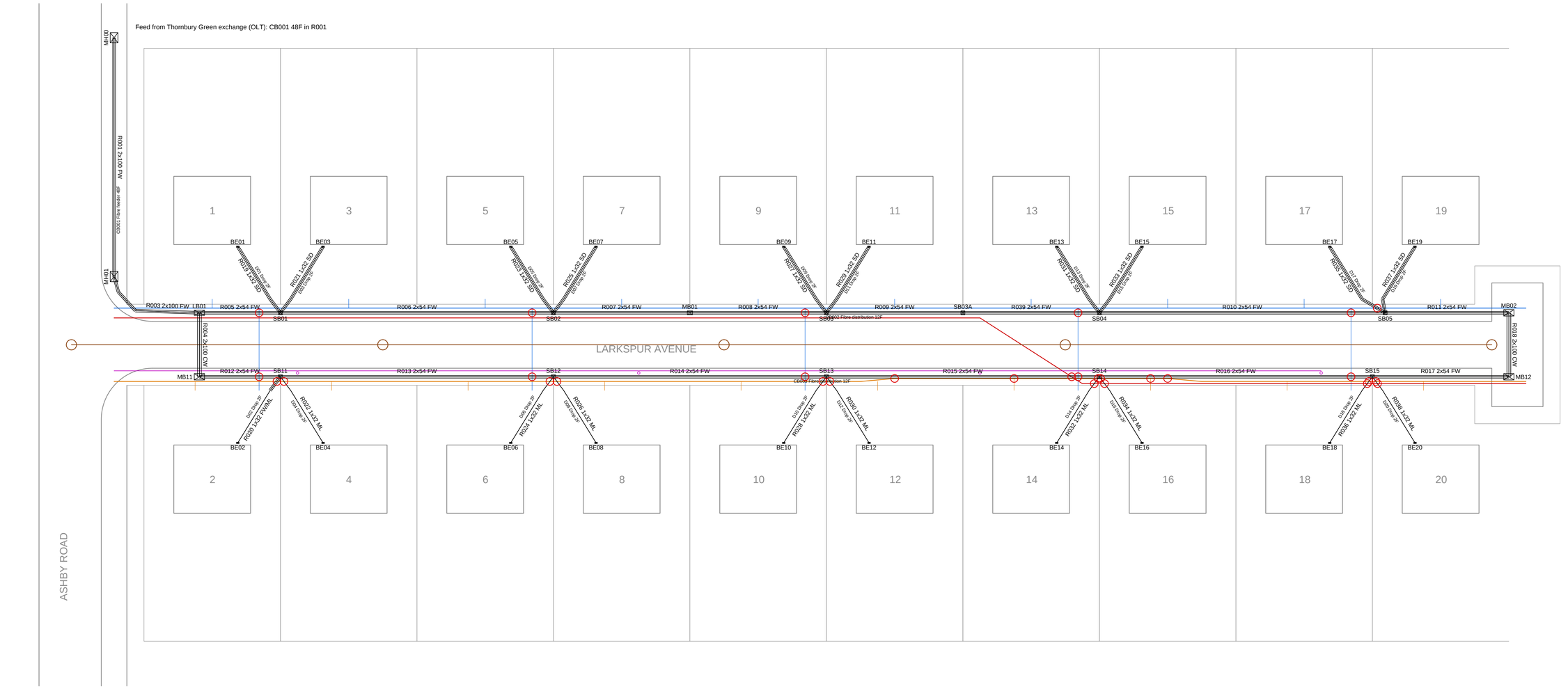
NETWORK PLAN 1:250

North footway, feeder and odd-number lead-ins built; south side and turning head designed



LEGEND

- Duct route (plugin): ducts, trench edges, tag and label
- Cable in its routes (plugin)
- Water main WM1 100 DI: QL-B2, depth 900 found
- Water services: QL-D (records)
- Gas main GM1 125 PE: QL-A, depth 650 at trial holes
- Gas services: QL-D (records)
- LV cable LV1: QL-B3, depth 450 by EML
- Street lighting cable and columns: QL-C
- Foul sewer FS1 and manholes: QL-C, 2300 deep
- Conflict from UTCONFLICT (sheet 6 table, by X and Y)

Chambers: MH manhole, LB large, MB medium or crossing, SB small joint box, BE building entry. Trench: FW footway, CW carriageway, SD soft dig, ML moling

QUANTITIES (UTQTY)

Item	Description	Quantity	Unit
Chamber	Building entry	20	nr
Chamber	Crossing chamber	3	nr
Chamber	Large joint box	1	nr
Chamber	Manhole	2	nr
Chamber	Medium joint box	1	nr
Chamber	Small joint box	11	nr
Trench	Carriageway	15.00	m
Trench	Footway	349.35	m
Trench	Moling	90.29	m
Trench	Soft dig	93.06	m
Duct	100 mm	110.69	m
Duct	32 mm	185.35	m
Duct	54 mm	614.00	m
Cable	Drop 2F	225.35	m
Cable	Fibre distribution 12F	365.50	m
Cable	Fibre feeder 48F	55.35	m

NETWORK FIGURES (COMMAND LINE)

Item	Result (command line)	Command
Network	38 chambers, 38 routes, 547.7 m, 1 connected part	UTTRACE
Cables	23: 48F feeder, two 12F, twenty 2F drops	UTCABLE
Splitters	12 (2 x 1:8, 10 x 1:4): 30 of 56 ports used	UTPORTS
Premises	20 building entries, 20 fed from a port	UTPORTS
PON loss, worst end	18.89 dB, margin 9.11 dB of 28 dB	UTPON
Design check	0 errors, 0 warnings, 12 notes	UTCHECK
Clearance table	30 conflicts	UTCONFLICT
As-built	35.4% of 547.7 m of route	UTASBUILT
Priced bill	GBP 59,615.76 (example rates)	UTCOST
Register export	99 assets, 18 attributes, WGS 84	UTNUAR

NOTES

1. Fictional street, network and survey made for a Stratal CAD demonstration. Drawing in mm on British National Grid (GEOREF EPSG:27700).
2. Chambers, routes, cables and building entries are live plugin objects; their tags and labels are the plugin's own, sized for this scale with UTTEXT 1:125 (2 mm and 1.5 mm on paper).
3. Chamber, trench and duct sizes are the plugin's generic examples plus this drawing's library (UTLIBRARY).
4. Existing services from a fictional survey; quality levels with UTSURVEY (based on PAS 128, not certified compliance). Red circles: UTCONFLICT conflicts (table on sheet 6).

