPERA MINI 5068 Flat glass 24 OSLON SQUARE GIANT@350mA NW 740 230V 404502
lamp(s): 24 OSLON SQUARE GIANT@350mA NW 740 230V
candela file 'AMPERA MINI 5068 24 OSLON SQUARE GIANT 350mA NW 740 26W 404502 Flat glass 230V TF.Idt'
1 lamp(s) per luminaire, 3516 initial lumens per lamp
Maintenance Factor = 0.820, watts per luminaire = 26
Outreach (from mounting axis to photometric center)= 300 mm
tilt angle= 5 deg
mounting height= 6 m
number locations= 2, number luminaires= 2
kw all locations= 0.1

C	Council notes added to drawing	07/12/21	SS	PDL
B	Ducting and cables added	30/11/21	SS	PDL
A	Xref update	27/07/21	SS	PDL
REV	DESCRIPTION	DATE	DRN	APP
DRAWING NO: 22475-D-01		REV: B		

DRAWING STATUS: DESIGN



PROJECT: Rossett Road, Wrexham Section 278

TITLE: Site Overview

SCALE: AS INDICATED	DESIGNED BY: SS 17/05/2021
SHEET NO: Sheet 1 of 2	APPROVED BY: PDL 20/05/2021

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PROJECT: F:\Projects\Castle Green Homes (MacBryde Homes)\Rossett Road, Rossett\278 Drawings\Rev_C

Layout showing equipment positions, Scale 1:500 at A1.

