

DATE: 22 March 2021
DESIGNER: Alex Naper-Graham Sheehan
PROJECT No: SES 01820 Rev F
PROJECT NAME: Auburn Malahide - Kinwest Ltd.



Area designed to BS5489-1:2013 Category P4 (S/P Ratio 1.3)

Rev A: Latest site layout used, redesigned to suit.
Rev B: Latest site layout used, redesigned to suit.
Rev C: Latest site layout used, redesigned to suit.
Rev D: Changes as requested by CCK.
Rev E: Latest site layout used, redesigned to suit.
Rev F: 36A relocated

Outdoor Lighting Report

PREPARED BY: Sabre Electrical Services Ltd.
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Finglas
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Layout Report

General Data

Dimensions in Metres Angles in Degrees

Calculation Grids

ID	Grid Name	X	Y	X' Length	Y' Length	X' Spacing	Y' Spacing
1	Grid 1	721025.88	745162.46	297.53	135.30	1.50	1.50
2	Grid 2	720981.59	745145.99	150.00	250.00	1.50	1.50
3	Grid 3	720800.00	744897.00	303.00	203.00	1.50	1.50
4	Grid 4	720795.62	745190.58	160.00	160.00	1.50	1.50

Luminaires

Luminaire A Data



Supplier	C U Phosco
Type	P852-12-P4-WW-CA0450-18W
Lamp(s)	730C WW
Lamp Flux (klm)	2.15
File Name	P852-12-P4-WW-CA0450-18W.ies
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	730.4, 161.4, 0.8
No. in Project	58

Luminaire B Data



Supplier	Urbis Schreder
Type	PHAROS 5119 Asymmetrical 8 LEDs 350 mA NW Cylindrical, PC, 5m
Lamp(s)	8 LEDs NW
Lamp Flux (klm)	0.84
File Name	PHAROS 5119 8 LEDs 350mA NW 356012 Cylindrical PC Smooth Asymmetrical TF.ltd
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	428.1, 946.1, 43.4
No. in Project	41

Luminaire C Data



Supplier	C U Phosco
Type	P852-6-R3B-WW-C0350-8W
Lamp(s)	730P WW
Lamp Flux (klm)	0.78
File Name	P852-6-R3B-WW-C0350-8W.ies
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	969.3, 22.3, 0.0
No. in Project	35

Luminaire D Data



Supplier	C U Phosco
Type	P852-12-F2-WW-CA0600-23W
Lamp(s)	730C WW
Lamp Flux (klm)	2.70
File Name	P852-12-F2-WW-CA0600-23W.ies
Maintenance Factor	0.83
Imax70,80,90(cd/klm)	750.5, 280.0, 34.0
No. in Project	6

Layout

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1	A	721125.52	744908.33	6.00	48.00	0.00	0.00	0.40			
2	A	721121.61	744937.60	6.00	337.00	0.00	0.00	0.40			
3	A	721140.45	744966.25	6.00	180.00	0.00	0.00	0.40			
4	A	721136.18	744994.74	6.00	210.00	0.00	0.00	0.40			
5	A	721117.58	745022.84	6.00	219.00	0.00	0.00	0.40			
6	A	721108.73	745051.39	6.00	193.00	0.00	0.00	0.40			
7	A	721095.87	745084.54	6.00	206.00	0.00	0.00	0.40			