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TITLE

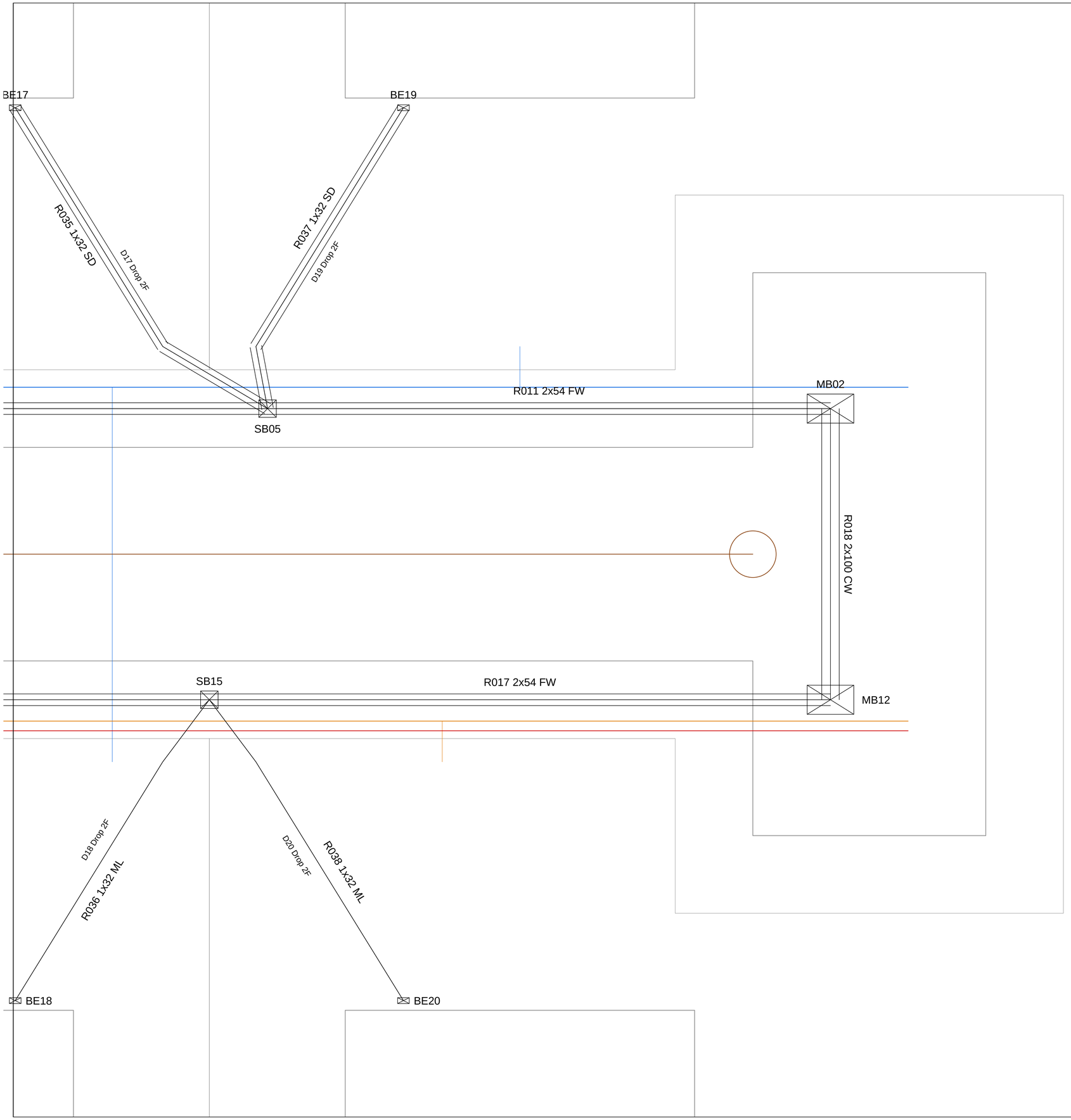
LARKSPUR AVENUE FTTP NETWORK
NETWORK PLAN AND EXISTING SERVICES

PROJECT	DRAWN		
Larkspur Avenue FTTP (fictional)	Stratal CAD demo		
DRAWING NO.	SHEET	SCALE	SIZE
STR-UTL-001	1 of 7	1:250	A1
SOFTWARE	DATE		
Stratal CAD 0.1.8, Utilities & Telecoms 0.12.0	12 Nov 2026		

STATUS

DEMONSTRATION DRAWING - NOT FOR MANUFACTURE

TURNING HEAD DETAIL 1:50



CHAMBERS ON THIS SHEET (UTCHAMBERDETAIL SCHEDULE)

Chamber	Type	Inside (mm)	Depth (mm)	Cover	Cover from
MB02	Crossing chamber	1200 x 750	1150	D400	suggested
MB12	Crossing chamber	1200 x 750	1150	D400	suggested
SB05	Small joint box	450 x 450	600	B125	set
SB15	Small joint box	450 x 450	600	B125	suggested
BE17	Building entry	300 x 150	650	B125	suggested
BE18	Building entry	300 x 150	650	B125	suggested
BE19	Building entry	300 x 150	650	B125	suggested
BE20	Building entry	300 x 150	650	B125	suggested

EXISTING SERVICES BY TAG (UTSURVEY REGISTER)

Service	Level	Depth (mm)
WM1 #110 on W-MAIN	QL-B2	900
GM1 #126 on G-MAIN	QL-A	650
LV1 #137 on E-LV	QL-B3	450
LV1-2 #138 on E-LV	QL-B3	450
SL1 #139 on E-SL	QL-C	
FS1 #140 on D-FOUL	QL-C	2300

NOTES

1. The plugin's own drawing at 1:50 (UTTEXT 1:50): chamber symbols and tags, duct routes with dashed trench edges and labels, cables in their routes, building entries BE17 to BE20.
2. SB05 was moved 1.5 m east by a script; UTUPDATE brought its routes and cables with it.
3. R018 was drawn as a footway trench and changed to Carriageway with UTTRENCH; it has no flow direction, so UTTRACE Downstream stops there. MB02 and MB12 are crossing chambers from the drawing's library.

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TITLE
LARKSPUR AVENUE FTTP NETWORK
TURNING HEAD DETAIL

PROJECT	DRAWN
Larkspur Avenue FTTP (fictional)	Stratal CAD demo

DRAWING NO.	SHEET	SCALE	SIZE
STR-UTL-002	2 of 7	1:50	A1

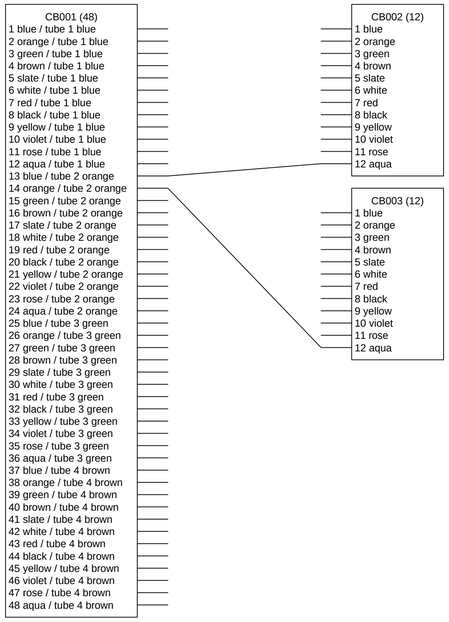
SOFTWARE	DATE
Stratal CAD 0.1.8, Utilities & Telecoms 0.12.0	12 Nov 2026

STATUS
DEMONSTRATION DRAWING - NOT FOR MANUFACTURE

PON, SPLITTERS AND SPLICES

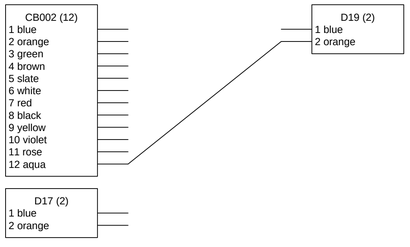
SPLICE DIAGRAM LB01 (UTDIAGRAM)

Splice diagram LB01



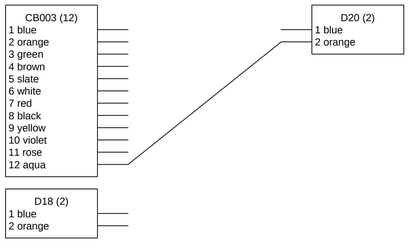
SPLICE DIAGRAM SB05 (UTDIAGRAM)

Splice diagram SB05



SPLICE DIAGRAM SB15 (UTDIAGRAM)

Splice diagram SB15



PON ENDS AND LOSS BUDGET (UTPON, FEEDER FIBRES 1, 2 AND 13)

