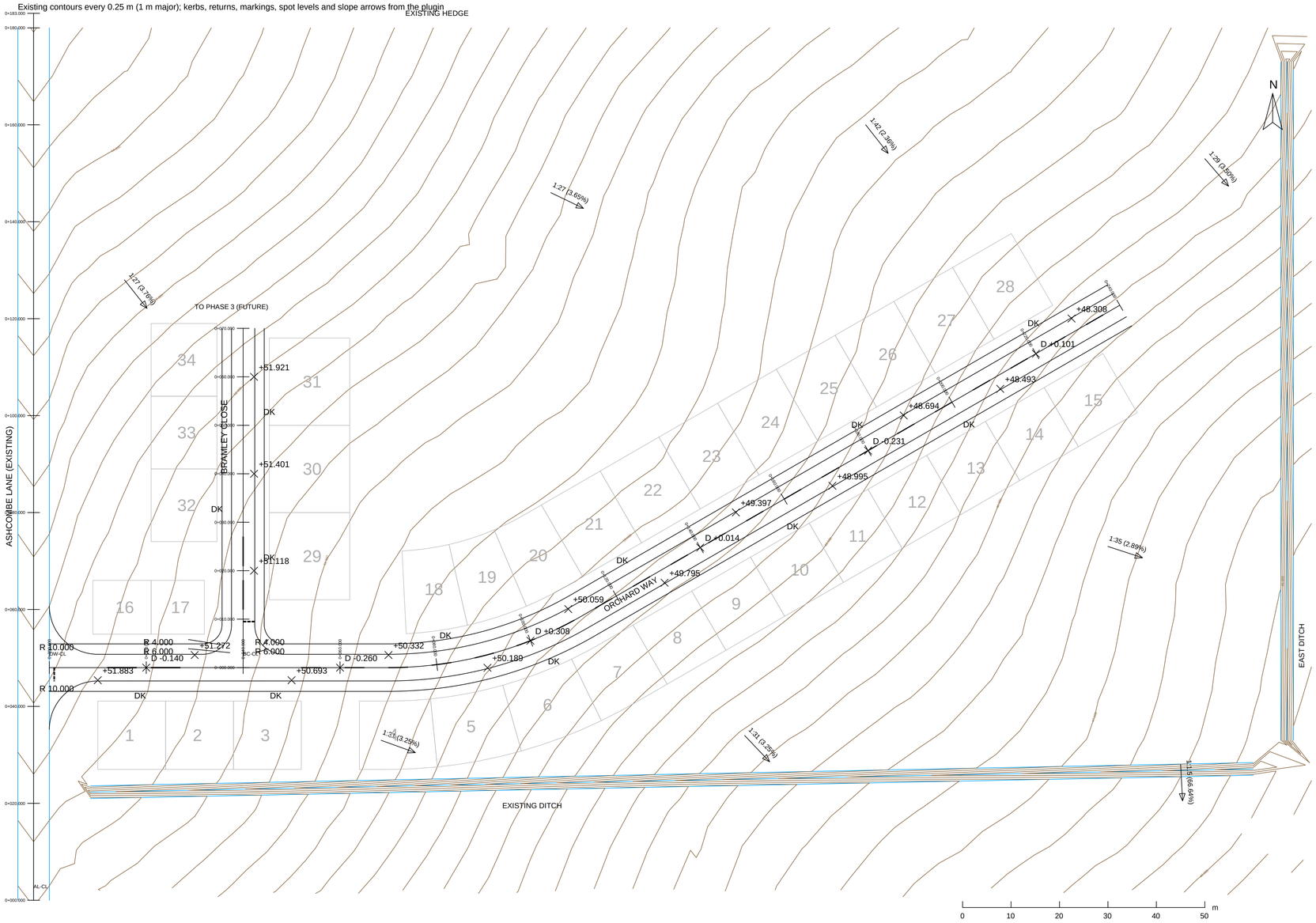
SITE LAYOUT 1:500

Existing contours every 0.25 m (1 m major); kerbs, returns, markings, spot levels and slope arrows from the plugin



DESIGN SUMMARY

Item	Result (from the command)	Command
Plots	34 (indicative, mine)	-
Orchard Way	0+000 to 0+240.000; R 80 m curve	SRVALIGN
OW grades	-3.053 / -0.557 / -2.083 / -0.928 %	SRVVPROF
Bramley Close	0+000 to 0+070.000	SRVALIGN
BC grades	+0.686 / +2.823 %	SRVVPROF
Corridor OW	26 sections; OW-FG 606 triangles	SRVCORRIDOR
Corridor BC	9 sections; BC-FG 160 triangles	SRVCORRIDOR
Kerb returns	R 10 m x2, R 6 m x2, R 4 m x2	SRVKERBRADIUS
Dropped kerbs	12 (driveways)	SRVKERB
Give-way lines	2 (OW at 0+001, BC at 0+009.5)	SRVMARKING
Spot labels	15 levels, 6 differences, 8 slopes	SRVSPOT

KERB RETURNS (SRVKERBRADIUS, KERBS TRIMMED)

Return	Radius	Tangent on road 1	Tangent on road 2
Lane north	10.000 m	OW-CL 0+010.000	AL-CL 0+060.750
Lane south	10.000 m	OW-CL 0+010.000	AL-CL 0+035.250
Close east kerb	6.000 m	OW-CL 0+048.400	BC-CL 0+008.750
Close west kerb	6.000 m	OW-CL 0+031.600	BC-CL 0+008.750
Close east footway	4.000 m	OW-CL 0+048.350	BC-CL 0+008.900
Close west footway	4.000 m	OW-CL 0+031.650	BC-CL 0+008.900

LAYERS

Layer	Shows	Made by
C-KERB	Kerbs, DK dropped, footway backs, returns	SRVKERB / SRVKERBRADIUS
C-MARK	Centre lines and give-way lines	SRVMARKING
C-SPOT	Spot levels, D cut/fill, slope arrows	SRVSPOT
C-ALIGN	Centre lines with chainage	SRVALIGN
C-SURFACE-EG	Existing contours	SRVTIN / SRVCONTOUR
V-SURV-BRK	Ditch and lane lines (breaklines)	mine, on survey points
A-PLOTS	Plots 1 to 34 (indicative)	mine

ORCHARD WAY SETTING OUT (SRVSOREPORT)

Chainage	CL level (m)	CL E	CL N	Kerb L E	Kerb L N	Kerb R E	Kerb R N
0+000.000	52.253	1006.500	520.000	1006.500	522.750	1006.500	517.250
0+020.000	51.642	1026.500	520.000	1026.500	522.750	1026.500	517.250
0+040.000	51.032	1046.500	520.000	1046.500	522.750	1046.500	517.250
0+060.000	50.546	1066.500	520.000	1066.500	522.750	1066.500	517.250
0+070.000	50.397	1076.500	520.000	1076.500	522.750	1076.500	517.250
0+080.000	50.310	1086.474	520.624	1086.131	523.353	1086.817	517.896
0+100.000	50.198	1105.802	525.559	1104.795	528.118	1106.809	523.000
0+111.888	50.105	1116.500	530.718	1115.125	533.100	1117.875	528.336
0+120.000	50.011	1123.525	534.774	1122.150	537.156	1124.900	532.392
0+140.000	49.670	1140.846	544.774	1139.471	547.156	1142.221	542.392
0+160.000	49.254	1158.166	554.774	1156.791	557.156	1159.541	552.392
0+180.000	48.895	1175.487	564.774	1174.112	567.156	1176.862	562.392
0+200.000	48.651	1192.807	574.774	1191.432	577.156	1194.182	572.392
0+220.000	48.466	1210.128	584.774	1208.753	587.156	1211.503	582.392
0+240.000	48.280	1227.448	594.774	1226.073	597.156	1228.823	592.392

BRAMLEY CLOSE SETTING OUT

Chainage	CL level (m)	CL E	CL N	Kerb L E	Kerb L N	Kerb R E	Kerb R N
0+000.000	51.032	1046.500	520.000	1044.100	520.000	1048.900	520.000
0+010.000	51.101	1046.500	530.000	1044.100	530.000	1048.900	530.000
0+020.000	51.169	1046.500	540.000	1044.100	540.000	1048.900	540.000
0+030.000	51.273	1046.500	550.000	1044.100	550.000	1048.900	550.000
0+035.000	51.352	1046.500	555.000	1044.100	555.000	1048.900	555.000
0+040.000	51.449	1046.500	560.000	1044.100	560.000	1048.900	560.000
0+050.000	51.695	1046.500	570.000	1044.100	570.000	1048.900	570.000
0+060.000	51.978	1046.500	580.000	1044.100	580.000	1048.900	580.000
0+070.000	52.260	1046.500	590.000	1044.100	590.000	1048.900	590.000

CORRIDOR ASSEMBLIES (SRVCORRIDOR PARTS)

Part (typed, mine)	Orchard Way	Bramley Close
Lane each side	2750 mm at -2.5 %	2400 mm at -2.5 %
Kerb	150 mm wide, 125 mm upstand	150 mm wide, 125 mm upstand
Footway	2000 mm at +2.5 %	1800 mm at +2.5 %
Verge	1000 mm at +4 %	-
Daylight	cut 1:2, fill 1:3	cut 1:2, fill 1:3
Sections	every 10 m, 0+000 to 0+240	every 10 m, 0+006 to 0+070

DROPPED KERBS (SRVKERB, DK ON PLAN)

Kerb line	Dropped kerbs (chainage, m)
OW left (north) -2.75 m	80-85.5, 122-127.5, 178-183.5, 220-225.5
OW right (south) +2.75 m	16-21.5, 44-49.5, 100-105.5, 156-161.5, 198-203.5
BC left (west) -2.4 m	30-35.5
BC right (east) +2.4 m	20-25.5, 50-55.5

NOTES

1. Fictional site for a Stratal CAD demonstration. Local grid and levels in metres.
2. Roads: alignments OW-CL and BC-CL (SRVALIGN), design profiles (SRVVPROF), corridors OW and BC (SRVCORRIDOR, assemblies typed as parts).
3. Kerbs, dropped kerbs and footway backs by SRVKERB; junction returns by SRVKERBRADIUS; centre lines and give-way lines by SRVMARKING.
4. Spot levels on the road surfaces, cut/fill differences (D) and ground slope arrows by SRVSPOT.
5. Plot outlines, plot numbers and names are mine (indicative layout).