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
8	C	721105.71	745078.81	5.00	116.00	0.00	0.00	0.40			
9	A	721076.50	745107.89	6.00	212.00	0.00	0.00	0.40			
10	A	721143.97	745001.70	6.00	146.00	0.00	0.00	0.40			
11	A	721053.77	745168.91	6.00	81.00	0.00	0.00	0.40			
12	A	721061.81	745133.02	6.00	205.00	0.00	0.00	0.40			
13	A	721038.60	745180.07	6.00	183.00	0.00	0.00	0.40			
14	A	721029.77	745138.28	6.00	192.00	0.00	0.00	0.40			
15	A	721011.30	745098.47	6.00	113.00	0.00	0.00	0.40			
16	A	720977.62	745097.31	6.00	84.00	0.00	0.00	0.40			
17	A	720937.92	745108.39	6.00	86.00	0.00	0.00	0.40			
18	A	720903.08	745109.90	6.00	97.00	0.00	0.00	0.40			
19	A	721075.37	745175.34	6.00	149.00	0.00	0.00	0.40			
20	A	721045.87	745211.18	6.00	165.00	0.00	0.00	0.40			
21	A	721045.01	745252.81	6.00	205.00	0.00	0.00	0.40			
22	A	721052.91	745224.63	6.00	85.00	0.00	0.00	0.40			
23	A	721006.12	745288.12	6.00	229.00	0.00	0.00	0.40			
24	A	721026.13	745268.55	6.00	233.00	0.00	0.00	0.40			
25	A	720987.03	745303.06	6.00	242.00	0.00	0.00	0.40			
26	A	720942.70	745332.36	6.00	212.00	0.00	0.00	0.40			
27	A	720927.58	745354.05	6.00	239.00	0.00	0.00	0.40			
28	A	720898.86	745361.07	6.00	274.00	0.00	0.00	0.40			
29	A	720865.25	745350.39	6.00	278.00	0.00	0.00	0.40			
30	A	720828.41	745342.99	6.00	284.00	0.00	0.00	0.40			
31	A	720773.74	745337.83	6.00	195.00	0.00	0.00	0.40			
32	A	720789.05	745280.01	6.00	204.00	0.00	0.00	0.40			
33	A	720781.04	745312.03	6.00	196.00	0.00	0.00	0.40			
34	C	720884.02	745342.11	6.00	195.00	0.00	0.00	0.40			
35	A	720890.18	745092.17	6.00	166.00	0.00	0.00	0.40			
36	A	721026.40	745112.24	6.00	346.00	0.00	0.00	0.40			
37	A	720891.38	745033.90	6.00	189.00	0.00	0.00	0.40			
38	A	720890.96	745008.07	6.00	154.00	0.00	0.00	0.40			
39	D	720901.13	745037.43	6.00	96.00	0.00	0.00	0.40			
40	A	720866.41	744998.08	6.00	92.00	0.00	0.00	0.40			
41	A	720787.92	744971.64	6.00	148.00	0.00	0.00	0.40			
42	A	720810.80	744981.88	6.00	73.00	0.00	0.00	0.40			
43	D	720936.71	744992.44	6.00	184.00	0.00	0.00	0.40			