End	Drop	Path (from the head end)	Length (m)	Loss (dB)	Margin (dB)
1	D01 1	CB001 1 > SP1 1:8 port 1 in LB01 > CB002 1 > SP3 1:4 port 1 in SB01 > D01 1	247.07	18.89	9.11
2	D03 1	CB001 1 > SP1 1:8 port 1 in LB01 > CB002 1 > SP3 1:4 port 2 in SB01 > D03 1	247.07	18.89	9.11
3	D05 1	CB001 1 > SP1 1:8 port 2 in LB01 > CB002 2 > SP4 1:4 port 1 in SB02 > D05 1	247.07	18.89	9.11
4	D07 1	CB001 1 > SP1 1:8 port 2 in LB01 > CB002 2 > SP4 1:4 port 2 in SB02 > D07 1	247.07	18.89	9.11
5	D09 1	CB001 1 > SP1 1:8 port 3 in LB01 > CB002 3 > SP5 1:4 port 1 in SB03 > D09 1	247.07	18.89	9.11
6	D11 1	CB001 1 > SP1 1:8 port 3 in LB01 > CB002 3 > SP5 1:4 port 2 in SB03 > D11 1	247.07	18.89	9.11
7	D13 1	CB001 1 > SP1 1:8 port 4 in LB01 > CB002 4 > SP6 1:4 port 1 in SB04 > D13 1	247.07	18.89	9.11
8	D15 1	CB001 1 > SP1 1:8 port 4 in LB01 > CB002 4 > SP6 1:4 port 2 in SB04 > D15 1	247.07	18.89	9.11
9	D17 1	CB001 1 > SP1 1:8 port 5 in LB01 > CB002 5 > SP7 1:4 port 1 in SB05 > D17 1	248.21	18.89	9.11
10	D19 1	CB001 1 > SP1 1:8 port 5 in LB01 > CB002 5 > SP7 1:4 port 2 in SB05 > D19 1	246.70	18.89	9.11
11	D02 1	CB001 2 > SP2 1:8 port 1 in LB01 > CB003 1 > SP8 1:4 port 1 in SB11 > D02 1	251.57	18.89	9.11
12	D04 1	CB001 2 > SP2 1:8 port 1 in LB01 > CB003 1 > SP8 1:4 port 2 in SB11 > D04 1	251.57	18.89	9.11
13	D06 1	CB001 2 > SP2 1:8 port 2 in LB01 > CB003 2 > SP9 1:4 port 1 in SB12 > D06 1	251.57	18.89	9.11
14	D08 1	CB001 2 > SP2 1:8 port 2 in LB01 > CB003 2 > SP9 1:4 port 2 in SB12 > D08 1	251.57	18.89	9.11
15	D10 1	CB001 2 > SP2 1:8 port 3 in LB01 > CB003 3 > SP10 1:4 port 1 in SB13 > D10 1	251.57	18.89	9.11
16	D12 1	CB001 2 > SP2 1:8 port 3 in LB01 > CB003 3 > SP10 1:4 port 2 in SB13 > D12 1	251.57	18.89	9.11
17	D14 1	CB001 2 > SP2 1:8 port 4 in LB01 > CB003 4 > SP11 1:4 port 1 in SB14 > D14 1	251.57	18.89	9.11
18	D16 1	CB001 2 > SP2 1:8 port 4 in LB01 > CB003 4 > SP11 1:4 port 2 in SB14 > D16 1	251.57	18.89	9.11
19	D18 1	CB001 2 > SP2 1:8 port 5 in LB01 > CB003 5 > SP12 1:4 port 1 in SB15 > D18 1	251.57	18.89	9.11
20	D20 1	CB001 2 > SP2 1:8 port 5 in LB01 > CB003 5 > SP12 1:4 port 2 in SB15 > D20 1	251.57	18.89	9.11
21	D19 2	CB001 13 > splice in LB01 > CB002 12 > splice in SB05 > D19 2	246.70	1.29	26.71

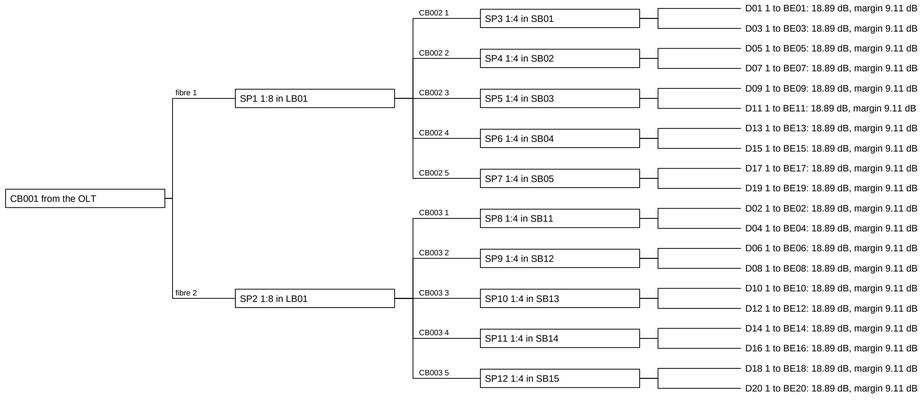
SPLITTERS AND PORTS (UTPORTS)

Splitter	Chamber	Ratio	Used	Free	Ports to	Premises reached
SP1	LB01	1:8	5	3	CB002 1 to CB002 5	via the 1:4 splitters
SP2	LB01	1:8	5	3	CB003 1 to CB003 5	via the 1:4 splitters
SP3	SB01	1:4	2	2	D01 1, D03 1	BE01, BE03
SP4	SB02	1:4	2	2	D05 1, D07 1	BE05, BE07
SP5	SB03	1:4	2	2	D09 1, D11 1	BE09, BE11
SP6	SB04	1:4	2	2	D13 1, D15 1	BE13, BE15
SP7	SB05	1:4	2	2	D17 1, D19 1	BE17, BE19
SP8	SB11	1:4	2	2	D02 1, D04 1	BE02, BE04
SP9	SB12	1:4	2	2	D06 1, D08 1	BE06, BE08
SP10	SB13	1:4	2	2	D10 1, D12 1	BE10, BE12
SP11	SB14	1:4	2	2	D14 1, D16 1	BE14, BE16
SP12	SB15	1:4	2	2	D18 1, D20 1	BE18, BE20

SPLICE SCHEDULE (UTSCHED)

Chamber	Cable A	Fibres A	Cable B	Fibres B	Note
LB01	CB001	13	CB002	12	Point-to-point spare to No. 19 (home office line)
LB01	CB001	14	CB003	12	Point-to-point spare to No. 20
SB05	CB002	12	D19	2	No. 19 point-to-point
SB15	CB003	12	D20	2	No. 20 point-to-point

PON SCHEMATIC (DRAWN BY ME FROM THE UTPON TRACES; FIBRE 1 NORTH, FIBRE 2 SOUTH)



PREMISES (UTPORTS)

Entry	Cabled	Fed by
BE01	yes	SP3 port 1
BE02	yes	SP8 port 1
BE03	yes	SP3 port 2
BE04	yes	SP8 port 2
BE05	yes	SP4 port 1
BE06	yes	SP9 port 1
BE07	yes	SP4 port 2
BE08	yes	SP9 port 2
BE09	yes	SP5 port 1
BE10	yes	SP10 port 1
BE11	yes	SP5 port 2
BE12	yes	SP10 port 2
BE13	yes	SP6 port 1
BE14	yes	SP11 port 1
BE15	yes	SP6 port 2
BE16	yes	SP11 port 2
BE17	yes	SP7 port 1
BE18	yes	SP12 port 1
BE19	yes	SP7 port 2
BE20	yes	SP12 port 2

POINT-TO-POINT (UTPON, FIBRE 13)

CB001 13 > splice in LB01 > CB002 12 > splice in SB05 > D19 2
246.70 m, 2 splices, 1.29 dB, margin 26.71 dB

NOTES

1. PON: 1:8 splitters SP1 and SP2 in LB01 on feeder fibres 1 and 2, a 1:4 splitter in each small joint box: 1:32 overall (UTSPLITTER). Fibres 13 and 14 are point-to-point spares (UTSPLICE).
2. Loss budget from UTPON with the plugin's example figures: 0.35 dB/km, 0.1 dB a splice, 0.5 dB a connector x 2, 10.5 dB (1:8) and 7.3 dB (1:4), 28 dB GPON class B+. Example figures: set your own.
3. Splice diagrams by UTDIAGRAM at its own size (4 mm a fibre). Splitters are not drawn in them (sheet notes, FINDINGS).

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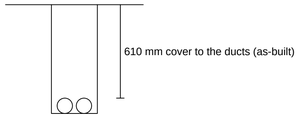
TITLE
LARKSPUR AVENUE FTTP NETWORK
PON, SPLITTERS AND SPLICES

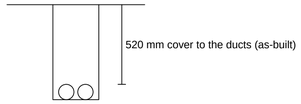
PROJECT	DRAWN		
Larkspur Avenue FTTP (fictional)	Stratal CAD demo		
DRAWING NO.	SHEET	SCALE	SIZE
STR-UTL-003	3 of 7	1:1	A1
SOFTWARE		DATE	
Stratal CAD 0.1.8, Utilities & Telecoms 0.12.0		12 Nov 2026	

STATUS
DEMONSTRATION DRAWING - NOT FOR MANUFACTURE

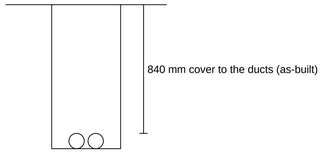
TRENCH SECTIONS (UTSECTION) 1:20



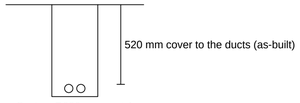
Section R001 segment 1
Footway trench 300 x 600 mm (example sizes)
2 x 100 mm ducts



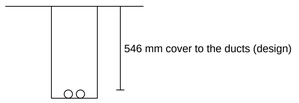
Section R003 segment 1
Footway trench 300 x 600 mm (example sizes)
2 x 100 mm ducts



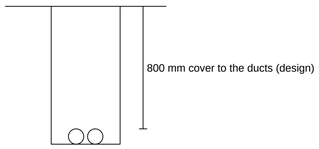
Section R004 segment 1
Carriageway trench 450 x 900 mm (example sizes)
2 x 100 mm ducts