Stratal CAD

cad.stratal.co.uk

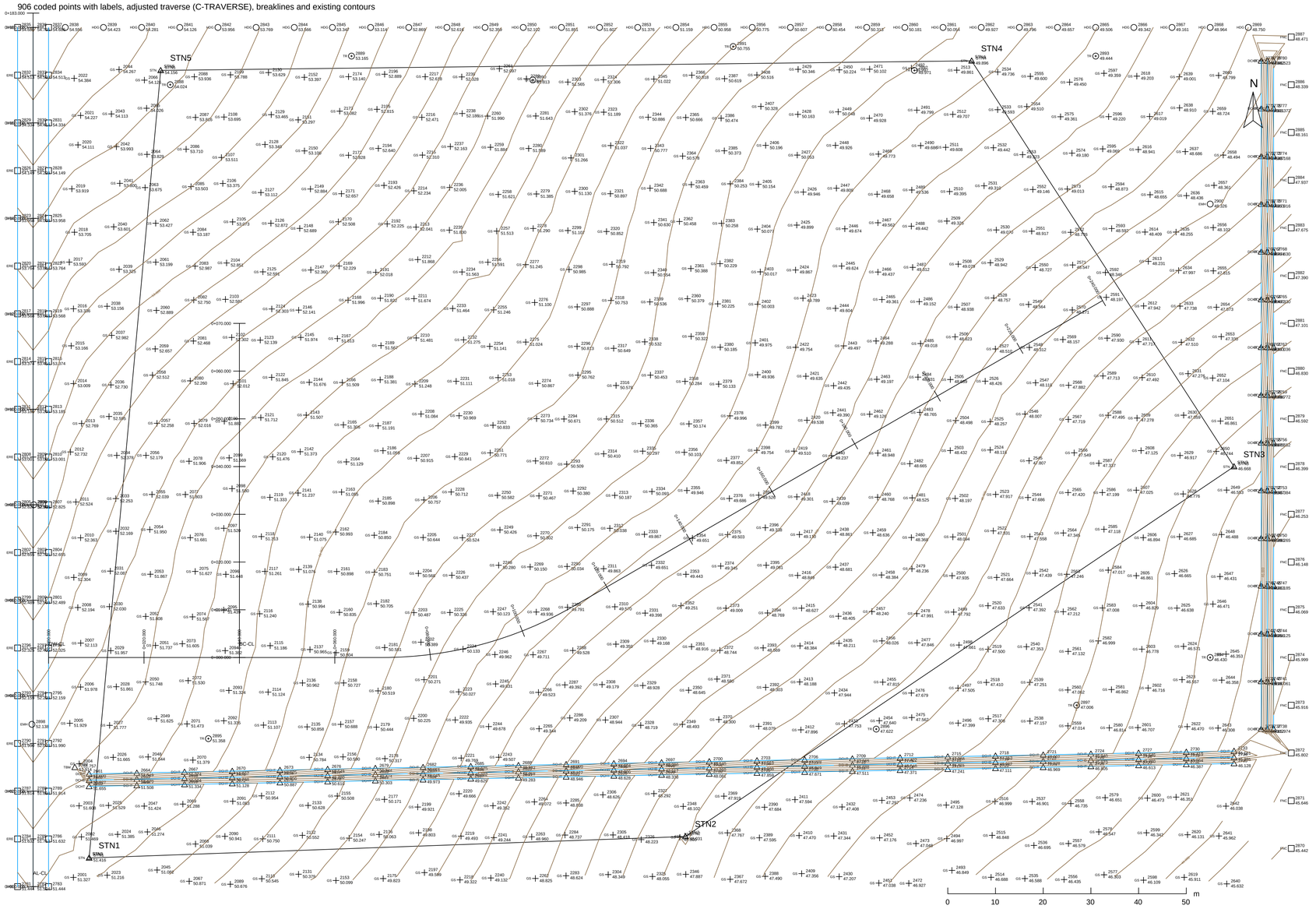
TITLE
MILLBROOK FIELDS PHASE 2
SITE LAYOUT AND SETTING OUT

PROJECT		DRAWN	
Millbrook Fields Phase 2, Ashcombe (fictional)		Stratal CAD demo	
DRAWING NO.	SHEET	SCALE	SIZE
STR-CIV-101	1 of 9	1:500	A1
SOFTWARE		DATE	
Stratal CAD 0.1.8, Civils & Survey 0.7.0		12 Nov 2026	

STATUS
DEMONSTRATION DRAWING - NOT FOR MANUFACTURE

SURVEY CONTROL AND GROUND MODEL 1:500

906 coded points with labels, adjusted traverse (C-TRAVERSE), breaklines and existing contours



CONTROL TRAVERSE, BOWDITCH (SRVTRAVERSE)

Station	Bearing	Distance (m)	Easting (m)	Northing (m)	dE (m)	dN (m)	Adjusted easting (m)	Adjusted northing (m)
STN1	87°56'23"	125.080	1015.000	478.000	0.000	0.000	1015.000	478.000
STN2	56°01'28"	138.679	1139.999	482.497	0.000	0.001	1139.999	482.498
STN3	327°05'41"	101.242	1255.002	559.997	-0.001	0.001	1255.001	559.998
STN4	269°19'35"	170.013	1200.002	644.996	-0.001	0.002	1200.001	644.998
STN5	185°11'39"	165.681	1030.001	642.998	-0.001	0.002	1029.999	643.000
STN1			1015.002	477.997	-0.002	0.003	1015.000	478.000

700.695 m traversed; angular misclosure -7.6" (allowance 10" x root n);
linear misclosure 3.6 mm; precision 1:192732 (Bowditch and transit alike)

SAME TRAVERSE BY THE TRANSIT RULE (CHECK)

Station	Bearing	Distance (m)	Easting (m)	Northing (m)	dE (m)	dN (m)	Adjusted easting (m)	Adjusted northing (m)
STN1	87°56'23"	125.080	1015.000	478.000	0.000	0.000	1015.000	478.000
STN2	56°01'28"	138.679	1139.999	482.497	-0.001	0.000	1139.999	482.497
STN3	327°05'41"	101.242	1255.002	559.997	-0.001	0.001	1255.001	559.997
STN4	269°19'35"	170.013	1200.002	644.996	-0.001	0.002	1200.001	644.998
STN5	185°11'39"	165.681	1030.001	642.998	-0.002	0.002	1029.999	642.999
STN1			1015.002	477.997	-0.002	0.003	1015.000	478.000

EG ELEVATION BANDS (SRVSURFREPORT)

Level from (m)	Level to (m)	Plan area (m2)	Share (%)
45.000	46.000	480.31	1.0
46.000	47.000	4016.76	8.5
47.000	48.000	5737.34	12.1
48.000	49.000	6153.04	13.0
49.000	50.000	7450.37	15.7
50.000	51.000	8183.41	17.3
51.000	52.000	7315.37	15.4
52.000	53.000	4297.86	9.1
53.000	54.000	2838.60	6.0
54.000	55.000	951.49	2.0

EG SLOPE BANDS

Slope from (%)	Slope to (%)	Plan area (m2)	Share (%)
0.00	1.00	0.00	0.0
1.00	2.00	951.63	2.0
2.00	4.00	41866.74	88.3
4.00	8.00	3522.10	7.4
8.00	15.00	38.88	0.1
15.00		1045.20	2.2

LEVEL BOOK BY RISE AND FALL (SRVLEVELS): ARITHMETIC CHECKS AGREE

Point	BS	IS	FS	Rise	Fall	HPC	Reduced level	Correction	Adjusted level	Set-up
TBM	1.412					53.326	51.914	0.000	51.914	1
CP1	1.112		1.012	0.400		53.326	52.314	0.000	52.314	1
STN1		2.011			0.899	53.426	51.415	0.001	51.416	2
CP2	0.534		3.055		1.044	53.426	50.371	0.001	50.372	2
CP3	1.147		1.758		1.224	50.905	49.147	0.001	49.148	3
STN2		2.265			1.118	50.294	48.029	0.002	48.031	4
CP4	0.661		3.055		0.790	50.294	47.239	0.002	47.241	4
CP5	1.996		1.412		0.751	47.900	46.488	0.002	46.490	5
STN3		1.818		0.178		48.484	46.666	0.002	46.668	6
CP6	3.161		0.781	1.037		48.484	47.703	0.002	47.705	6
CP7	1.365		1.331	1.830		50.864	49.533	0.003	49.536	7
STN4		1.005		0.360		50.898	49.893	0.003	49.896	8
CP8	3.234		0.565	0.440		50.898	50.333	0.003	50.336	8
CP9	3.335		0.786	2.448		53.567	52.781	0.003	52.784	9
CP10	1.836		1.205	2.130		56.116	54.911	0.004	54.915	10
STN5		2.595			0.759	56.747	54.152	0.004	54.156	11
CP11	0.761		3.294		0.699	56.747	53.453	0.004	53.457	11
CP12	1.797		1.219		0.458	54.214	52.995	0.005	53.000	12
TBM			2.883		1.086	54.792	51.909	0.005	51.914	13
Totals	22.351		22.356	8.823	8.828					

19 readings, 12 set-ups; misclosure -5.0 mm, allowed 10.0 mm (12 mm x root 0.7 km); levels written to STN1 to STN5 and TBM

EG SURFACE AND VOLUME TO 48.000

Item	Value
Surface	EG
Triangles	1708
Lowest level (m)	45.112
Highest level (m)	54.765
Mean level (m)	49.927
Plan area (m2)	47424.56
Surface area (m2)	47658.09
Volume to level (m)	48.000
Above the level (m3)	101041.660
Below the level (m3)	9640.886
Plan area above (m2)	37190.15
Plan area below (m2)	10234.41

FEATURE CODES (SRVCODES)

Code	Layer	Symbol
GS	V-SURV-GS	cross
DCHT	V-SURV-DITCH	triangle
DCHB	V-SURV-DITCH	triangle
ERE	V-SURV-ROAD	square
ECL	V-SURV-ROAD	cross
HDG	V-SURV-HEDGE	circle
FNC	V-SURV-FENCE	square
TR	V-SURV-TREE	tree
EMH	V-SURV-MH	circle
TBM	V-SURV-CTRL	triangle
STN	V-SURV-CTRL	triangle

NOTES

1. Control: closed loop traverse STN1 to STN5 adjusted by the Bowditch rule (SRVTRAVERSE), the transit rule run as a check. Field book my input; bearing to the reference object 45 00 00 assumed.
2. Levels: rise and fall level book from the TBM round the stations and back (SRVLEVELS); misclosure spread over the set-ups and the adjusted levels written to the station points.
3. Ground model EG (SRVTIN): 906 coded points, 9 breaklines, longest side 16 m; contours every 0.25 m. Point 2256 re-levelled +0.120 m in the Survey properties dock (SRVAPPLY).