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
44	D	720930.06	744969.12	6.00	98.00	0.00	0.00	0.40			
45	D	720895.49	744993.60	6.00	98.00	0.00	0.00	0.40			
46	C	721153.97	745041.06	5.00	136.00	0.00	0.00	0.40			
47	C	721171.18	745051.18	5.00	123.00	0.00	0.00	0.40			
48	C	721180.34	745068.24	5.00	161.00	0.00	0.00	0.40			
49	C	721178.19	745091.42	5.00	223.00	0.00	0.00	0.40			
50	C	721158.07	745106.15	5.00	232.00	0.00	0.00	0.40			
51	C	721136.75	745122.85	5.00	232.00	0.00	0.00	0.40			
52	C	721125.30	745141.77	5.00	202.00	0.00	0.00	0.40			
53	C	721116.52	745163.88	5.00	207.00	0.00	0.00	0.40			
54	C	721094.66	745167.22	5.00	297.00	0.00	0.00	0.40			
55	C	721071.30	745154.84	5.00	293.00	0.00	0.00	0.40			
56	A	720959.37	745315.62	6.00	243.00	0.00	0.00	0.40			
57	A	720927.18	745259.41	6.00	39.00	0.00	0.00	0.40			
58	C	720959.84	745251.71	5.00	132.00	0.00	0.00	0.40			
59	C	720973.15	745262.32	5.00	132.00	0.00	0.00	0.40			
60	A	721030.53	745158.45	6.00	296.00	0.00	0.00	0.40			
61	C	721009.18	745164.45	5.00	254.00	0.00	0.00	0.40			
62	C	720986.59	745171.15	5.00	253.00	0.00	0.00	0.40			
63	C	720940.27	745249.12	5.00	46.00	0.00	0.00	0.40			
64	A	721043.66	745158.49	5.00	204.00	0.00	0.00	0.40			
65	A	721137.80	745020.15	5.00	222.00	0.00	0.00	0.40			
66	A	720985.17	745122.75	6.00	72.00	0.00	0.00	0.40			
67	A	720787.66	744996.04	6.00	326.00	0.00	0.00	0.40			
68	C	721016.78	745141.38	5.00	164.00	0.00	0.00	0.40			
69	C	720963.22	745139.94	5.00	344.00	0.00	0.00	0.40			
70	C	720970.65	745163.77	5.00	343.00	0.00	0.00	0.40			
71	B	720897.13	745103.27	1.00	80.00	0.00	0.00	0.00			
72	C	720840.58	745275.25	5.00	18.00	0.00	0.00	0.40			
73	C	720861.96	745336.16	5.00	117.00	0.00	0.00	0.40			
74	A	721017.19	745118.12	6.00	106.00	0.00	0.00	0.40			
75	A	720791.93	745335.45	6.00	290.00	0.00	0.00	0.40			
77	C	720829.41	745320.91	5.00	114.00	0.00	0.00	0.40			
78	A	721076.73	745222.58	6.00	82.00	0.00	0.00	0.40			
79	A	720791.27	745265.47	5.00	139.00	0.00	0.00	0.40			
83	A	720879.34	745332.13	6.00	149.00	0.00	0.00	0.40			

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
84	C	720882.27	745289.74	5.00	21.00	0.00	0.00	0.40			
85	C	720872.42	745310.99	5.00	123.00	0.00	0.00	0.40			
86	C	720883.33	745303.54	5.00	12.00	0.00	0.00	0.40			
87	C	720888.72	745326.35	5.00	188.00	0.00	0.00	0.40			
88	C	720836.60	745284.80	5.00	356.00	0.00	0.00	0.40			
89	C	720822.69	745300.29	5.00	155.00	0.00	0.00	0.40			
90	C	720829.90	745295.68	5.00	56.00	0.00	0.00	0.40			
91	C	720797.46	745323.94	5.00	103.00	0.00	0.00	0.40			
92	C	720820.77	745325.23	5.00	103.00	0.00	0.00	0.40			
93	C	720840.78	745331.26	5.00	104.00	0.00	0.00	0.40			
94	A	720938.10	745302.73	6.00	135.00	0.00	0.00	0.40			
95	A	720919.34	745280.89	6.00	167.00	0.00	0.00	0.40			
96	B	720906.10	745102.52	1.00	80.00	0.00	0.00	0.00			
97	B	720916.10	745101.42	1.00	83.00	0.00	0.00	0.00			
98	B	720925.72	745100.55	1.00	82.00	0.00	0.00	0.00			
99	B	720934.26	745099.81	1.00	90.00	0.00	0.00	0.00			
100	B	720944.61	745099.47	1.00	86.00	0.00	0.00	0.00			
101	B	720954.65	745099.79	1.00	103.00	0.00	0.00	0.00			
102	D	720917.66	744995.27	6.00	88.00	0.00	0.00	0.40			
103	A	720812.12	744999.66	6.00	251.00	0.00	0.00	0.40			
104	A	720826.64	745003.94	6.00	265.00	0.00	0.00	0.40			
105	A	720832.31	744980.88	6.00	110.00	0.00	0.00	0.40			
106	D	720918.53	745056.90	6.00	276.00	0.00	0.00	0.40			
107	A	720888.18	745062.03	6.00	176.00	0.00	0.00	0.40			
108	C	721138.68	745028.98	5.00	118.00	0.00	0.00	0.40			
109	A	720792.72	745016.34	6.00	179.00	0.00	0.00	0.40			
106	B	720896.11	745005.53	1.00	90.00	0.00	0.00	0.00			
107	B	720905.65	745006.29	1.00	96.00	0.00	0.00	0.00			
108	B	720918.25	745007.40	1.00	91.00	0.00	0.00	0.00			
109	B	720927.28	745008.14	1.00	93.00	0.00	0.00	0.00			
110	B	720935.65	745008.90	1.00	88.00	0.00	0.00	0.00			
111	B	720941.05	745000.02	1.00	215.00	0.00	0.00	0.00			
112	B	720951.24	744998.32	1.00	282.00	0.00	0.00	0.00			
113	B	720960.38	744998.88	1.00	280.00	0.00	0.00	0.00			
114	B	720947.50	744991.39	1.00	186.00	0.00	0.00	0.00			
115	B	720948.34	744980.74	1.00	196.00	0.00	0.00	0.00			