Section R006 segment 1
Footway trench 300 x 600 mm (example sizes)
2 x 54 mm ducts



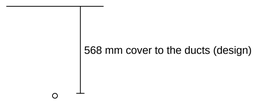
Section R013 segment 1
Footway trench 300 x 600 mm (example sizes)
2 x 54 mm ducts



Section R018 segment 1
Carriageway trench 450 x 900 mm (example sizes)
2 x 100 mm ducts



Section R019 segment 2
Soft dig trench 300 x 450 mm (example sizes)
1 x 32 mm duct

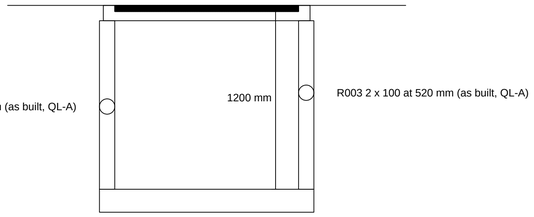


Section R020 segment 2
Moling, no open trench, 600 mm deep (example sizes)
1 x 32 mm duct

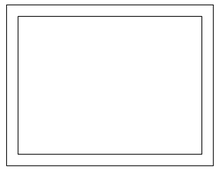
CHAMBER DETAILS (UTCHAMBERDETAIL) 1:20

Chamber MH01: Manhole, 1200 x 900 mm inside, 1200 mm deep (the type's example depth)

Cover and frame: BS EN 124 class D400 (400 kN test load)



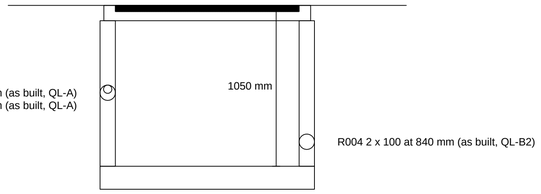
Walls 100, base 150, frame 100 mm deep: example sizes, set your own



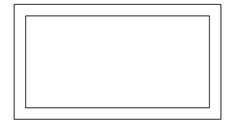
Cover plan: clear opening 1200 x 900 mm
frame 1350 x 1050 mm

Chamber LB01: Large joint box, 1200 x 600 mm inside, 1050 mm deep

Cover and frame: BS EN 124 class D400 (400 kN test load), suggested



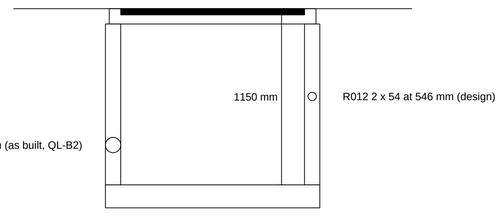
Walls 100, base 150, frame 100 mm deep: example sizes, set your own



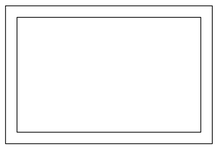
Cover plan: clear opening 1200 x 600 mm
frame 1350 x 750 mm

Chamber MB11: Crossing chamber, 1200 x 750 mm inside, 1150 mm deep (the type's example depth)

Cover and frame: BS EN 124 class D400 (400 kN test load), suggested



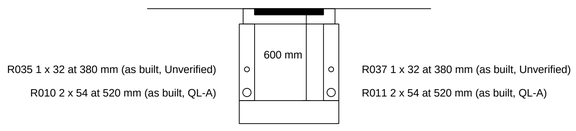
Walls 100, base 150, frame 100 mm deep: example sizes, set your own



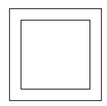
Cover plan: clear opening 1200 x 750 mm
frame 1350 x 900 mm

Chamber SB05: Small joint box, 450 x 450 mm inside, 600 mm deep (the type's example depth)

Cover and frame: BS EN 124 class B125 (125 kN test load)



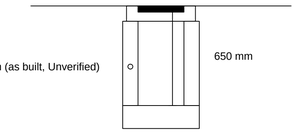
Walls 100, base 150, frame 100 mm deep: example sizes, set your own



Cover plan: clear opening 450 x 450 mm
frame 600 x 600 mm

Chamber BE19: Building entry, 300 x 150 mm inside, 650 mm deep

Cover and frame: BS EN 124 class B125 (125 kN test load), suggested



Walls 100, base 150, frame 100 mm deep: example sizes, set your own



Cover plan: clear opening 300 x 150 mm
frame 450 x 300 mm

NOTES

1. Trench sections by UTSECTION and chamber details by UTCHAMBERDETAIL, drawn by the plugin at full size and plotted 1:20. Trench and chamber sizes are examples; cover to the ducts as built where recorded (UTASBUILT).
2. Covers: BS EN 124 classes, set with UTPROPS or suggested from the routes (D400 where a carriageway route ends).
3. Building entries were given a 650 mm draw-pit depth (my design) after UTCHECK's first run warned that the lead-in ducts reach below the 300 mm example.

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TITLE
LARKSPUR AVENUE FTTP NETWORK
TRENCH SECTIONS AND CHAMBER DETAILS

PROJECT	DRAWN		
Larkspur Avenue FTTP (fictional)	Stratal CAD demo		
DRAWING NO.	SHEET	SCALE	SIZE
STR-UTL-004	4 of 7	1:20	A1
SOFTWARE		DATE	
Stratal CAD 0.1.8, Utilities & Telecoms 0.12.0		12 Nov 2026	

STATUS
DEMONSTRATION DRAWING - NOT FOR MANUFACTURE

SCHEDULES AND PRICED BILL

CHAMBER SCHEDULE (UTCHAMBERDETAIL SCHEDULE)