Stratal CAD
cad.stratal.co.uk

TITLE
MILLBROOK FIELDS PHASE 2
SURVEY CONTROL AND GROUND MODEL

PROJECT	DRAWN
Millbrook Fields Phase 2, Ashcombe (fictional)	Stratal CAD demo

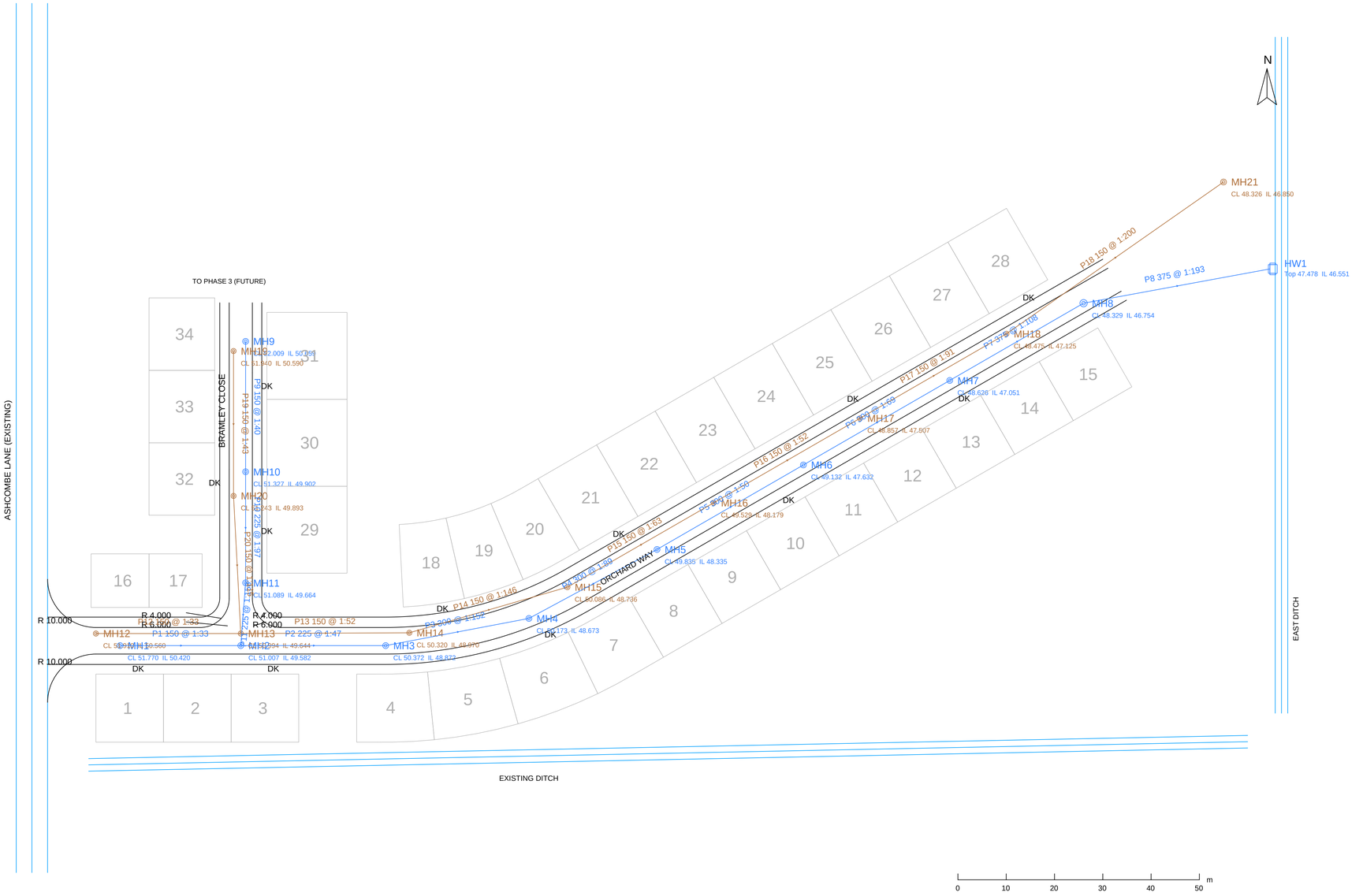
DRAWING NO.	SHEET	SCALE	SIZE
STR-CIV-102	2 of 9	1:500	A1

SOFTWARE	DATE
Stratal CAD 0.1.8, Civils & Survey 0.7.0	12 Nov 2026

STATUS
DEMONSTRATION DRAWING - NOT FOR MANUFACTURE

DRAINAGE LAYOUT 1:500

Surface water blue, foul brown; manhole and pipe labels by the plugin



DRAINAGE DESIGN INPUTS

Design input (mine)	Value
Rainfall (example, not site data)	5:86 10:62 15:50 30:33 60:21 mm/h
Time of entry	5 min
Least full-bore velocity	1.0 m/s
Least cover over the crown	1200 mm
Least gradient	0.5 %
Smallest pipe	150 mm
Outfall (east ditch bed)	46.521 m
Runoff coefficient	0.9
Headwall HW1 invert	46.551 m (wings parallel)

DRAINAGE RESULTS

Result (SRVDRAIN)	Value
Pipes designed	20 (11 surface water, 9 foul)
Surface water sizes	150 to 375 mm
Flow at the outfall P8	125.78 of 143.48 l/s
Warnings	3 (foul P14, P18, P20 under 1.0 m/s)
First design	P8 63 mm under HW1 invert: HW1 lowered
Schedules	22 manholes (incl. HW1), 20 pipes

ATTENUATION STORAGE (SRVSTORAGE)

Duration (min)	Intensity (mm/h)	Rainfall (mm)	Inflow (m3)	Outflow (m3)	Storage (m3)
15	81.20	20.30	125.149	4.500	120.649
30	51.80	25.90	159.673	9.000	150.673
60	32.20	32.20	198.513	18.000	180.513
120	19.88	39.76	245.120	36.000	209.120
180	15.96	47.88	295.180	54.000	241.180
240	12.04	48.16	296.906	72.000	224.906
360	8.96	53.76	331.430	108.000	223.430
480	7.79	62.35	384.367	144.000	240.367
600	6.63	66.27	408.534	180.000	228.534
720	5.46	65.52	403.931	216.000	187.931
960	4.76	76.16	469.526	288.000	181.526
1440	3.36	80.64	497.146	432.000	65.146

STORAGE INPUTS AND RESULT

Storage input / result	Value
Area (the pipes' catchments)	6850 m2, runoff 0.9
Rainfall, example (min:mm/h)	15:58 30:37 60:23 120:14.2
	240:8.6 360:6.4 720:3.9 1440:2.4
Climate change allowance	40 %
Limited discharge	5.0 l/s
Storage needed	241.180 m3
Critical duration	180 min
Plan area at 1.2 m deep	200.98 m2

PIPE SCHEDULE (SRVDRAINSCHED; FOUL P12 TO P20 TYPED 150 mm)

Pipe	From	To	Length (m)	Diameter (mm)	Gradient (1 in)	Invert up (m)	Invert down (m)	Cover up (m)	Cover down (m)	Flow (l/s)	Capacity (l/s)	Velocity (m/s)	Warnings
P1	MH1	MH2	25.000	150	33	50.420	49.657	1.200	1.200	13.76	31.16	1.76	
P2	MH2	MH3	30.000	225	47	49.582	48.947	1.200	1.200	57.79	75.80	1.91	
P3	MH3	MH4	30.197	300	152	48.872	48.673	1.200	1.200	69.26	89.75	1.27	
P4	MH4	MH5	30.118	300	89	48.673	48.335	1.200	1.200	81.27	117.79	1.67	
P5	MH5	MH6	35.000	300	50	48.335	47.632	1.200	1.200	93.77	157.74	2.23	
P6	MH6	MH7	35.000	300	69	47.632	47.126	1.200	1.200	106.77	133.60	1.89	
P7	MH7	MH8	32.000	375	108	47.051	46.754	1.200	1.200	117.81	192.57	1.74	
P8	MH8	HW1	39.226	375	193	46.754	46.551	1.200	0.552	125.78	143.48	1.30	
P9	MH9	MH10	27.000	150	40	50.659	49.977	1.200	1.200	11.18	28.32	1.60	
P10	MH10	MH11	23.000	225	97	49.902	49.664	1.200	1.200	21.16	52.80	1.33	
P11	MH11	MH2	13.038	225	158	49.664	49.582	1.200	1.200	30.18	41.21	1.04	
P12	MH12	MH13	30.000	150	33	50.560	49.644	1.200	1.200	0.00	31.16	1.76	
P13	MH13	MH14	34.903	150	52	49.644	48.970	1.200	1.200	0.00	24.73	1.40	
P14	MH14	MH15	34.071	150	146	48.970	48.736	1.200	1.200	0.00	14.65	0.83	
P15	MH15	MH16	34.964	150	63	48.736	48.179	1.200	1.200	0.00	22.45	1.27	
P16	MH16	MH17	35.000	150	52	48.179	47.507	1.200	1.200	0.00	24.65	1.39	
P17	MH17	MH18	35.000	150	91	47.507	47.125	1.200	1.200	0.00	18.55	1.05	
P18	MH18	MH21	54.849	150	200	47.125	46.850	1.200	1.326	0.00	12.46	0.71	
P19	MH19	MH20	30.000	150	43	50.590	49.893	1.200	1.200	0.00	27.16	1.54	
P20	MH20	MH13	28.539	150	115	49.893	49.644	1.200	1.200	0.00	16.53	0.94	