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
116	C	720827.89	745312.55	5.00	163.00	0.00	0.00	0.40			
117	B	721096.37	745160.86	1.00	296.00	0.00	0.00	0.00			
118	B	721096.89	745154.60	1.00	27.00	0.00	0.00	0.00			
119	B	721101.14	745147.47	1.00	214.00	0.00	0.00	0.00			
120	B	721090.13	745138.55	1.00	115.00	0.00	0.00	0.00			
121	B	721080.05	745133.34	1.00	117.00	0.00	0.00	0.00			
122	B	721086.15	745131.46	1.00	214.00	0.00	0.00	0.00			
123	B	721099.63	745137.69	1.00	205.00	0.00	0.00	0.00			
124	B	721104.71	745139.20	1.00	103.00	0.00	0.00	0.00			
125	B	721093.51	745132.47	1.00	291.00	0.00	0.00	0.00			
126	B	721108.07	745131.63	1.00	210.00	0.00	0.00	0.00			
127	B	721113.00	745121.91	1.00	210.00	0.00	0.00	0.00			
128	B	721113.40	745112.47	1.00	113.00	0.00	0.00	0.00			
129	B	721123.11	745114.34	1.00	210.00	0.00	0.00	0.00			
130	B	721129.22	745102.56	1.00	210.00	0.00	0.00	0.00			
131	B	721136.04	745095.73	1.00	227.00	0.00	0.00	0.00			
132	B	721145.08	745088.03	1.00	235.00	0.00	0.00	0.00			
133	B	721155.21	745079.63	1.00	220.00	0.00	0.00	0.00			
134	B	721156.93	745070.00	1.00	161.00	0.00	0.00	0.00			
135	B	721148.23	745064.19	1.00	119.00	0.00	0.00	0.00			
136	B	721128.29	745090.63	1.00	210.00	0.00	0.00	0.00			
137	B	721132.58	745079.05	1.00	210.00	0.00	0.00	0.00			
138	B	721135.41	745070.51	1.00	210.00	0.00	0.00	0.00			
139	B	721138.17	745060.24	1.00	125.00	0.00	0.00	0.00			
140	B	721125.63	745096.07	1.00	308.00	0.00	0.00	0.00			

Horizontal Illuminance (lux)

Grid 1



Results

Eav	5.92
Emin	1.17
Emax	41.47
Emin/Emax	0.03
Emin/Eav	0.20

Horizontal Illuminance (lux)