Chamber	Type	Inside (mm)	Depth (mm)	Depth from	Cover	Cover from	kN	Duct entries
MH00	Manhole	1200 x 900	1200	type example	D400	set	400	R001 2x100 at 610 (as built, QL-A)
MH01	Manhole	1200 x 900	1200	type example	D400	set	400	R001 2x100 at 610 (as built, QL-A); R003 2x100 at 520 (as built, QL-A)
LB01	Large joint box	1200 x 600	1050	set	D400	suggested	400	R003 2x100 at 520 (as built, QL-A); R004 2x100 at 840 (as built, QL-B2); R005 2x54 at 520 (as built, QL-A)
MB01	Medium joint box	600 x 450	750	type example	B125	set	125	R007 2x54 at 520 (as built, QL-A); R008 2x54 at 520 (as built, QL-A)
MB02	Crossing chamber	1200 x 750	1150	type example	D400	suggested	400	R011 2x54 at 520 (as built, QL-A); R018 2x100 at 800 (design)
MB11	Crossing chamber	1200 x 750	1150	type example	D400	suggested	400	R004 2x100 at 840 (as built, QL-B2); R012 2x54 at 546 (design)
MB12	Crossing chamber	1200 x 750	1150	type example	D400	suggested	400	R017 2x54 at 546 (design); R018 2x100 at 800 (design)
SB01	Small joint box	450 x 450	600	type example	B125	set	125	R005 2x54 at 520 (as built, QL-A); R006 2x54 at 520 (as built, QL-A); R019 1x32 at 380 (as built, Unverified); R021 1x32 at 380 (as built, Unverified)
SB02	Small joint box	450 x 450	600	type example	B125	set	125	R006 2x54 at 520 (as built, QL-A); R007 2x54 at 520 (as built, QL-A); R023 1x32 at 380 (as built, Unverified); R025 1x32 at 380 (as built, Unverified)
SB03	Small joint box	450 x 450	600	type example	B125	set	125	R008 2x54 at 520 (as built, QL-A); R009 2x54 at 520 (as built, QL-A); R027 1x32 at 380 (as built, Unverified); R029 1x32 at 380 (as built, Unverified)
SB04	Small joint box	450 x 450	600	type example	B125	set	125	R010 2x54 at 520 (as built, QL-A); R031 1x32 at 380 (as built, Unverified); R033 1x32 at 380 (as built, Unverified); R039 2x54 at 520 (as built, QL-A)
SB05	Small joint box	450 x 450	600	type example	B125	set	125	R010 2x54 at 520 (as built, QL-A); R011 2x54 at 520 (as built, QL-A); R035 1x32 at 380 (as built, Unverified); R037 1x32 at 380 (as built, Unverified)
SB11	Small joint box	450 x 450	600	type example	B125	set	125	R012 2x54 at 546 (design); R013 2x54 at 546 (design); R020 1x32 at 568 (design); R022 1x32 at 568 (design)
SB12	Small joint box	450 x 450	600	type example	B125	suggested	125	R013 2x54 at 546 (design); R014 2x54 at 546 (design); R024 1x32 at 568 (design); R026 1x32 at 568 (design)
SB13	Small joint box	450 x 450	600	type example	B125	suggested	125	R014 2x54 at 546 (design); R015 2x54 at 546 (design); R028 1x32 at 568 (design); R030 1x32 at 568 (design)
SB14	Small joint box	450 x 450	600	type example	B125	suggested	125	R015 2x54 at 546 (design); R016 2x54 at 546 (design); R032 1x32 at 568 (design); R034 1x32 at 568 (design)
SB15	Small joint box	450 x 450	600	type example	B125	suggested	125	R016 2x54 at 546 (design); R017 2x54 at 546 (design); R036 1x32 at 568 (design); R038 1x32 at 568 (design)
BE01	Building entry	300 x 150	650	set	B125	suggested	125	R019 1x32 at 380 (as built, Unverified)
BE02	Building entry	300 x 150	650	set	B125	suggested	125	R020 1x32 at 568 (design)
BE03	Building entry	300 x 150	650	set	B125	suggested	125	R021 1x32 at 380 (as built, Unverified)
BE04	Building entry	300 x 150	650	set	B125	suggested	125	R022 1x32 at 568 (design)
BE05	Building entry	300 x 150	650	set	B125	suggested	125	R023 1x32 at 380 (as built, Unverified)
BE06	Building entry	300 x 150	650	set	B125	suggested	125	R024 1x32 at 568 (design)
BE07	Building entry	300 x 150	650	set	B125	suggested	125	R025 1x32 at 380 (as built, Unverified)
BE08	Building entry	300 x 150	650	set	B125	suggested	125	R026 1x32 at 568 (design)
BE09	Building entry	300 x 150	650	set	B125	suggested	125	R027 1x32 at 380 (as built, Unverified)
BE10	Building entry	300 x 150	650	set	B125	suggested	125	R028 1x32 at 568 (design)
BE11	Building entry	300 x 150	650	set	B125	suggested	125	R029 1x32 at 380 (as built, Unverified)
BE12	Building entry	300 x 150	650	set	B125	suggested	125	R030 1x32 at 568 (design)
BE13	Building entry	300 x 150	650	set	B125	suggested	125	R031 1x32 at 380 (as built, Unverified)
BE14	Building entry	300 x 150	650	set	B125	suggested	125	R032 1x32 at 568 (design)
BE15	Building entry	300 x 150	650	set	B125	suggested	125	R033 1x32 at 380 (as built, Unverified)
BE16	Building entry	300 x 150	650	set	B125	suggested	125	R034 1x32 at 568 (design)
BE17	Building entry	300 x 150	650	set	B125	suggested	125	R035 1x32 at 380 (as built, Unverified)
BE18	Building entry	300 x 150	650	set	B125	suggested	125	R036 1x32 at 568 (design)
BE19	Building entry	300 x 150	650	set	B125	suggested	125	R037 1x32 at 380 (as built, Unverified)
BE20	Building entry	300 x 150	650	set	B125	suggested	125	R038 1x32 at 568 (design)
SB03A	Small joint box	450 x 450	600	type example	B125	set	125	R009 2x54 at 520 (as built, QL-A); R039 2x54 at 520 (as built, QL-A)

CABLE SCHEDULE (UTSCHED)

Cable	Type	Fibres	Diameter (mm)	From	To	Routes	Chambers	Length (m)
CB001	Fibre feeder	48	8.5	MH00	LB01	R001 R003	MH00 MH01 LB01	55.35
CB002	Fibre distribution	12	6	LB01	MB02	R005 R006 R007 R008 R009 R039 R010 R011	LB01 SB01 SB02 MB01 SB03 SB03A SB04 SB05 MB02	180.50
CB003	Fibre distribution	12	6	LB01	MB12	R004 R012 R013 R014 R015 R016 R017	LB01 MB11 SB11 SB12 SB13 SB14 SB15 MB12	185.00
D01	Drop	2	4.8	SB01	BE01	R019	SB01 BE01	11.23
D02	Drop	2	4.8	SB11	BE02	R020	SB11 BE02	11.23
D03	Drop	2	4.8	SB01	BE03	R021	SB01 BE03	11.23
D04	Drop	2	4.8	SB11	BE04	R022	SB11 BE04	11.23
D05	Drop	2	4.8	SB02	BE05	R023	SB02 BE05	11.23
D06	Drop	2	4.8	SB12	BE06	R024	SB12 BE06	11.23
D07	Drop	2	4.8	SB02	BE07	R025	SB02 BE07	11.23
D08	Drop	2	4.8	SB12	BE08	R026	SB12 BE08	11.23
D09	Drop	2	4.8	SB03	BE09	R027	SB03 BE09	11.23
D10	Drop	2	4.8	SB13	BE10	R028	SB13 BE10	11.23
D11	Drop	2	4.8	SB03	BE11	R029	SB03 BE11	11.23
D12	Drop	2	4.8	SB13	BE12	R030	SB13 BE12	11.23
D13	Drop	2	4.8	SB04	BE13	R031	SB04 BE13	11.23
D14	Drop	2	4.8	SB14	BE14	R032	SB14 BE14	11.23
D15	Drop	2	4.8	SB04	BE15	R033	SB04 BE15	11.23
D16	Drop	2	4.8	SB14	BE16	R034	SB14 BE16	11.23
D17	Drop	2	4.8	SB05	BE17	R035	SB05 BE17	12.37
D18	Drop	2	4.8	SB15	BE18	R036	SB15 BE18	11.23
D19	Drop	2	4.8	SB05	BE19	R037	SB05 BE19	10.86
D20	Drop	2	4.8	SB15	BE20	R038	SB15 BE20	11.23

PRICED BILL (UTCOST, EXAMPLE RATES, GBP)

Item	Quantity	Unit	Rate (GBP)	Amount (GBP)	Note
Chamber: Building entry	20	nr	65.00	1300.00	
Chamber: Crossing chamber	3	nr	1650.00	4950.00	
Chamber: Large joint box	1	nr	1450.00	1450.00	
Chamber: Manhole	2	nr	2850.00	5700.00	
Chamber: Medium joint box	1	nr	780.00	780.00	
Chamber: Small joint box	11	nr	420.00	4620.00	
Trench: Carriageway	15.00	m	145.00	2175.00	
Trench: Footway	349.35	m	68.00	23755.80	
Trench: Moling	90.29	m	36.00	3250.44	
Trench: Soft dig	93.06	m	28.00	2605.68	
Duct: 100 mm	110.69	m	6.20	686.28	
Duct: 32 mm	185.35	m	1.10	203.89	
Duct: 54 mm	614.00	m	2.40	1473.60	
Cable: Drop 2F	225.35	m	0.55	123.94	
Cable: Fibre distribution 12F	365.50	m	1.60	584.80	
Cable: Fibre feeder 48F	55.35	m	3.80	210.33	
Cover: B125	32	nr	95.00	3040.00	
Cover: D400	6	nr	310.00	1860.00	
Splice	4	nr	14.00	56.00	
Splitter: 1:4	10	nr	60.00	600.00	
Splitter: 1:8	2	nr	95.00	190.00	
Total				59615.76	

NETWORK LIBRARY IN FORCE (UTLIBRARY EXPORT)

Kind	Id	Name	Length	Width	Depth
Chamber	small	Small joint box	450	450	600
Chamber	medium	Medium joint box	600	450	750
Chamber	large	Large joint box	1200	600	900
Chamber	manhole	Manhole	1200	900	1200
Entry	entry	Building entry	300	150	300
Chamber	xing	Crossing chamber	1200	750	1150
Entry	wallbox	Wall box entry	250	150	250
Trench	FW	Footway		300	600
Trench	VG	Verge		300	750
Trench	CW	Carriageway		450	900
Trench	SD	Soft dig		300	450
Trench	ML	Moling		0	600
Trench	SH	Shared utility trench		600	900
Duct	32				
Duct	54				
Duct	90				
Duct	100				
Duct	110				
Duct	125				

NOTES

1. Chamber schedule from UTCHAMBERDETAIL Schedule, cable schedule from UTSCHED, bill from UTCOST: the plugin's CSVs shown as tables (chamber columns shortened by me).
2. Rates are my example rates for this demonstration, not market prices; the plugin has no built-in prices.