MANHOLE SCHEDULE (SRVDRAINSCHED)

Manhole	Easting (m)	Northing (m)	Cover (m)	Invert (m)	Depth (m)	Diameter (mm)	In	Out	Type
MH1	1021.500	519.000	51.770	50.420	1.350	1200		P1	Manhole
MH2	1046.500	519.000	51.007	49.582	1.425	1200	P1 P11	P2	Manhole
MH3	1076.500	519.000	50.372	48.872	1.500	1200	P2	P3	Manhole
MH4	1106.168	524.629	50.173	48.673	1.500	1200	P3	P4	Manhole
MH5	1132.686	538.908	49.835	48.335	1.500	1200	P4	P5	Manhole
MH6	1162.996	556.408	49.132	47.632	1.500	1200	P5	P6	Manhole
MH7	1193.307	573.908	48.626	47.051	1.575	1200	P6	P7	Manhole
MH8	1221.020	589.908	48.329	46.754	1.575	1500	P7	P8	Manhole
MH9	1047.500	582.000	52.009	50.659	1.350	1200		P9	Manhole
MH10	1047.500	555.000	51.327	49.902	1.425	1200	P9	P10	Manhole
MH11	1047.500	532.000	51.089	49.664	1.425	1200	P10	P11	Manhole
MH12	1016.500	521.500	51.910	50.560	1.350	1050		P12	Manhole
MH13	1046.500	521.500	50.994	49.644	1.350	1050	P12 P20	P13	Manhole
MH14	1081.403	521.653	50.320	48.970	1.350	1050	P13	P14	Manhole
MH15	1114.135	531.110	50.086	48.736	1.350	1050	P14	P15	Manhole
MH16	1144.426	548.573	49.529	48.179	1.350	1050	P15	P16	Manhole
MH17	1174.737	566.073	48.857	47.507	1.350	1050	P16	P17	Manhole
MH18	1205.048	583.573	48.475	47.125	1.350	1050	P17	P18	Manhole
MH19	1045.000	580.000	51.940	50.590	1.350	1050		P19	Manhole
MH20	1045.000	550.000	51.243	49.893	1.350	1050	P19	P20	Manhole
MH21	1250.000	615.000	48.326	46.850	1.476	1200	P18		Manhole
HW1	1259.600	597.000	47.478	46.551	0.927		P8		Headwall

NOTES

1. Surface water: 11 manholes and headwall HW1 to the east ditch; sized by SRVDRAIN (rational method, Colebrook-White ks 0.6 mm) with an example rainfall table (not site data).
2. Foul: 9 manholes to the existing public sewer manhole MH21; pipes typed 150 mm and laid by SRVDRAIN (the plugin computes no foul flows).
3. Labels on the plan are the plugin's. Storage by SRVSTORAGE: a first estimate without routing.

Stratal CAD

cad.stratal.co.uk

TITLE

MILLBROOK FIELDS PHASE 2
DRAINAGE LAYOUT AND SCHEDULES

PROJECT	DRAWN
Millbrook Fields Phase 2, Ashcombe (fictional)	Stratal CAD demo

DRAWING NO.	SHEET	SCALE	SIZE
STR-CIV-103	3 of 9	1:500	A1

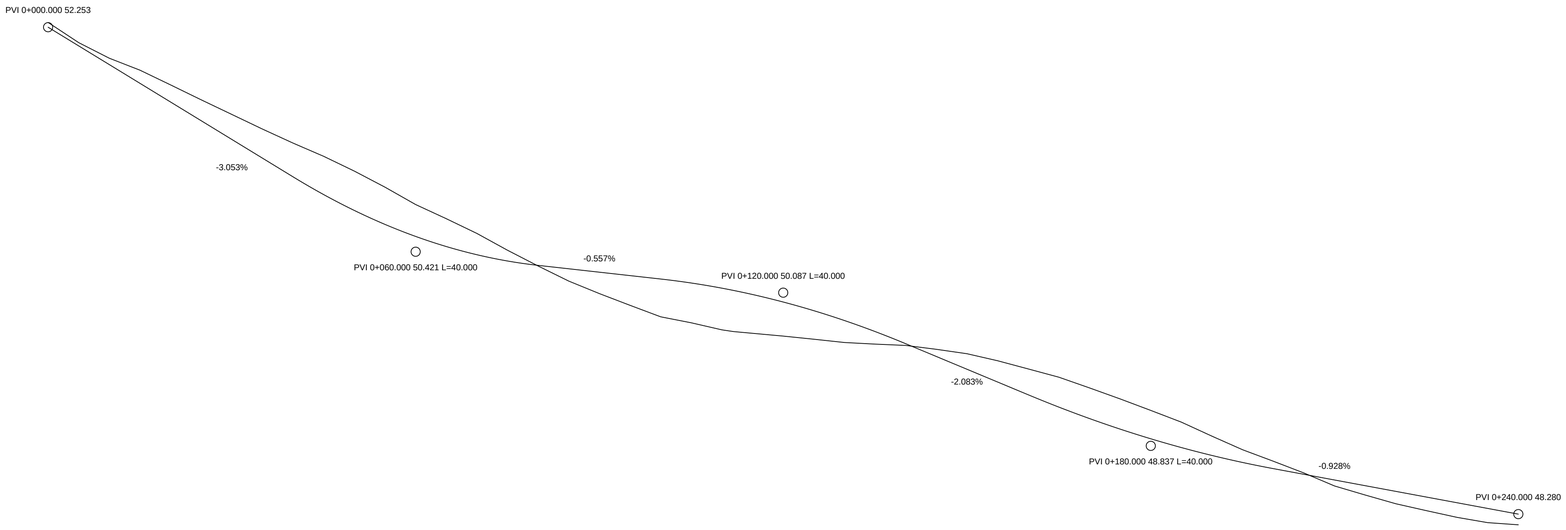
SOFTWARE	DATE
Stratal CAD 0.1.8, Civils & Survey 0.7.0	12 Nov 2026

STATUS

DEMONSTRATION DRAWING - NOT FOR MANUFACTURE

ORCHARD WAY LONG SECTION H 1:500 V 1:25

Chainage 0+000 to 0+240.000; design profile from SRVVPROF



Datum 47.000

Chainage	0+000.000	0+020.000	0+040.000	0+060.000	0+080.000	0+100.000	0+120.000	0+140.000	0+160.000	0+180.000	0+200.000	0+220.000	0+240.000
Existing	52.292	51.782	51.307	50.806	50.304	49.890	49.733	49.656	49.465	49.126	48.712	48.365	48.193
Design	52.253	51.642	51.032	50.546	50.310	50.198	50.011	49.670	49.254	48.895	48.651	48.466	48.280
Cut/fill	-0.039	-0.140	-0.275	-0.260	+0.005	+0.308	+0.278	+0.014	-0.211	-0.231	-0.060	+0.101	+0.087

DESIGN PROFILE OW-CL (SRVVPROF INPUT AND GRADES)

PVI chainage	Level (m)	Vertical curve (m)	Grade after
0+000.000	52.253	-	-3.053 %
0+060.000	50.421	40	-0.557 %
0+120.000	50.087	40	-2.083 %
0+180.000	48.837	40	-0.928 %
0+240.000	48.280	-	-

HORIZONTAL ALIGNMENT OW-CL (MY CENTRE LINE)

Element	From	To	Length / radius
Straight	0+000.000	0+070.000	70.000 m
Curve, left	0+070.000	0+111.888	R 80.000 m
Straight	0+111.888	0+240.000	128.112 m

NOTES

1. SRVLONGSEC of OW-CL on EG: ground dashed, design profile with PVIs, vertical curves and grades; bands every 20 m. Text sized for 1:500 by SRVSCALE.

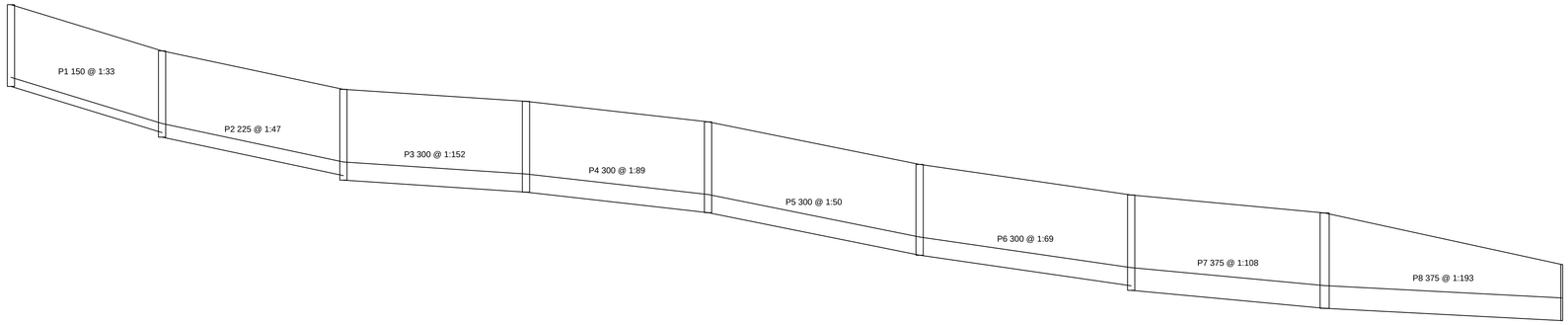
Stratal CAD

cad.stratal.co.uk

TITLE
MILLBROOK FIELDS PHASE 2
ORCHARD WAY LONG SECTION

PROJECT	DRAWN		
Millbrook Fields Phase 2, Ashcombe (fictional)	Stratal CAD demo		
DRAWING NO.	SHEET	SCALE	SIZE
STR-CIV-104	4 of 9	1:500 V 1:25	A1
SOFTWARE		DATE	
Stratal CAD 0.1.8, Civils & Survey 0.7.0		12 Nov 2026	
STATUS			
DEMONSTRATION DRAWING - NOT FOR MANUFACTURE			