Grid 1

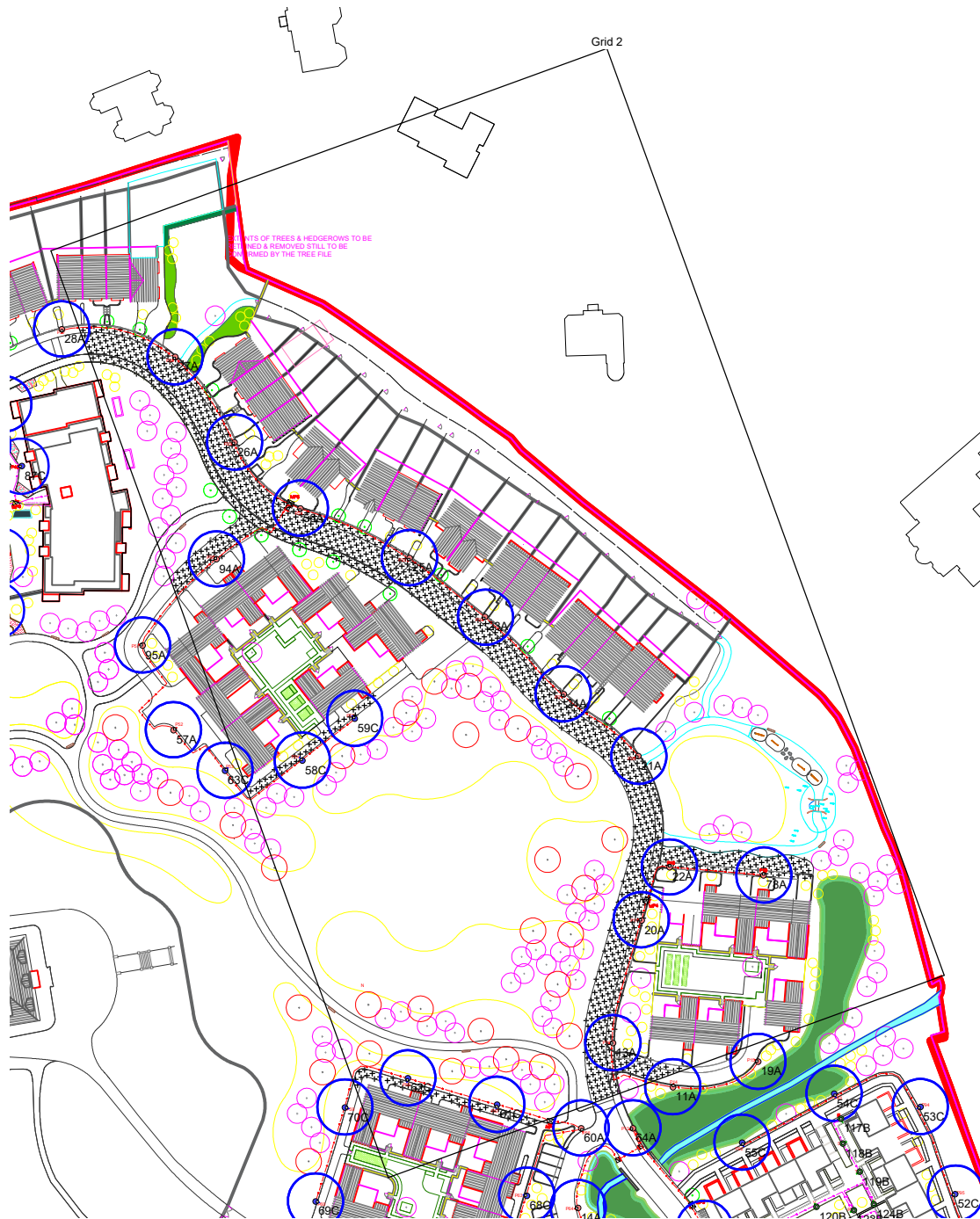


Results

Eav	5.92
Emin	1.17
Emax	41.47
Emin/Emax	0.03
Emin/Eav	0.20

Horizontal Illuminance (lux)