Stratal CAD

cad.stratal.co.uk

TITLE
LARKSPUR AVENUE FTTP NETWORK
CHAMBER AND CABLE SCHEDULES, PRICED BILL

PROJECT	DRAWN		
Larkspur Avenue FTTP (fictional)	Stratal CAD demo		
DRAWING NO.	SHEET	SCALE	SIZE
STR-UTL-005	5 of 7	1:1	A1
SOFTWARE	DATE		
Stratal CAD 0.1.8, Utilities & Telecoms 0.12.0	12 Nov 2026		

STATUS
DEMONSTRATION DRAWING - NOT FOR MANUFACTURE

CLEARANCES, SURVEY, AS-BUILT AND DESIGN CHECK

CONFLICTS (UTCONFLICT), CIRCLED ON SHEET 1

No.	Route	Service	Kind	X (m)	Y (m)	Angle	Vert. (m)	Why (first clauses)
C1	R035	WM1 #110 on W-MAIN (Thornbury Water (fictional))	Crossing	146.572	4.300	31	0.488	crosses at 31 degrees (under 45)
C2	R005	#121 on W-SVC (Thornbury Water (fictional))	Crossing	15.500	3.750	90	0.176	vertical separation 176 mm (under 250); depths: route 520 mm (as-built), service 750 mm (table)
C3	R012	#121 on W-SVC (Thornbury Water (fictional))	Crossing	15.500	-3.750	90	0.150	vertical separation 150 mm (under 250); depths: route 546 mm (trench), service 750 mm (table)
C4	R006	#122 on W-SVC (Thornbury Water (fictional))	Crossing	47.500	3.750	90	0.176	vertical separation 176 mm (under 250); depths: route 520 mm (as-built), service 750 mm (table)
C5	R013	#122 on W-SVC (Thornbury Water (fictional))	Crossing	47.500	-3.750	90	0.150	vertical separation 150 mm (under 250); depths: route 546 mm (trench), service 750 mm (table)
C6	R008	#123 on W-SVC (Thornbury Water (fictional))	Crossing	79.500	3.750	90	0.176	vertical separation 176 mm (under 250); depths: route 520 mm (as-built), service 750 mm (table)
C7	R014	#123 on W-SVC (Thornbury Water (fictional))	Crossing	79.500	-3.750	90	0.150	vertical separation 150 mm (under 250); depths: route 546 mm (trench), service 750 mm (table)
C8	R015	#124 on W-SVC (Thornbury Water (fictional))	Crossing	111.500	-3.750	90	0.150	vertical separation 150 mm (under 250); depths: route 546 mm (trench), service 750 mm (table)
C9	R039	#124 on W-SVC (Thornbury Water (fictional))	Crossing	111.500	3.750	90	0.176	vertical separation 176 mm (under 250); depths: route 520 mm (as-built), service 750 mm (table)
C10	R010	#125 on W-SVC (Thornbury Water (fictional))	Crossing	143.500	3.750	90	0.176	vertical separation 176 mm (under 250); depths: route 520 mm (as-built), service 750 mm (table)
C11	R016	#125 on W-SVC (Thornbury Water (fictional))	Crossing	143.500	-3.750	90	0.150	vertical separation 150 mm (under 250); depths: route 546 mm (trench), service 750 mm (table)
C12	R020	GM1 #126 on G-MAIN (Midshire Gas (fictional))	Crossing	17.587	-4.300	53	0.050	vertical separation 50 mm (under 250); depths: route 568 mm (trench), service 650 mm (surveyed)
C13	R022	GM1 #126 on G-MAIN (Midshire Gas (fictional))	Crossing	18.413	-4.300	53	0.050	vertical separation 50 mm (under 250); depths: route 568 mm (trench), service 650 mm (surveyed)
C14	R024	GM1 #126 on G-MAIN (Midshire Gas (fictional))	Crossing	49.587	-4.300	53	0.050	vertical separation 50 mm (under 250); depths: route 568 mm (trench), service 650 mm (surveyed)
C15	R026	GM1 #126 on G-MAIN (Midshire Gas (fictional))	Crossing	50.413	-4.300	53	0.050	vertical separation 50 mm (under 250); depths: route 568 mm (trench), service 650 mm (surveyed)
C16	R028	GM1 #126 on G-MAIN (Midshire Gas (fictional))	Crossing	81.588	-4.300	53	0.050	vertical separation 50 mm (under 250); depths: route 568 mm (trench), service 650 mm (surveyed)
C17	R030	GM1 #126 on G-MAIN (Midshire Gas (fictional))	Crossing	82.412	-4.300	53	0.050	vertical separation 50 mm (under 250); depths: route 568 mm (trench), service 650 mm (surveyed)
C18	R032	GM1 #126 on G-MAIN (Midshire Gas (fictional))	Crossing	113.850	-3.950	53	0.050	vertical separation 50 mm (under 250); depths: route 568 mm (trench), service 650 mm (surveyed)
C19	R034	GM1 #126 on G-MAIN (Midshire Gas (fictional))	Crossing	114.150	-3.950	53	0.050	vertical separation 50 mm (under 250); depths: route 568 mm (trench), service 650 mm (surveyed)
C20	R036	GM1 #126 on G-MAIN (Midshire Gas (fictional))	Crossing	145.588	-4.300	53	0.050	vertical separation 50 mm (under 250); depths: route 568 mm (trench), service 650 mm (surveyed)
C21	R038	GM1 #126 on G-MAIN (Midshire Gas (fictional))	Crossing	146.412	-4.300	53	0.050	vertical separation 50 mm (under 250); depths: route 568 mm (trench), service 650 mm (surveyed)
C22	R015	LV1-2 #138 on E-LV (Midshire Power (fictional))	Crossing	110.753	-3.750	33	0.056	crosses at 33 degrees (under 45); vertical separation 56 mm (under 250)
C23	R032	LV1-2 #138 on E-LV (Midshire Power (fictional))	Crossing	113.400	-4.550	53	0.078	vertical separation 78 mm (under 250); depths: route 568 mm (trench), service 450 mm (surveyed)
C24	R034	LV1-2 #138 on E-LV (Midshire Power (fictional))	Crossing	114.600	-4.550	53	0.078	vertical separation 78 mm (under 250); depths: route 568 mm (trench), service 450 mm (surveyed)
C25	R036	LV1-2 #138 on E-LV (Midshire Power (fictional))	Crossing	145.400	-4.550	53	0.078	vertical separation 78 mm (under 250); depths: route 568 mm (trench), service 450 mm (surveyed)
C26	R038	LV1-2 #138 on E-LV (Midshire Power (fictional))	Crossing	146.600	-4.550	53	0.078	vertical separation 78 mm (under 250); depths: route 568 mm (trench), service 450 mm (surveyed)
C27	R015	GM1 #126 on G-MAIN (Midshire Gas (fictional))	Near	90.000	-3.950			200 mm away (under 300)
C28	R016	GM1 #126 on G-MAIN (Midshire Gas (fictional))	Near	122.000	-3.950			200 mm away (under 300)
C29	R015	#133 on G-SVC (Midshire Gas (fictional))	Near	104.000	-3.950			200 mm away (under 250)
C30	R016	#134 on G-SVC (Midshire Gas (fictional))	Near	120.000	-3.950			200 mm away (under 250)

CLEARANCE TABLE (MY INPUT)

Layers	Horizontal	Vertical	Depth	Size
G-MAIN	300	250	750	125
G-SVC	250	250	450	32
W-MAIN	300	250	900	110
W-SVC	250	250	750	25
E-LV	300	250	450	40
E-SL	250	150	450	25
D-*	500	300	2400	225

DUCT FILL (UTFILL, 50%)

Bore (mm)	Ducts	Fill (%)
28.16 (estimated)	20 with cable	2.9
47.52 (estimated)	14 empty	0.0
47.52 (estimated)	14 with cable	1.6
90	5 empty	0.0
90	3 with cable	0.4 to 0.9

DESIGN CHECK (UTCHECK)

Severity	Check	Object	Message
Note	free-ports	LB01	splitter SP1 1:8 in LB01 has 3 output ports not connected
Note	free-ports	LB01	splitter SP2 1:8 in LB01 has 3 output ports not connected
Note	free-ports	SB01	splitter SP3 1:4 in SB01 has 2 output ports not connected
Note	free-ports	SB02	splitter SP4 1:4 in SB02 has 2 output ports not connected
Note	free-ports	SB03	splitter SP5 1:4 in SB03 has 2 output ports not connected
Note	free-ports	SB04	splitter SP6 1:4 in SB04 has 2 output ports not connected
Note	free-ports	SB05	splitter SP7 1:4 in SB05 has 2 output ports not connected
Note	free-ports	SB11	splitter SP8 1:4 in SB11 has 2 output ports not connected
Note	free-ports	SB12	splitter SP9 1:4 in SB12 has 2 output ports not connected
Note	free-ports	SB13	splitter SP10 1:4 in SB13 has 2 output ports not connected
Note	free-ports	SB14	splitter SP11 1:4 in SB14 has 2 output ports not connected
Note	free-ports	SB15	splitter SP12 1:4 in SB15 has 2 output ports not connected