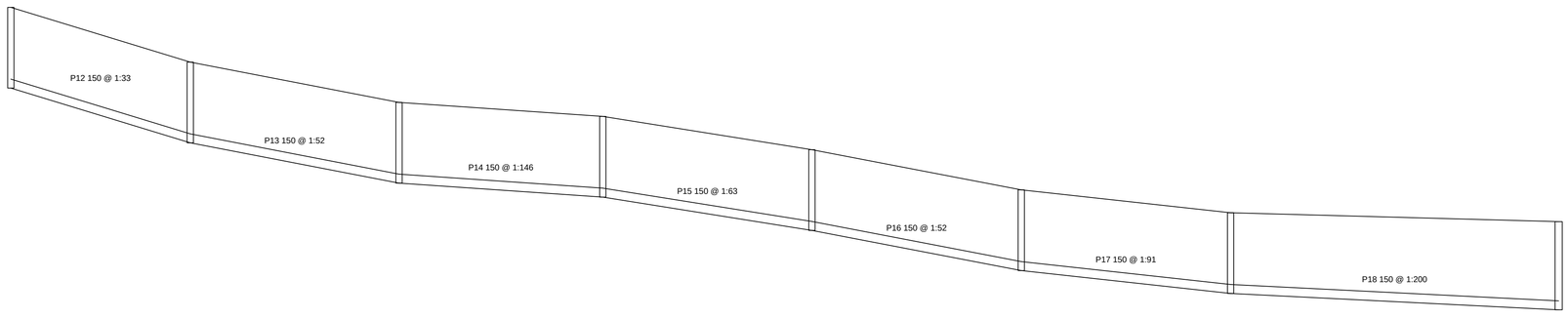
SURFACE WATER MH1 TO HEADWALL HW1 H 1:500 V 1:50



Datum 45.000

Manhole	MH1	MH2	MH3	MH4	MH5	MH6	MH7	MH8	HW1
Chainage	0.000	25.000	55.000	85.197	115.315	150.315	185.315	217.315	256.541
Cover	51.770	51.007	50.372	50.173	49.835	49.132	48.626	48.329	47.478
Invert	50.420	49.582	48.872	48.673	48.335	47.632	47.051	46.754	46.551
Depth	1.350	1.425	1.500	1.500	1.500	1.500	1.575	1.575	0.927

FOUL MH12 TO MH21 (EXISTING PUBLIC SEWER) H 1:500 V 1:50



Datum 45.000

Manhole	MH12	MH13	MH14	MH15	MH16	MH17	MH18	MH21
Chainage	0.000	30.000	64.903	98.974	133.938	168.938	203.938	258.787
Cover	51.910	50.994	50.320	50.086	49.529	48.857	48.475	48.326
Invert	50.560	49.644	48.970	48.736	48.179	47.507	47.125	46.850
Depth	1.350	1.350	1.350	1.350	1.350	1.350	1.350	1.476

NOTES

1. SRVDRAINLS from MH1 and from MH12 down to their outfalls: covers, inverts and soffits, manholes and bands. Text sized for 1:500 by SRVSCALE.

Stratal CAD

cad.stratal.co.uk

TITLE
MILLBROOK FIELDS PHASE 2
DRAINAGE LONG SECTIONS

PROJECT	DRAWN
Millbrook Fields Phase 2, Ashcombe (fictional)	Stratal CAD demo

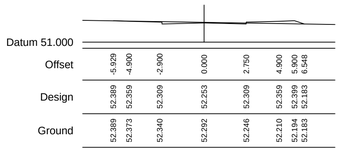
DRAWING NO.	SHEET	SCALE	SIZE
STR-CIV-105	5 of 9	1:500 V 1:50	A1

SOFTWARE	DATE
Stratal CAD 0.1.8, Civils & Survey 0.7.0	12 Nov 2026

STATUS
DEMONSTRATION DRAWING - NOT FOR MANUFACTURE

ORCHARD WAY CROSS SECTIONS 1:200

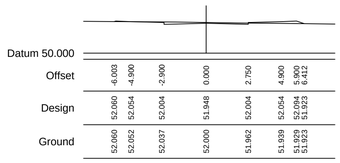
0+000.000



Datum 51.000								
Offset	-5.829	-4.900	-2.900	0.000	2.750	4.900	5.900	6.648
Design	52.389	52.359	52.309	52.253	52.309	52.359	52.399	52.183
Ground	52.389	52.373	52.340	52.292	52.246	52.210	52.194	52.183

Cut 0.45 m2 Fill 0.47 m2

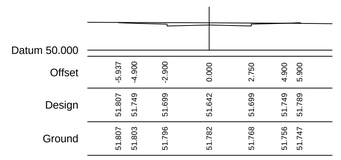
0+010.000



Datum 50.000								
Offset	-6.003	-4.900	-2.900	0.000	2.750	4.900	5.900	6.412
Design	52.060	52.054	52.004	51.948	52.004	52.054	52.094	51.923
Ground	52.060	52.052	52.037	52.000	51.962	51.939	51.929	51.923

Cut 0.51 m2 Fill 0.37 m2

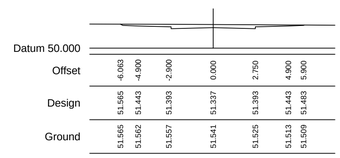
0+020.000



Datum 50.000								
Offset	-5.937	-4.900	-2.900	0.000	2.750	4.900	5.900	
Design	51.807	51.749	51.699	51.642	51.699	51.749	51.789	
Ground	51.807	51.803	51.796	51.782	51.768	51.756	51.747	

Cut 1.25 m2 Fill 0.02 m2

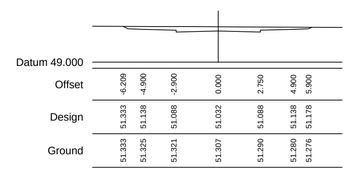
0+030.000



Datum 50.000								
Offset	-6.063	-4.900	-2.900	0.000	2.750	4.900	5.900	
Design	51.565	51.443	51.393	51.337	51.393	51.443	51.483	
Ground	51.565	51.562	51.557	51.541	51.525	51.513	51.509	

Cut 1.99 m2 Fill 0.00 m2

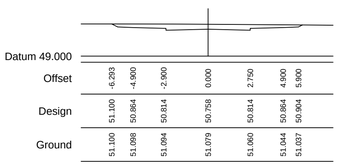
0+040.000



Datum 49.000								
Offset	-6.209	-4.900	-2.900	0.000	2.750	4.900	5.900	
Design	51.333	51.138	51.088	51.032	51.088	51.138	51.178	
Ground	51.333	51.325	51.321	51.307	51.296	51.280	51.276	

Cut 2.86 m2 Fill 0.00 m2

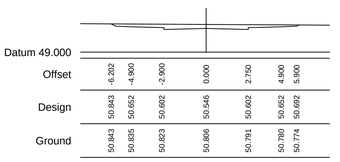
0+050.000



Datum 49.000								
Offset	-6.293	-4.900	-2.900	0.000	2.750	4.900	5.900	
Design	51.100	50.864	50.814	50.758	50.814	50.864	50.904	
Ground	51.100	51.098	51.094	51.079	51.060	51.044	51.037	

Cut 3.40 m2 Fill 0.00 m2

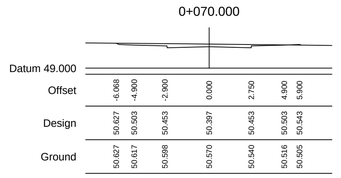
0+060.000



Datum 49.000								
Offset	-6.202	-4.900	-2.900	0.000	2.750	4.900	5.900	
Design	50.843	50.652	50.602	50.546	50.602	50.652	50.692	
Ground	50.843	50.835	50.823	50.806	50.791	50.780	50.774	

Cut 2.70 m2 Fill 0.00 m2

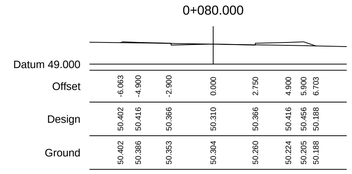
0+070.000



Datum 49.000								
Offset	-6.068	-4.900	-2.900	0.000	2.750	4.900	5.900	
Design	50.627	50.503	50.453	50.397	50.453	50.503	50.543	
Ground	50.627	50.617	50.598	50.570	50.540	50.516	50.505	

Cut 1.64 m2 Fill 0.02 m2

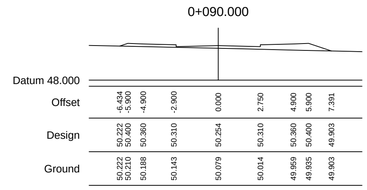
0+080.000



Datum 49.000								
Offset	-6.063	-4.900	-2.900	0.000	2.750	4.900	5.900	6.703
Design	50.402	50.416	50.366	50.310	50.366	50.416	50.456	50.188
Ground	50.402	50.386	50.353	50.304	50.260	50.224	50.205	50.188

Cut 0.16 m2 Fill 0.73 m2

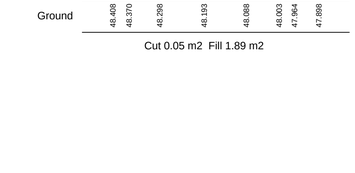
0+090.000



Datum 48.000								
Offset	-6.434	-5.900	-4.900	-2.900	0.000	2.750	4.900	5.900	7.391
Design	50.222	50.400	50.360	50.310	50.254	50.310	50.360	50.400	49.903
Ground	50.222	50.210	50.188	50.143	50.079	50.014	49.959	49.935	49.903