Green

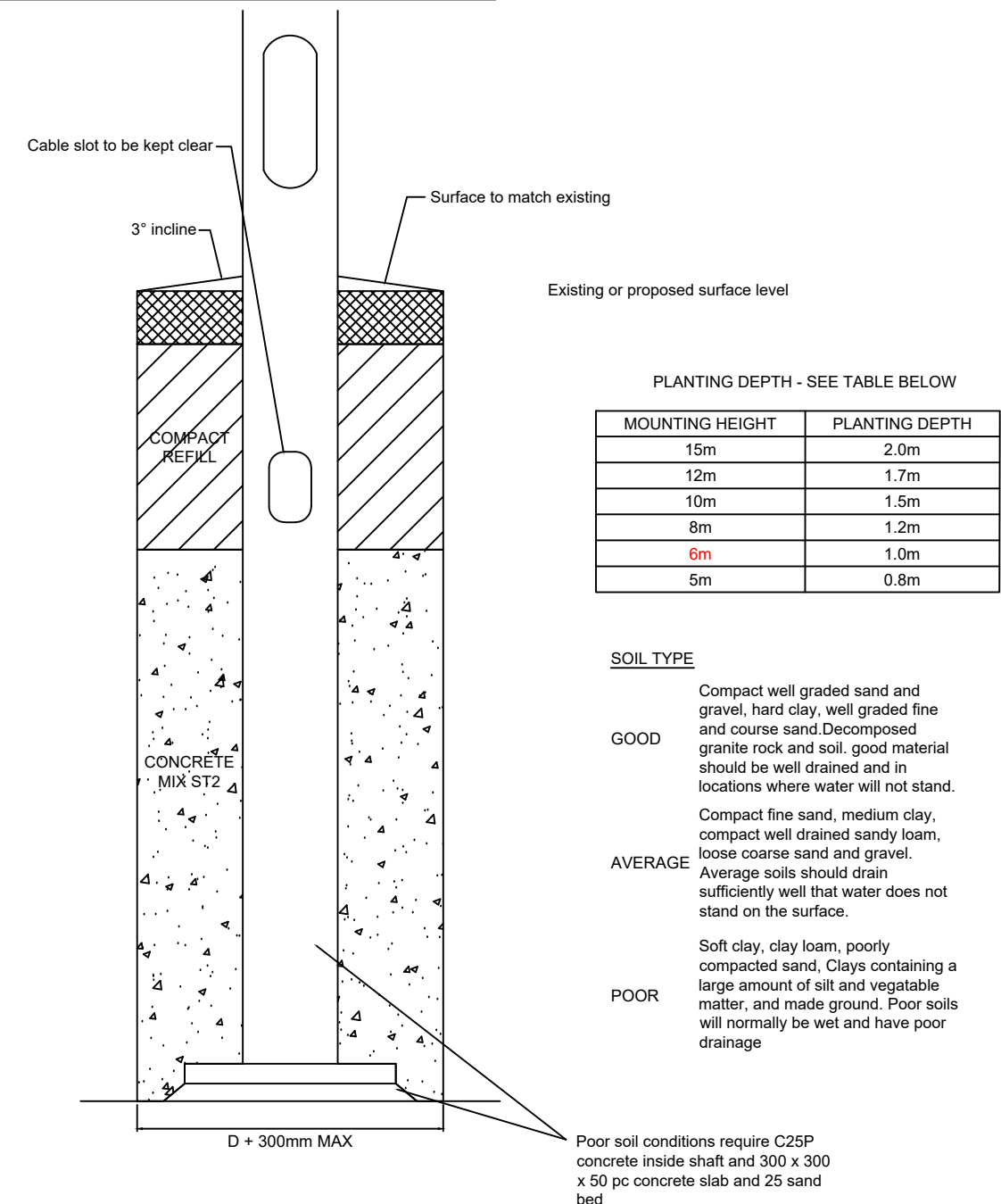
Yale
Cott

MOSS GREEN
TREVALYN WAY

El Sub Sta

Lane Farm

Typical column installation details N.T.S



Notes

- Column foundations to be as per Local Authority Standard Detail drawing.
- All columns to be provided with Distribution Network Operator Services to Local Authority Standard Detail drawing, unless otherwise stated.
- Column positions to be agreed on site with the Local Authority Street Lighting Engineer. All columns to be sited within the adoptable highway and generally in compliance with the current Local Authority Design Guide for Residential areas. Columns shall not be installed within dropped kerb areas.
- Column numbering to be agreed with the Local Authority Street Lighting Engineer.
- The Contractor is to provide Local Authority with as-built drawings, test certificates and column and lantern data sheets.
- All Street Lighting works to be carried out by Local Authority approved contractors.
- A list of proposed equipment is to be rendered by the contractor for approval by the Local Authority Street Lighting Engineer prior to the installation.
- Adoptable ducting to be installed to satisfy the requirements of Distribution Network Operator.
- The contractor to liaise with Distribution Network Operator with regard to connections and disconnections of columns and illuminated signs.
- Minimum distance for a column to be erected in a service strip is 1m back from the front face of the column to kerb edge.
- This lighting scheme comply's with North Wales Authorities Lighting Design Guide and Specification (ref: ENV/PP/DC-1075).
- All wiring including component labelling to be in accordance with BS7671.
- Prior to excavation works the installation contractor must be aware of underground services or hazards which may be encountered in the installation of the lighting system. Advice should be sought from the developers engineering representative.
- The installation contractor must be aware of any overhead obstructions. Advice should be sought from the developers engineering representative.
- Column door orientation as per current Wrexham County Borough Council's policy is for the operative maintaining the column to be facing the oncoming traffic.

Key

- Proposed Column:**
Manufacturer: CU Phosco
Material: Galvanised Steel
Type: Tubular
Height: 6m
- Proposed Lantern:**
Manufacturer: Urbis
Model: Ampera MIDI
Optic: 5119 48 LED 550mA
Mounting: post top
Tilt: 5°
Wattage: 79W
Photometry file: 'AMPERA MIDI 5119 48 OSLO
SQUARE GIANT 550mA NW 740 79W
403192 Flat glass 230V TF.idr'
Driver: DALI enabled
PECU: factory fitted miniature cell, switching at 55lux 1:0.5 ratio
- Proposed Column:**
Material: Galvanised Steel
Type: Tubular
Height: 6m
Painted: Zebra black and white
- Proposed Lantern:**
Manufacturer: Urbis
Model: Ampera MIDI
Optic: 5144 Zebra Left 32 LED 700mA
Mounting: post top
Tilt: 0°
Wattage: 69.5W
Photometry file: 'AMPERA MIDI 5144 32 OSLO
SQUARE GIANT 700mA NW 740 69.5W 415052 Flat glass Zebra left 230V TF.idr'
Driver: DALI enabled
PECU: factory fitted miniature cell, switching at 55lux 1:0.5 ratio
- Proposed Column:**
Material: Galvanised Steel
Type: Tubular
Height: 3m
- Proposed Lantern (x2):**
Manufacturer: SimmonSigns
Model: Lua
Wattage: 6W x2

(All of the above equipment to Wrexham CBC specification)

Section 38 lighting - See Latest Harttron Drawing 21900-D-01

Feeder Pillar
Manufacturer: Ritherdon
Model: R460
Supply in: 230v Supply
Supply out: BS-88 Fuse protected cables