AS-BUILT ROUTES (UTASBUILT REPORT)

Object	Kind	Status	Date	By	Design (m)	Measured (m)	Diff. (m)	Depth (mm)	Depth QL
R001	Route	As-built	21/10/2026	Brampton Civils Ltd (fictional)	28.00	28.40	0.40	610	QL-A
R003	Route	As-built	22/10/2026	Brampton Civils Ltd (fictional)	12.35			520	QL-A
R004	Route	Installed	06/11/2026	Brampton Civils Ltd (fictional)	7.50			840	QL-B2
R005	Route	As-built	22/10/2026	Brampton Civils Ltd (fictional)	9.50			520	QL-A
R006	Route	As-built	22/10/2026	Brampton Civils Ltd (fictional)	32.00			520	QL-A
R007	Route	As-built	22/10/2026	Brampton Civils Ltd (fictional)	16.00			520	QL-A
R008	Route	As-built	22/10/2026	Brampton Civils Ltd (fictional)	16.00			520	QL-A
R009	Route	As-built	22/10/2026	Brampton Civils Ltd (fictional)	16.00			520	QL-A
R010	Route	As-built	22/10/2026	Brampton Civils Ltd (fictional)	33.50			520	QL-A
R011	Route	As-built	22/10/2026	Brampton Civils Ltd (fictional)	14.50			520	QL-A
R019	Route	Installed	28/10/2026	Brampton Civils Ltd (fictional)	9.23			380	Unverified
R021	Route	Installed	28/10/2026	Brampton Civils Ltd (fictional)	9.23			380	Unverified
R023	Route	Installed	28/10/2026	Brampton Civils Ltd (fictional)	9.23			380	Unverified
R025	Route	Installed	28/10/2026	Brampton Civils Ltd (fictional)	9.23			380	Unverified
R027	Route	Installed	28/10/2026	Brampton Civils Ltd (fictional)	9.23			380	Unverified
R029	Route	Installed	28/10/2026	Brampton Civils Ltd (fictional)	9.23			380	Unverified
R031	Route	Installed	28/10/2026	Brampton Civils Ltd (fictional)	9.23			380	Unverified
R033	Route	Installed	28/10/2026	Brampton Civils Ltd (fictional)	9.23			380	Unverified
R035	Route	Installed	28/10/2026	Brampton Civils Ltd (fictional)	10.37			380	Unverified
R037	Route	Installed	28/10/2026	Brampton Civils Ltd (fictional)	8.86			380	Unverified
R039	Route	As-built	22/10/2026	Brampton Civils Ltd (fictional)	16.00			520	QL-A

SURVEY REGISTER BY LAYER (UTSURVEY)

Layer	Objects	Length (m)	Level	Method	H acc. (mm)	V acc. (mm)	Depth (mm)	Note
W-MAIN	1	165.50	QL-B2	EML and GPR	150		900	100 DI main, depth from GPR
W-SVC	15	58.75	QL-D	Records				Service pipes from the water company's records
G-MAIN	1	165.53	QL-A	Trial holes TH1 to TH3	50	50	650	125 PE main exposed at three trial holes
G-SVC	10	11.20	QL-D	Records				Service pipes from the gas network's records
E-LV	2	167.76	QL-B3	EML (passive and induced)	250		450	LV cable traced, depth by EML
E-SL	5	144.78	QL-C	Site reconnaissance				Columns seen; route from records
D-FOUL	6	184.20	QL-C	Manhole covers lifted		100	2300	Invert depths measured at the manholes

AS-BUILT DEPTHS AND THEIR QUALITY LEVEL (UTASBUILT)

Object	Kind	Status	Date	Depth (mm)	Depth quality
R001	Route	As-built	21/10/2026	610	QL-A
R003	Route	As-built	22/10/2026	520	QL-A
R004	Route	Installed	06/11/2026	840	QL-B2
R019	Route	Installed	28/10/2026	380	Unverified

AS-BUILT STATUS

Kind	Designed	Installed	As-built
Chamber	17	11	10
Route	17	11	10
Cable	11	12	0

REGISTER EXPORT: DUCT ROUTES WITH A DEPTH (UTNUAR, 99 ASSETS)

asset_id	asset_type	asset_name	description	status	depth_mm	depth_source	depth_quality_level	installation_date	lon, lat (first point)
339	duct	R001	2x100 FW	As-built	610	measured	QL-A	21/10/2026	-1.241809, 52.041893
361	duct	R003	2x100 FW	As-built	520	measured	QL-A	22/10/2026	-1.241814, 52.041641
374	duct	R004	2x100 CW	Installed	840	measured	QL-B2	06/11/2026	-1.241669, 52.041602
387	duct	R005	2x54 FW	As-built	520	measured	QL-A	22/10/2026	-1.241669, 52.041602
400	duct	R006	2x54 FW	As-built	520	measured	QL-A	22/10/2026	-1.241530, 52.041601
413	duct	R007	2x54 FW	As-built	520	measured	QL-A	22/10/2026	-1.241064, 52.041598
426	duct	R008	2x54 FW	As-built	520	measured	QL-A	22/10/2026	-1.240830, 52.041597
439	duct	R009	2x54 FW	As-built	520	measured	QL-A	22/10/2026	-1.240597, 52.041595
452	duct	R010	2x54 FW	As-built	520	measured	QL-A	22/10/2026	-1.240130, 52.041592
465	duct	R011	2x54 FW	As-built	520	measured	QL-A	22/10/2026	-1.239642, 52.041589
478	duct	R012	2x54 FW	Designed	546	design estimate			-1.241670, 52.041535
491	duct	R013	2x54 FW	Designed	546	design estimate			-1.241531, 52.041534
504	duct	R014	2x54 FW	Designed	546	design estimate			-1.241065, 52.041531

NOTES

1. Conflicts: UTCONFLICT with the clearance table shown (my example values, not a standard) and a least crossing angle of 45 degrees; the Why column keeps the first two clauses of the plugin's reason.
2. Survey quality levels are based on PAS 128 quality levels, not certified compliance; the register is grouped by layer and level here.
3. Design check: UTCHECK with a 50% fill limit (an example): no errors or warnings; the notes are spare splitter ports.

Stratal CAD

cad.stratal.co.uk

TITLE
LARKSPUR AVENUE FTTP NETWORK
CLEARANCES, SURVEY, AS-BUILT AND CHECK

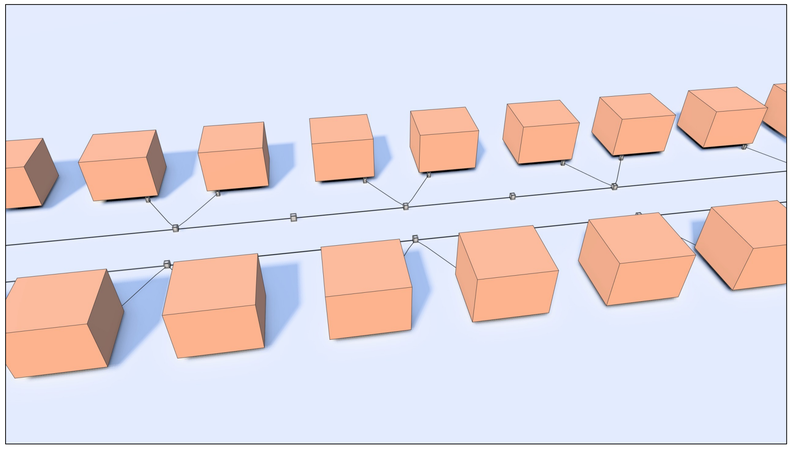
PROJECT	DRAWN
Larkspur Avenue FTTP (fictional)	Stratal CAD demo