Cut 0.00 m2 Fill 2.90 m2

0+100.000



Datum 48.000								
Offset	-6.662	-5.900	-4.900	-2.900	0.000	2.750	4.900	5.900	8.006
Design	50.090	50.345	50.305	50.255	50.198	50.255	50.305	50.345	49.643
Ground	50.090	50.071	50.045	49.994	49.890	49.801	49.732	49.704	49.643

Cut 0.00 m2 Fill 4.83 m2

0+110.000

Datum 48.000								
Offset	-6.729	-5.900	-4.900	-2.900	0.000	2.750	4.900	5.900	8.188
Design	49.993	50.270	50.230	50.180	50.124	50.180	50.230	50.270	49.504
Ground	49.993	49.967	49.935	49.872	49.782	49.688	49.616	49.582	49.504

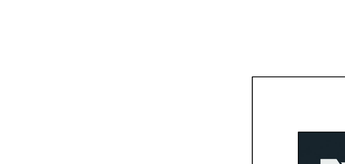
Cut 0.00 m2 Fill 5.40 m2

0+111.888

Datum 48.000								
Offset	-6.677	-5.900	-4.900	-2.900	0.000	2.750	4.900	5.900	8.184
Design	49.993	50.251	50.211	50.161	50.105	50.161	50.211	50.251	49.480
Ground	49.993	49.968	49.935	49.871	49.770	49.675	49.602	49.568	49.490

Cut 0.00 m2 Fill 5.25 m2

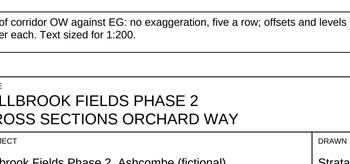
0+120.000



Datum 48.000								
Offset	-6.497	-5.900	-4.900	-2.900	0.000	2.750	4.900	5.900	8.034
Design	49.958	50.117	50.067	50.011	50.067	50.117	50.157	49.445	
Ground	49.958	49.944	49.910	49.841	49.733	49.630	49.551	49.517	49.445

Cut 0.00 m2 Fill 4.44 m2

0+130.000



Datum 48.000								
Offset	-6.226	-4.900	-2.900	0.000	2.750	4.900	5.900	7.743
Design	49.897	49.966	49.916	49.860	49.916	49.966	50.006	49.392
Ground	49.897	49.856	49.784	49.680	49.578	49.498	49.461	49.392

Cut 0.00 m2 Fill 3.06 m2

0+140.000

Datum 48.000								
Offset	-5.988	-4.900	-2.900	0.000	2.750	4.900	5.900	7.186
Design	49.861	49.777	49.727	49.670	49.727	49.777	49.817	49.388
Ground	49.861	49.824	49.756	49.656	49.554	49.473	49.436	49.387

Cut 0.31 m2 Fill 1.18 m2

0+150.000

Datum 48.000								
Offset	-6.273	-4.900	-2.900	0.000	2.750	4.900	5.900	6.709
Design	49.795	49.568	49.518	49.462	49.518	49.568	49.608	49.339
Ground	49.795	49.755	49.687	49.589	49.493	49.413	49.372	49.339

Cut 1.48 m2 Fill 0.48 m2

0+160.000

Datum 48.000								
Offset	-6.469	-5.900	-4.900	-2.900	0.000	2.750	4.900	5.900	
Design	49.684	49.400	49.360	49.310	49.254	49.310	49.360	49.400	
Ground	49.684	49.665	49.630	49.559	49.465	49.376	49.306	49.273	

Cut 2.29 m2 Fill 0.14 m2

0+170.000

Datum 47.000								
Offset	-6.535	-5.900	-4.900	-2.900	0.000	2.750	4.900	5.900	
Design	49.520	49.206	49.166	49.116	49.060	49.116	49.166	49.206	
Ground	49.520	49.504	49.472	49.407	49.310	49.218	49.145	49.112	

Cut 2.69 m2 Fill 0.08 m2

0+180.000

Datum 47.000								
Offset	-6.476	-5.900	-4.900	-2.900	0.000	2.750	4.900	5.900	
Design	49.329	49.041	49.001	48.951	48.895	48.951	49.001	49.041	
Ground	49.329	49.310	49.278	49.213	49.126	49.046	48.977	48.944	

Cut 2.48 m2 Fill 0.08 m2

0+190.000

Datum 47.000								
Offset	-6.321	-4.900	-2.900	0.000	2.750	4.900	5.900	6.482
Design	49.115	48.865	48.815	48.759	48.815	48.865	48.905	48.711
Ground	49.115	49.070	49.006	48.916	48.832	48.762	48.730	48.711

Cut 1.73 m2 Fill 0.28 m2

0+200.000

Datum 47.000								
Offset	-6.139	-4.900	-2.900	0.000	2.750	4.900	5.900	6.791
Design	48.917	48.758	48.708	48.651	48.708	48.758	48.798	48.500
Ground	48.917	48.880	48.812	48.712	48.626	48.558	48.527	48.500

Cut 0.91 m2 Fill 0.65 m2

0+210.000

Datum 47.000								
Offset	-5.915	-4.900	-2.900	0.000	2.750	4.900	5.900	7.185
Design	48.712	48.665	48.615	48.559	48.615	48.665	48.705	48.276
Ground	48.712	48.677	48.609	48.510	48.418	48.249	48.317	48.276

Cut 0.13 m2 Fill 1.34 m2

0+220.000

Datum 47.000								
Offset	-5.992	-4.900	-2.900	0.000	2.750	4.900	5.900	7.360
Design	48.581	48.572	48.522	48.466	48.522	48.572	48.612	48.125
Ground	48.581	48.548	48.475	48.395	48.275	48.205	48.172	48.125

Cut 0.04 m2 Fill 1.88 m2

0+230.000

Datum 46.000								
Offset	-6.016	-4.900	-2.900	0.000	2.750	4.900	5.900	7.551
Design	48.480	48.479	48.429	48.373	48.429	48.479	48.519	47.969
Ground	48.480	48.439	48.364	48.254	48.151	48.071	48.032	47.969

Cut 0.02 m2 Fill 2.23 m2

0+240.000

Datum 46.000								
Offset	-5.956	-4.900	-2.900	0.000	2.750	4.900	5.900	7.485
Design	48.408	48.386	48.336	48.280	48.336	48.386	48.426	47.898
Ground	48.408	48.370	48.298	48.193	48.088	48.003	47.964	47.898

Cut 0.05 m2 Fill 1.89 m2

NOTES

1. SRVXSECT of corridor OW against EG: no exaggeration, five a row; offsets and levels in bands, cut and fill areas under each. Text sized for 1:200.

Stratal CAD

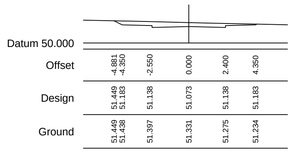
cad.stratal.co.uk

TITLE
MILLBROOK FIELDS PHASE 2
CROSS SECTIONS ORCHARD WAY

PROJECT: Millbrook Fields Phase 2, Ashcombe (fictional)		DRAWN: Stratal CAD demo	
DRAWING NO.: STR-CIV-106	SHEET: 6 of 9	SCALE: 1:200	SIZE: A1
SOFTWARE: Stratal CAD 0.1.8, Civils & Survey 0.7.0		DATE: 12 Nov 2026	
STATUS: DEMONSTRATION DRAWING - NOT FOR MANUFACTURE			

BRAMLEY CLOSE CROSS SECTIONS 1:200

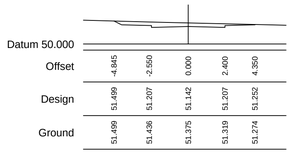
0+006.000



Datum 50.000						
Offset	-4.881	-2.550	0.000	2.400	4.350	
Design	51.449	51.193	51.138	51.073	51.138	51.183
Ground	51.449	51.438	51.397	51.331	51.275	51.234

Cut 2.15 m2 Fill 0.00 m2

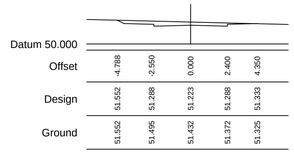
0+016.000



Datum 50.000						
Offset	-4.845	-2.550	0.000	2.400	4.350	
Design	51.499	51.207	51.142	51.207	51.252	
Ground	51.499	51.436	51.375	51.319	51.274	

Cut 1.91 m2 Fill 0.00 m2

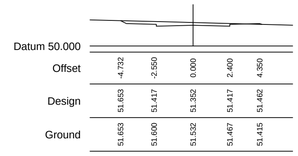
0+026.000



Datum 50.000						
Offset	-4.788	-2.550	0.000	2.400	4.350	
Design	51.552	51.288	51.223	51.288	51.333	
Ground	51.552	51.495	51.432	51.372	51.325	

Cut 1.67 m2 Fill 0.00 m2

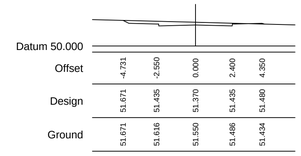
0+035.000



Datum 50.000						
Offset	-4.732	-2.550	0.000	2.400	4.350	
Design	51.653	51.417	51.352	51.417	51.462	
Ground	51.653	51.600	51.532	51.467	51.415	

Cut 1.43 m2 Fill 0.03 m2

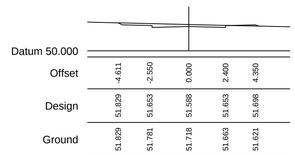
0+036.000



Datum 50.000						
Offset	-4.731	-2.550	0.000	2.400	4.350	
Design	51.671	51.435	51.370	51.435	51.480	
Ground	51.671	51.616	51.550	51.486	51.434	