Proposed column scheme numbering for existing and proposed equipment

1.1 = Proposed Column Number
S1 = Proposed Sign Number
FP01 = Proposed Feeder Pillar Number
P = Proposed
EB = DNO / IDNO Connection
PN = Proposed Private Network Connection

C	Council notes added to drawing	07/12/21	SS	PDL
REV	DESCRIPTION	DATE	DRN	APP
DRAWING NO:	22475-D-01			REV: C

DRAWING STATUS: DESIGN

CLIENT:



PROJECT: Rossett Road, Wrexham
Section 278

TITLE: Proposed lighting
layout

SCALE: AS INDICATED
SHEET NO: Sheet 2 of 2

DESIGNED BY: SS 17/05/2021
APPROVED BY: PDL 20/05/2021



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Electrical schematics N.T.S

Incoming Single Phase EB supply"

*Subject to confirmation of new proposed LV mains layout

FEEDER PILLAR P-FP1

6-Way Consumer Unit (4No used for the below circuits and 2No spare way)

All protective devices to be BS-88 Type 2 Fuses. Changing to other devices may cause the circuit to not conform to BS7671

Feeder Pillar Equipment Totals:

Amps(A): 8.69*
Wattage(W): 1111
KVA: 1.999*

*These figures
include a safety
multiplier of 1.8x

Circuit 1
16A
10mm² 3 core
XLPE/SWA/PVC

1.9 P | PN
1.8 P | PN
1.6 P | PN
1.5 P | PN
1.4 P | PN
1.3 P | PN
1.2 P | PN
1.1 P | PN
1.7 P | PN

6mm² 3 core
XLPE/SWA/PVC

S1 P | PN
S2 P | PN

Approx. Ducting Length - 268m
Approx. Cable Length - 335m
Total Wattage - 735W
Total Current - 5.75A*
Cable Calculation - 22475-C-01

Circuit 2
16A
10mm² 3 core
XLPE/SWA/PVC

1.10 P | PN
1.13 E | PN

Approx. Ducting Length - 35m
Approx. Cable Length - 44m
Total Wattage - 158W
Total Current - 1.24A*
Cable Calculation - 22475-C-02

Circuit 3
16A
10mm² 3 core
XLPE/SWA/PVC

1.11 P | PN
1.12 P | PN

Approx. Ducting Length - 97m
Approx. Cable Length - 121m
Total Wattage - 139W
Total Current - 1.09A*
Cable Calculation - 22475-C-03

*These figures include a safety
multiplier of 1.8x

*These figures include a safety
multiplier of 1.8x

*These figures include a safety
multiplier of 1.8x

Diagram illustrating the label for the safety electrical connection. The label is rectangular and divided into two sections. The top section is labeled '25' on the left and contains the text 'SAFETY ELECTRICAL CONNECTION DO NOT REMOVE' with two small circles on either side. The bottom section is labeled '55' on the right.

55

Notes

1. Column foundations to be as per Local Authority Standard Detail drawing.
2. All columns to be provided with Distribution Network Operator Services to Local Authority Standard Detail drawing, unless otherwise stated.
3. Column positions to be agreed on site with the Local Authority Street Lighting Engineer. All columns to be sited within the adoptable highway and generally in compliance with the current Local Authority Design Guide for Residential areas. Columns shall not be installed within dropped kerb areas.
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7. A list of proposed equipment is to be rendered by the contractor for approval by the Local Authority Street Lighting Engineer prior to the installation.
8. Adoptable ducting to be installed to satisfy the requirements of Distribution Network Operator.
9. The contractor to liaise with Distribution Network Operator with regard to connections and disconnections of columns and illuminated signs.
10. Minimum distance for a column to be erected in a service strip is 1m back from the front face of the column to kerb edge.
11. This lighting scheme comply's with North Wales Authorities Lighting Design Guide and Specification (ref: ENV/PP/DC-1075).
12. All wiring including component labelling to be in accordance with BS7671.
13. Prior to excavation works the installation contractor must be aware of underground services or hazards which may be encountered in the installation of the lighting system. Advice should be sought from the developers engineering representative.
14. The installation contractor must be aware of any overhead obstructions. Advice should be sought from the developers engineering representative.
15. Column door orientation as per current Wrexham County Borough Council's policy is for the operative maintaining the column to be facing the oncoming traffic.