DRAWING NO.	SHEET	SCALE	SIZE
STR-UTL-006	6 of 7	1:1	A1

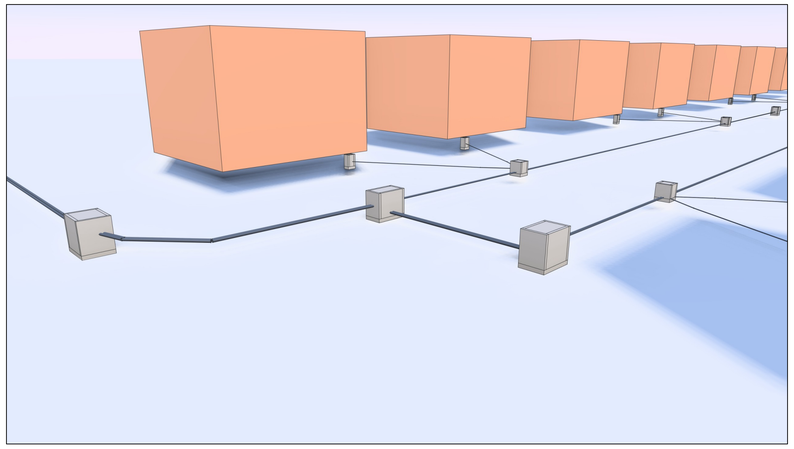
SOFTWARE	DATE
Stratal CAD 0.1.8, Utilities & Telecoms 0.12.0	12 Nov 2026

STATUS
DEMONSTRATION DRAWING - NOT FOR MANUFACTURE

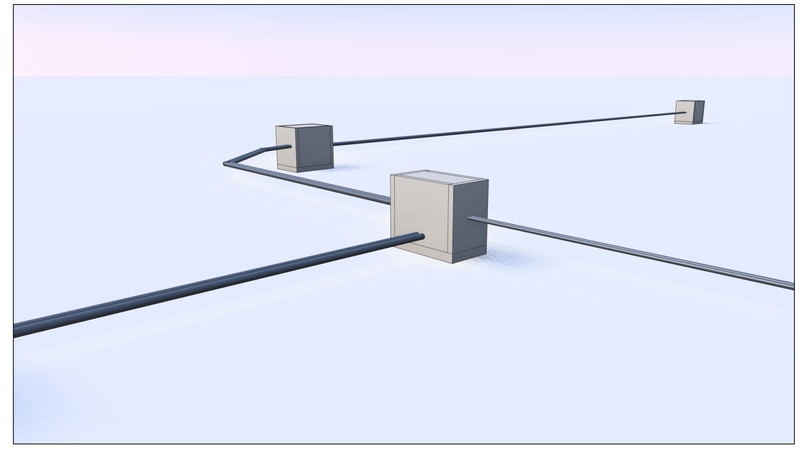
THE NETWORK AS SOLIDS AT DEPTH (UT3D), RENDERED



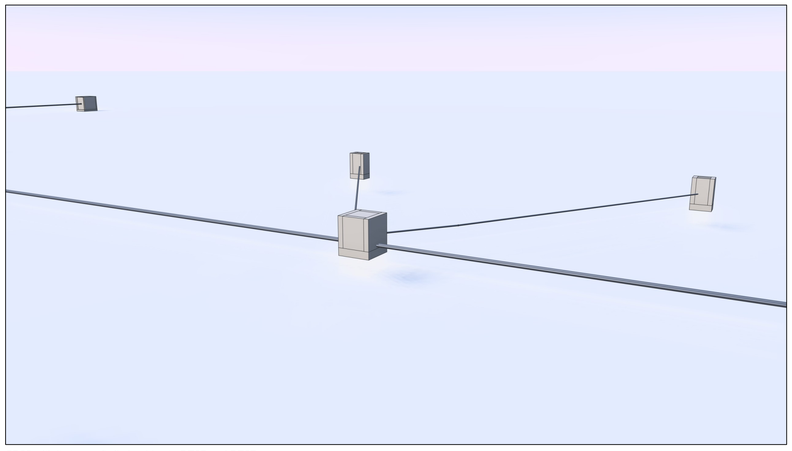
Whole estate from the south-west, house blocks for context



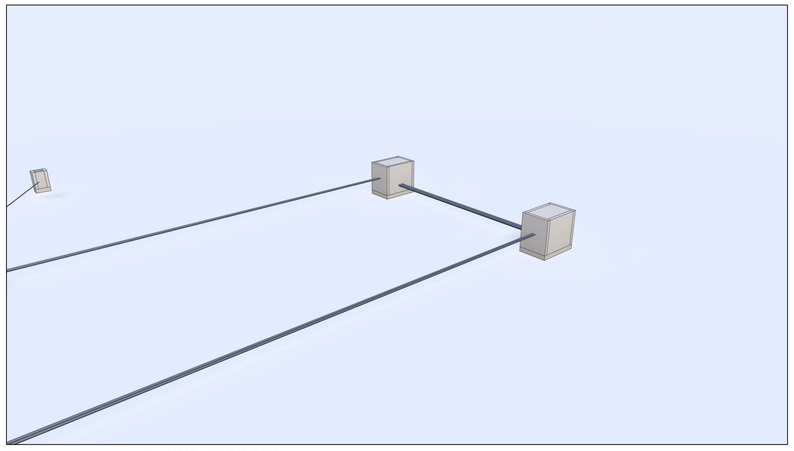
The junction: MH01, LB01 and the west road crossing



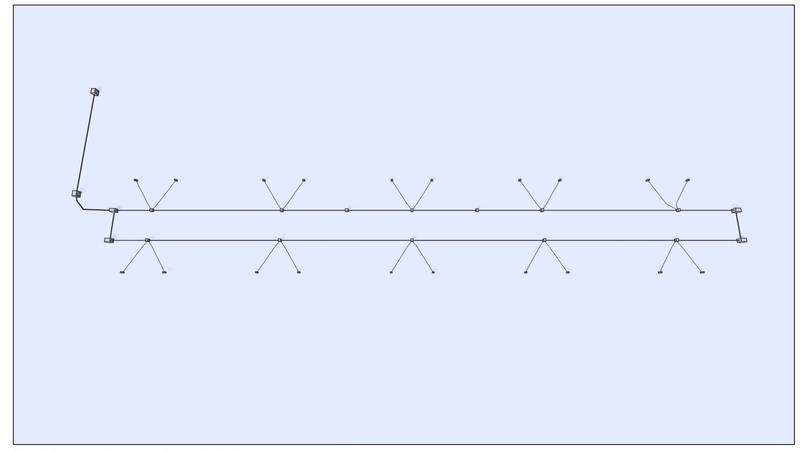
LB01 (1:8 splitters) with the feeder, crossing and north ducts



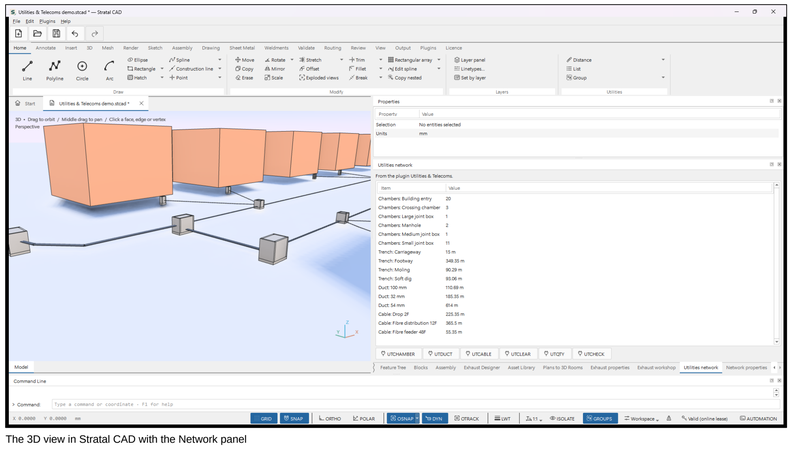
SB02 with its two soft-dig lead-ins to BE05 and BE07



Turning head: crossing chambers MB02 and MB12, R018



The whole network from above (houses hidden)



The 3D view in Stratal CAD with the Network panel

NOTES

1. UT3D All: 228 chamber, 80 duct and 59 cable solids at their depths (as-built where measured, else the trench design depth) below the ground at level 0. House blocks are my context solids.
2. Renders: RENDERSTILL from saved cameras, ground off so the network below level 0 shows; looks by APPEARANCE (my colours). Web model: VIEWEREXPORT .glb, 22,436 triangles.

Stratal CAD

cad.stratal.co.uk

TITLE
LARKSPUR AVENUE FTTP NETWORK
THE NETWORK AS SOLIDS (UT3D)

PROJECT		DRAWN	
Larkspur Avenue FTTP (fictional)		Stratal CAD demo	
DRAWING NO.	SHEET	SCALE	SIZE
STR-UTL-007	7 of 7	1:1	A1
SOFTWARE		DATE	
Stratal CAD 0.1.8, Utilities & Telecoms 0.12.0		12 Nov 2026	

STATUS
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