Cut 1.42 m2 Fill 0.02 m2

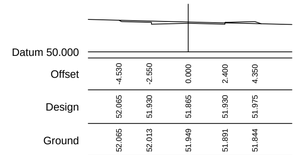
0+046.000



Datum 50.000						
Offset	-4.611	-2.550	0.000	2.400	4.350	
Design	51.829	51.653	51.588	51.653	51.698	
Ground	51.829	51.781	51.718	51.663	51.621	

Cut 1.04 m2 Fill 0.07 m2

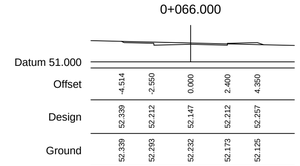
0+056.000



Datum 50.000						
Offset	-4.530	-2.550	0.000	2.400	4.350	
Design	52.065	51.930	51.865	51.930	51.975	
Ground	52.065	52.013	51.949	51.891	51.844	

Cut 0.72 m2 Fill 0.19 m2

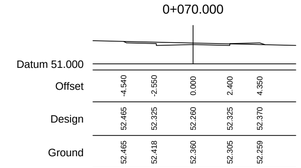
0+066.000



Datum 51.000						
Offset	-4.514	-2.550	0.000	2.400	4.350	
Design	52.339	52.212	52.147	52.212	52.257	
Ground	52.339	52.293	52.232	52.173	52.125	

Cut 0.71 m2 Fill 0.19 m2

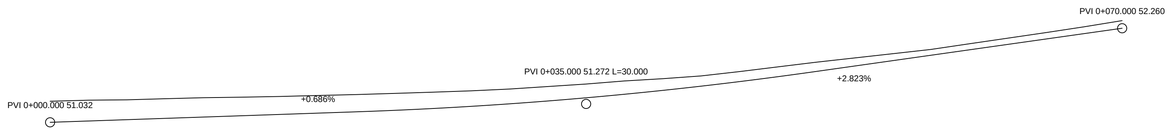
0+070.000



Datum 51.000						
Offset	-4.540	-2.550	0.000	2.400	4.350	
Design	52.465	52.325	52.260	52.325	52.370	
Ground	52.465	52.418	52.360	52.305	52.259	

Cut 0.81 m2 Fill 0.14 m2

BRAMLEY CLOSE LONG SECTION H 1:200 V 1:40



Datum 50.000								
Chainage	0+000.000	0+010.000	0+020.000	0+030.000	0+040.000	0+050.000	0+060.000	0+070.000
Existing	51.307	51.353	51.394	51.466	51.601	51.816	52.057	52.360
Design	51.032	51.101	51.169	51.273	51.449	51.695	51.978	52.260
Cut/fill	-0.275	-0.253	-0.225	-0.193	-0.153	-0.121	-0.079	-0.100

EARTHWORKS BC BY SECTION (SRVEARTH)

Chainage	Cut area (m2)	Fill area (m2)	Cut (m3)	Fill (m3)	Mass ordinate (m3)
0+006.000	2.145	0.000	0.000	0.000	0.000
0+016.000	1.906	0.000	20.254	0.000	20.254
0+026.000	1.675	0.001	17.902	0.004	38.151
0+035.000	1.426	0.025	13.953	0.116	51.970
0+036.000	1.420	0.024	1.423	0.025	53.365
0+046.000	1.036	0.074	12.284	0.492	65.083
0+056.000	0.723	0.190	8.798	1.320	72.363
0+066.000	0.711	0.191	7.172	1.906	77.343
0+070.000	0.810	0.144	3.042	0.670	79.615

NOTES

1. SRVXSECT of corridor BC and SRVLONGSEC of BC-CL on EG (V 1:40). Text sized for 1:200.

Stratal CAD

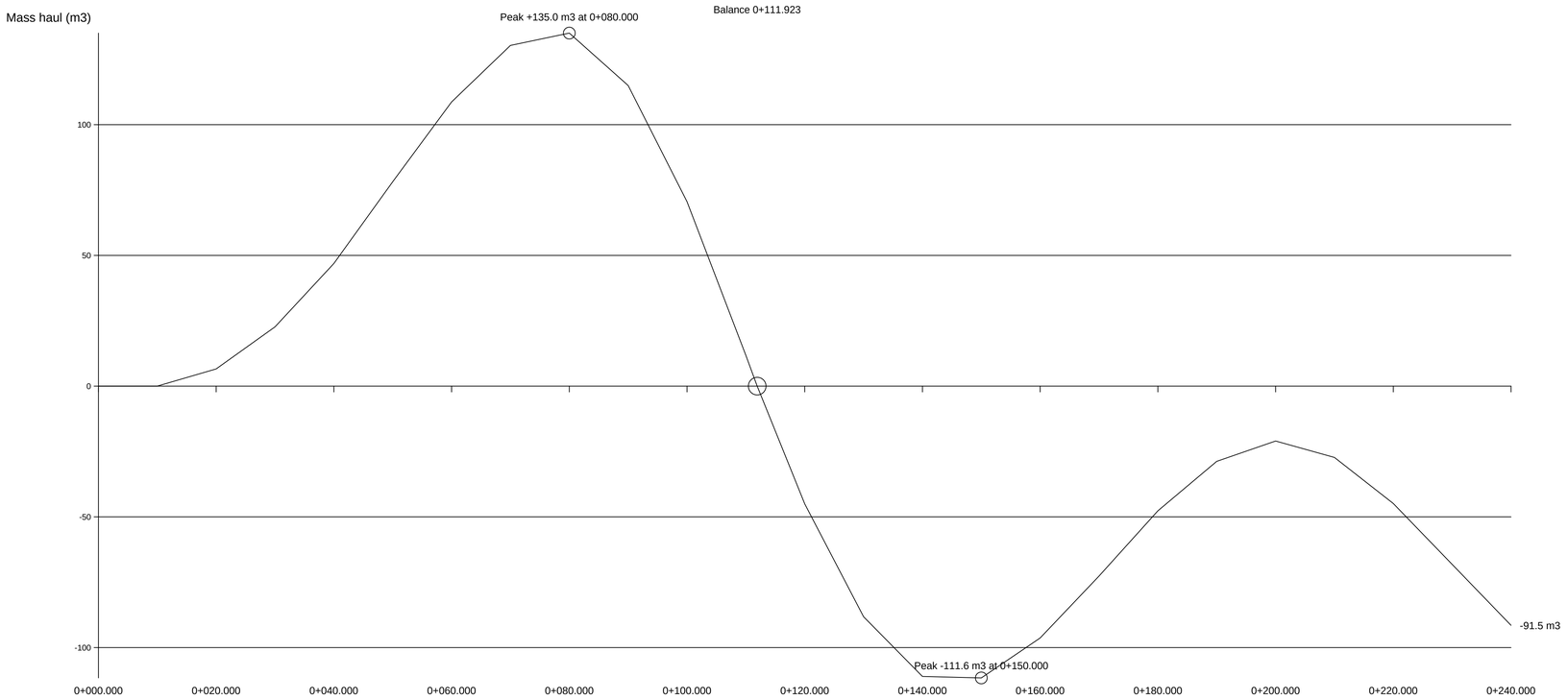
cad.stratal.co.uk

TITLE
MILLBROOK FIELDS PHASE 2
BRAMLEY CLOSE SECTIONS

PROJECT		DRAWN	
Millbrook Fields Phase 2, Ashcombe (fictional)		Stratal CAD demo	
DRAWING NO.	SHEET	SCALE	SIZE
STR-CIV-107	7 of 9	1:200	A1
SOFTWARE		DATE	
Stratal CAD 0.1.8, Civils & Survey 0.7.0		12 Nov 2026	

STATUS
DEMONSTRATION DRAWING - NOT FOR MANUFACTURE

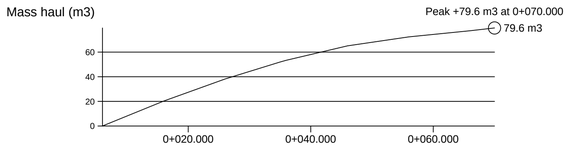
EARTHWORKS ORCHARD WAY: MASS HAUL (H 1:500)



EARTHWORKS OW BY SECTION (SRVEARTH)

Chainage	Cut area (m2)	Fill area (m2)	Cut (m3)	Fill (m3)	Mass ordinate (m3)
0+000.000	0.454	0.470	0.000	0.000	0.000
0+010.000	0.511	0.367	4.826	4.187	0.011
0+020.000	1.249	0.020	8.797	1.937	6.580
0+030.000	1.993	0.000	16.209	0.101	22.672
0+040.000	2.855	0.000	24.241	0.000	46.913
0+050.000	3.399	0.000	31.271	0.000	78.183
0+060.000	2.703	0.000	30.510	0.000	108.694
0+070.000	1.640	0.017	21.714	0.083	130.313
0+080.000	0.162	0.729	9.010	3.730	135.033
0+090.000	0.000	2.899	0.810	18.143	114.979
0+100.000	0.000	4.829	0.000	38.639	70.544
0+110.000	0.000	5.396	0.000	51.121	11.755
0+111.888	0.000	5.253	0.000	10.052	0.195
0+120.000	0.000	4.444	0.000	39.332	-45.036
0+130.000	0.000	3.064	0.000	37.541	-88.208
0+140.000	0.315	1.180	1.574	21.221	-111.038
0+150.000	1.478	0.478	8.967	8.290	-111.605
0+160.000	2.291	0.142	18.849	3.099	-96.320
0+170.000	2.695	0.076	24.931	1.090	-72.643
0+180.000	2.476	0.081	25.857	0.787	-47.691
0+190.000	1.725	0.281	21.008	1.811	-28.766
0+200.000	0.906	0.654	13.155	4.678	-20.991
0+210.000	0.128	1.337	5.169	9.958	-27.274
0+220.000	0.042	1.875	0.847	16.063	-44.899
0+230.000	0.023	2.231	0.323	20.529	-68.184
0+240.000	0.054	1.891	0.388	20.607	-91.495

BRAMLEY CLOSE: MASS HAUL (H 1:500)



VOLUMES BETWEEN EXISTING AND DESIGN SURFACES

Quantity	Orchard Way	Bramley Close	Command
Cut, exact (m3)	265.517	83.309	SRVVOLUME
Fill, exact (m3)	311.935	4.748	SRVVOLUME
Area compared (m2)	3135.03	591.72	SRVVOLUME
Cut, end areas (m3)	268.455	84.828	SRVEARTH
Fill, end areas (m3)	312.999	4.534	SRVEARTH
Fill x 1.15 (m3)	359.949	5.214	SRVEARTH
Mass at the end (m3)	-91.495	79.615	SRVEARTH
Balance points	1	0	SRVEARTH

FINISHED GROUND FIN (SRVSURFREPORT)

Finished ground FIN	Value
Surface	FIN
Triangles	1793
Lowest level (m)	45.112
Highest level (m)	54.765
Mean level (m)	49.906
Plan area (m2)	44028.77
Surface area (m2)	44283.31

NOTES

1. SRVEARTH by average end areas between the corridors' sections; fill factor 1.15 (mine). Mass haul diagrams with axis, peaks and balance points by the plugin.
2. SRVVOLUME: exact volumes between EG and each corridor surface.