Proposed Column:
Manufacturer: CU Phosco
Material: Galvanised Steel
Type: Tubular
Height: 6m
Proposed Lantern:
Manufacturer: Urbis
Model: Ampera MIDI
Optic: 5119 48 LED 550mA
Mounting: post top
Tilt: 5°
Wattage: 79W
Photometry file:
 'AMPERA MIDI 5119 48 OSLOLON
 SQUARE GIANT 550mA NWJ 74W
 400 192 Flat glass 230V TF.fid'
Driver: DALI enabled
PECU: factory fitted miniature cell,
 switching at 55lux 1.0:5 ratio

02 **Proposed Column:**
Material: Galvanised Steel
Type: Tubular
Height: 6m
Painted: Zebra black and white
Proposed Lantern:
Manufacturer: Urbis
Model: Ampera MIDI
Optic: 5144 Zebra Left 32 LED 700mA
Mounting: post top
Tilt: 0°
Wattage: 69.5W
Photometry file:
 'AMPERA MIDI 5144 32 OSLOM
 SQUARE GIANT 700mA NW 740
 69.5W 415052 Flat glass Zebrla left
 230V T.F. left'
Driver: DALI enabled
PECU: factory fitted miniature cell,
 switching at 55lux/1:1:5 ratio

02 **Proposed Column:**
Material: Galvanised Steel
Type: Tubular
Height: 3m
Proposed Lantern (x2):
Manufacturer: SimmonSigns
Model: Lua
Wattage: 6W x2

 Section 38 lighting - See Latest Harttron Drawing 21900-D-01

Feeder Pillar
Manufacturer: Ritherdon
Model: R460
Supply in: 230v Supply
Supply out: BS-B8 Fuse protected cables

Proposed Cable - 10mm XLPE/SWA/PVC Ca

Proposed Cable - 6mm XLPE/SWA/PVC Ca

Proposed column scheme numbering for existing and proposed equipment

1.1	
P	EB

C	Council notes added to drawing	07/12/21	SS	PDL
REV	DESCRIPTION	DATE	DRN	APP
DRAWING NO: 22475-D-01			REV: C	

DRAWING STATUS: **DESIGN**

CLIENT:



PROJECT: Rossett Road, Wrexham
Section 278

TITLE: Proposed lighting layout

SCALE: AS INDICATED	DESIGNED BY: SS 17/05/202
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SHEET NO: Sheet 2 of 2	APPROVED BY: PDL 20/05/202
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Column termination details N.T.S

Technical drawing illustrating the column termination details, showing the connection of the incoming cable to the column and the termination of the outgoing cable.

Key components and labels:

- Double pole isolation unit with 1No. BS88 fused circuit for luminaire and 1No. BS88 fused circuit for outgoing
- 3mm brass gland plate complete with brass BG cable glands, brass locknuts and PVC shrouds
- Incoming 6mm² x 3 core PVC/SWA/PVC cable
- 1No. 50mm dia. uPVC duct
- Backboard
- PVC earth cables
- Earth to Door
- Column Earth Point
- Column

Column termination details N.T.S

Double pole isolation unit with 1No. BS88 fused circuit for luminaire and 1No. BS88 fused circuit for outgoing

3mm brass gland plate complete with brass BG cable glands, brass locknuts and PVC shrouds