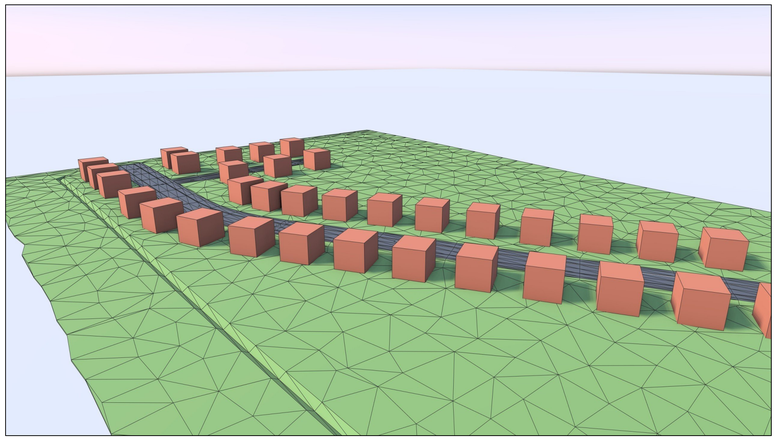
Stratal CAD

cad.stratal.co.uk

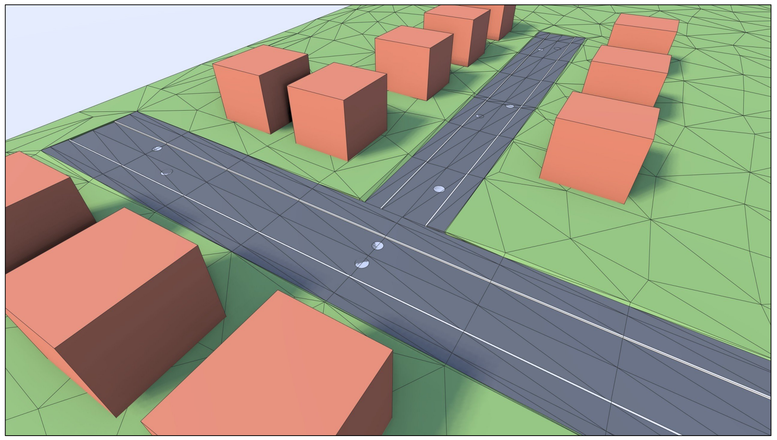
TITLE
MILLBROOK FIELDS PHASE 2
EARTHWORKS AND VOLUMES

PROJECT	DRAWN		
Millbrook Fields Phase 2, Ashcombe (fictional)	Stratal CAD demo		
DRAWING NO.	SHEET	SCALE	SIZE
STR-CIV-108	8 of 9	1:500	A1
SOFTWARE		DATE	
Stratal CAD 0.1.8, Civils & Survey 0.7.0		12 Nov 2026	
STATUS			
DEMONSTRATION DRAWING - NOT FOR MANUFACTURE			

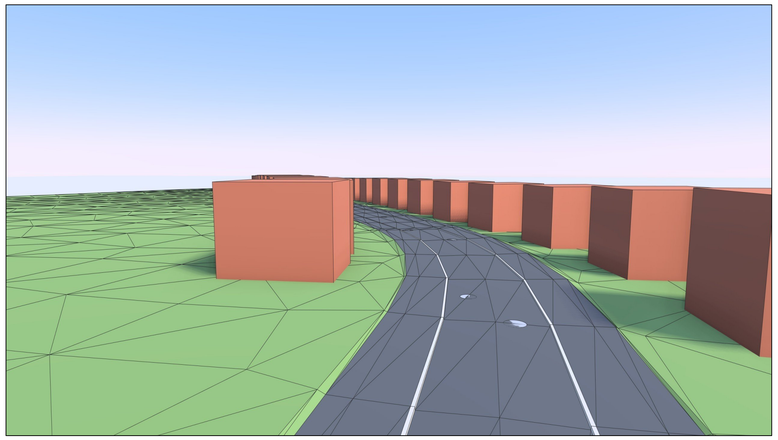
3D MODEL VIEWS (RENDERSTILL, 2560 x 1440)



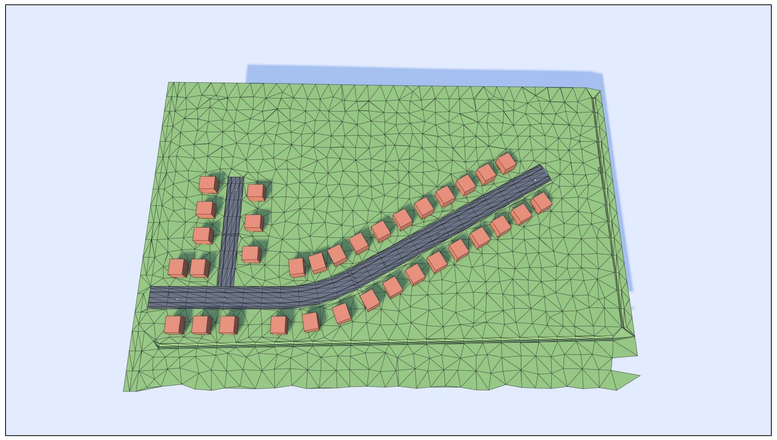
Estate from the south-east



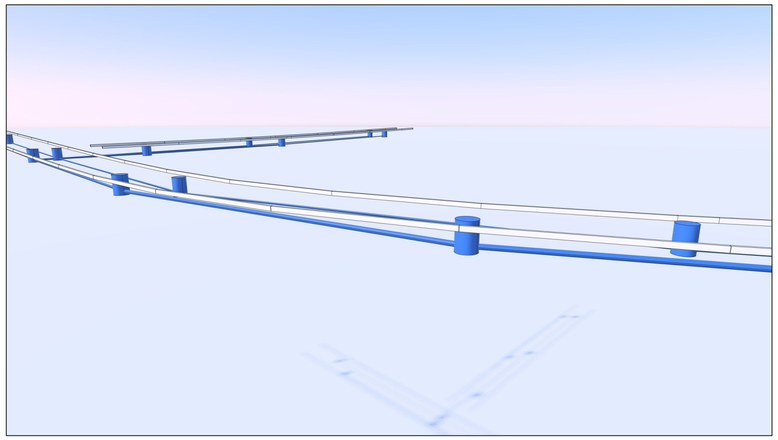
Bramley Close junction



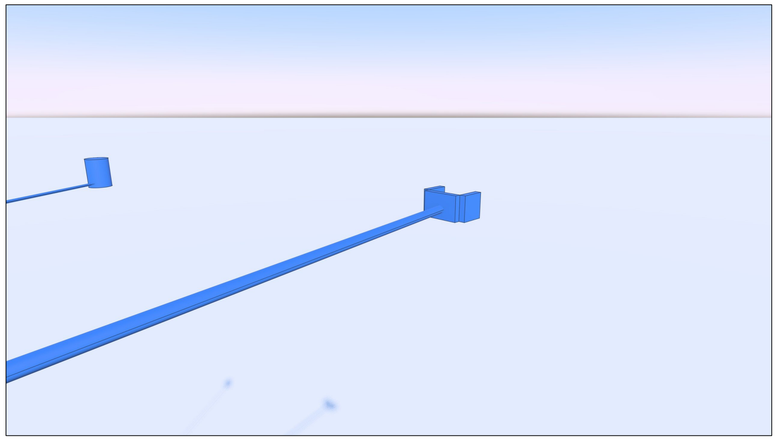
Orchard Way at the bend



From above



Drainage at the bend (ground hidden)



Outfall P8 to headwall HW1 (ground hidden)

THE 3D MODEL

3D content	Count	Made by
Kerb solids	66 (OW 50, BC 16)	SRV3D Corridor
Pavement solids	364 (OW 300, BC 64)	SRV3D Corridor
Drainage solids	45 (manholes, pipes, headwall)	SRV3D Drainage
Finished ground slabs	1793 (300 mm)	SRV3D Surface FIN
House blocks	34 (mine, indicative)	core BOX
Web model (GLB)	3.1 MB, 24260 triangles	VIEWEREXPORT

NOTES

1. Renders (RENDERSTILL) of the plugin's solids: SRV3D Corridor (kerbs and pavements, example depths 450 and 150 mm), SRV3D Drainage (manholes, pipes, headwall) and SRV3D Surface of FIN (finished ground).
2. House blocks are indicative massing (core BOX), mine, not plugin output. Bottom right views: ground, pavements and houses hidden.

Stratal CAD

cad.stratal.co.uk

TITLE
MILLBROOK FIELDS PHASE 2
3D MODEL VIEWS

PROJECT	DRAWN		
Millbrook Fields Phase 2, Ashcombe (fictional)	Stratal CAD demo		
DRAWING NO.	SHEET	SCALE	SIZE
STR-CIV-109	9 of 9	NTS	A1
SOFTWARE		DATE	
Stratal CAD 0.1.8, Civils & Survey 0.7.0		12 Nov 2026	

STATUS
DEMONSTRATION DRAWING - NOT FOR MANUFACTURE