Backboard

PVC earth cables

Earth to Door

Column Earth Point

Column

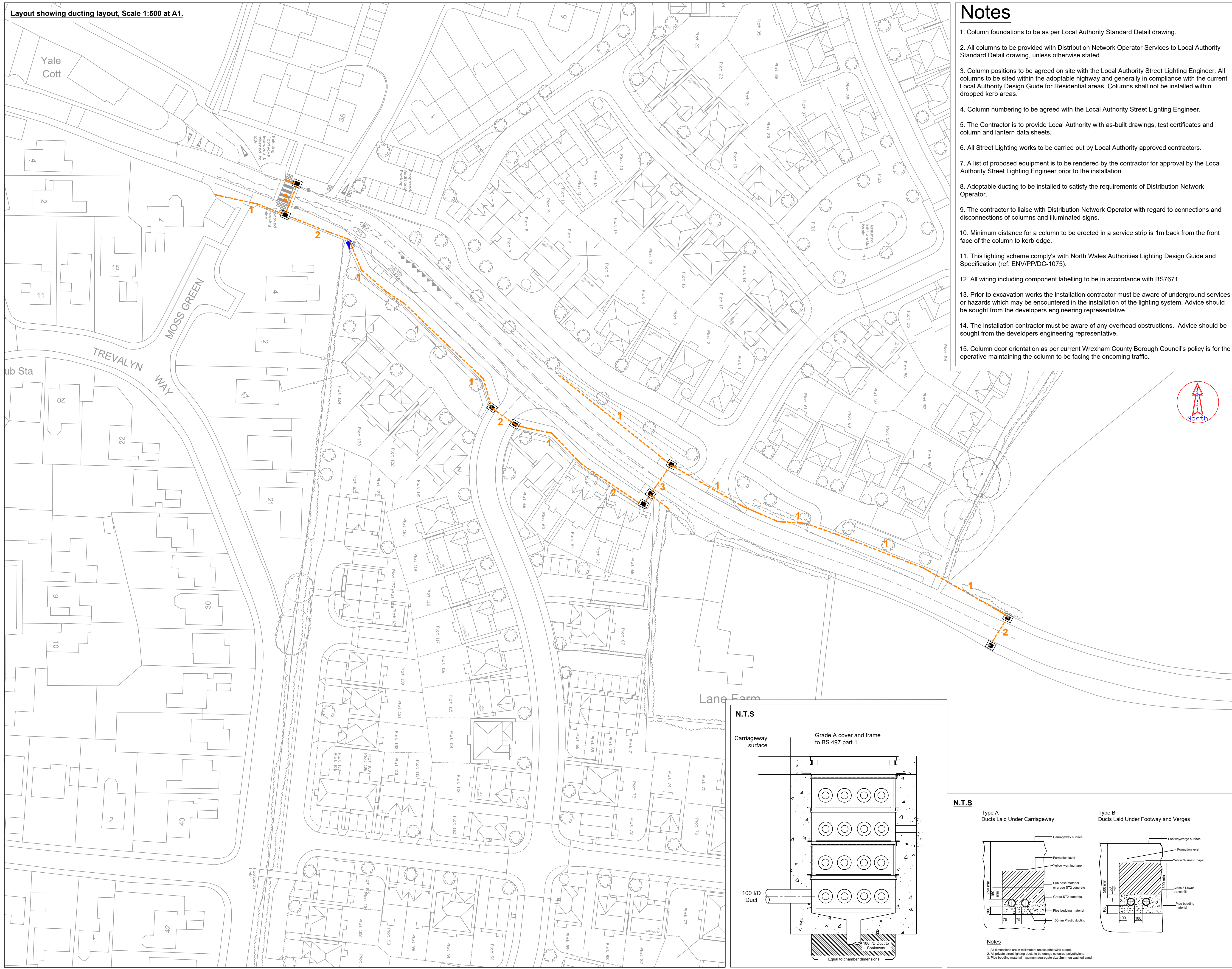
Incoming 6mm² x 3 core PVC/SWA/PVC cable

Outgoing 6mm² x 3 core PVC/SWA/PVC cable

1No. 50mm dia. uPVC duct

PROJECT: F:\Projects\Castle Green Homes (MacBryde Homes)\Rossett Road, Rossett\5278 Drawings\Rev_C

Layout showing ducting layout, Scale 1:500 at A1.



Notes

- Column foundations to be as per Local Authority Standard Detail drawing.
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- The installation contractor must be aware of any overhead obstructions. Advice should be sought from the developers engineering representative.
- Column door orientation as per current Wrexham County Borough Council's policy is for the operative maintaining the column to be facing the oncoming traffic.

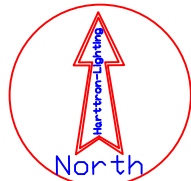
Key

 **Feeder Pillar**
Manufacturer: Ritherdon
Model: R460
Supply in: 230v Supply
Supply out: BS-88 Fuse protected cables

 100mm orange MDPE duct including draw cord at 750mm cover across highway and car park and 450mm cover in footway and service strip. (Ducting route is indicative only)

2 Number of ducts required
An indication of how many ducts must be installed is given on this drawing however it is the responsibility of the installation contractor to ensure that there are a sufficient number of ducts layed for 1No cable per 1No duct.

 Ducting Chamber - 450mm x 450mm



C	Council notes added to drawing	07/12/21	SS	PDL
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REV	DESCRIPTION	DATE	DRNAPP
DRAWING NO:	22475-D-01	REV:	C

DRAWING STATUS:
DESIGN

CLIENT:



PROJECT:
**Rossett Road, Wrexham
Section 278**

TITLE:
**Proposed lighting
layout**

SCALE: AS INDICATED	DESIGNED BY: SS 17/05/2021
SHEET NO: Sheet 2 of 2	APPROVED BY: PDL 20/05/2021

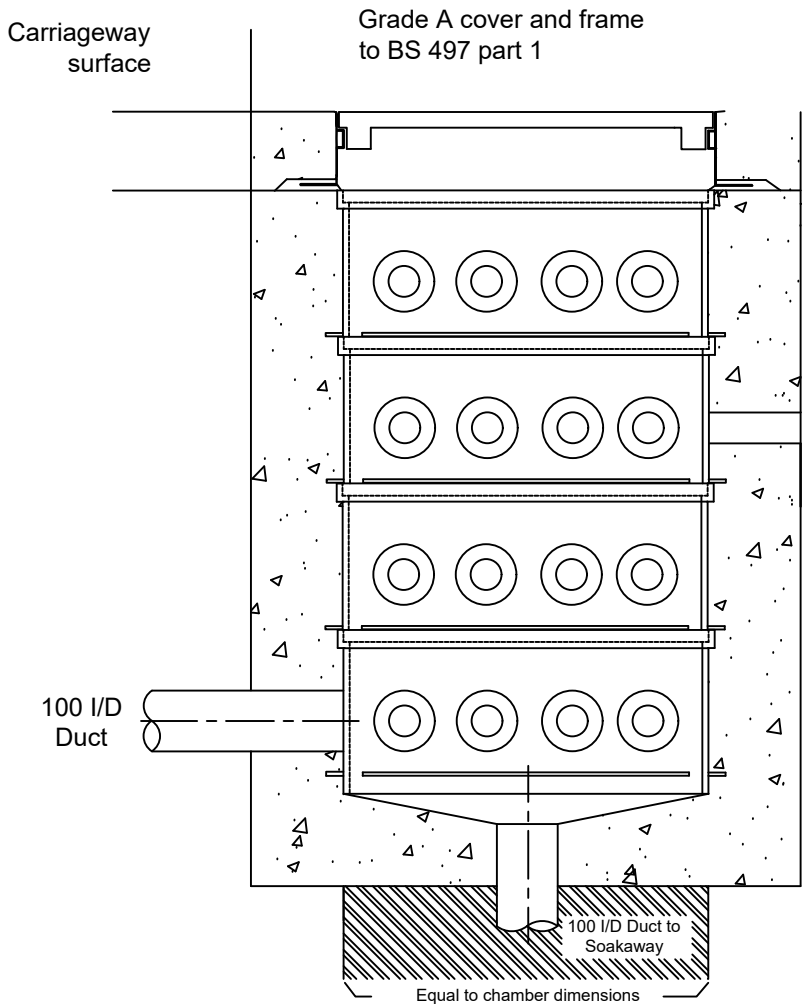
Harttron 

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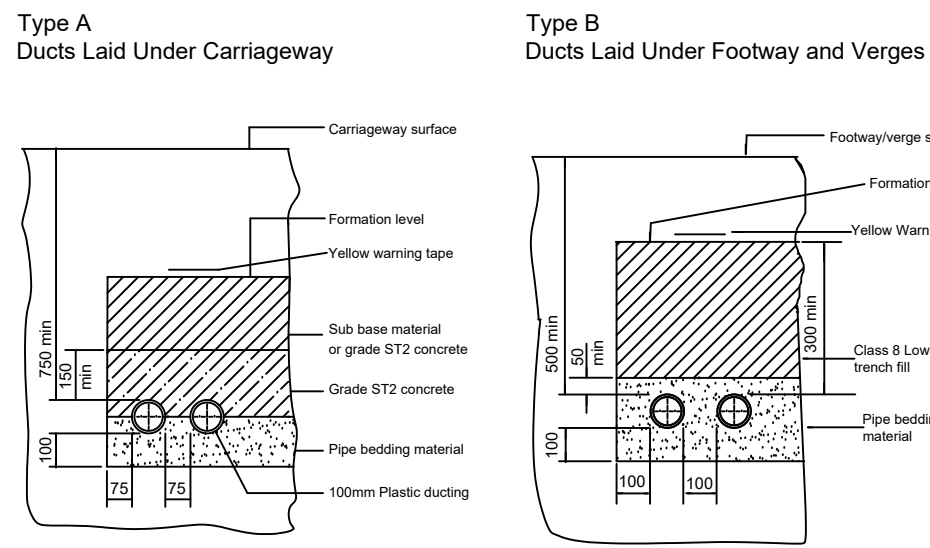
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N.T.S



N.T.S



- Notes
- All dimensions are in millimeters unless otherwise stated.
 - All private street lighting ducts to be orange coloured polythene.
 - Pipe bedding material maximum aggregate size 2mm; eg washed sand.