Grid 2

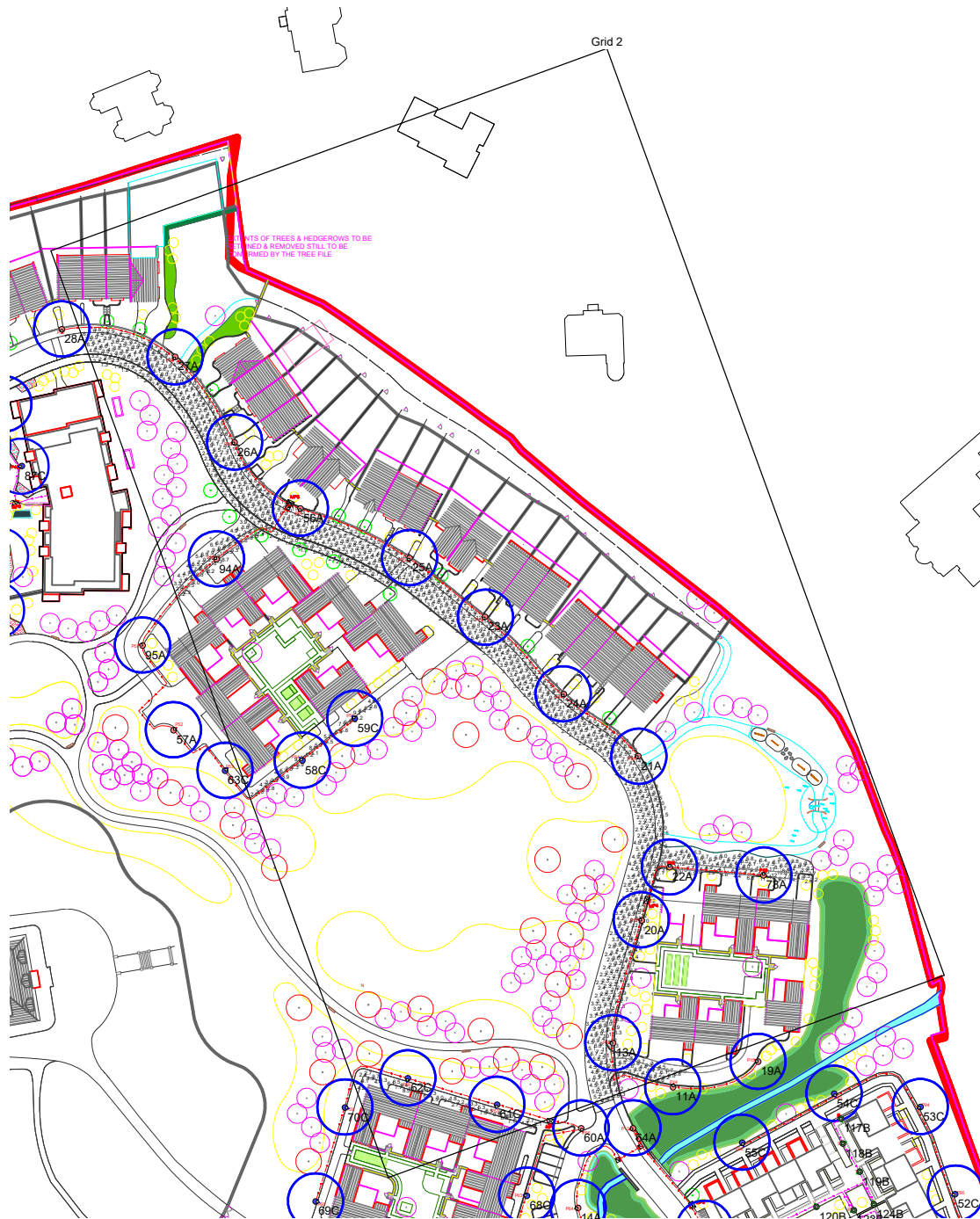


Results

Eav	5.40
Emin	1.16
Emax	14.78
Emin/Emax	0.08
Emin/Eav	0.22

Horizontal Illuminance (lux)

Grid 2



Results

Eav	5.40
Emin	1.16
E _{max}	14.78
E _{min} /E _{max}	0.08
E _{min} /E _{av}	0.22

Horizontal Illuminance (lux)

Grid 3



Results

Eav	5.64
Emin	1.14
E _{max}	37.35
E _{min} /E _{max}	0.03
E _{min} /E _{av}	0.20

Horizontal Illuminance (lux)

Grid 3



Results

Eav	5.64
Emin	1.14
E _{max}	37.35
E _{min} /E _{max}	0.03
E _{min} /E _{av}	0.20

Horizontal Illuminance (lux)

Grid 4



Results

Eav	5.10
Emin	0.87
E _{max}	20.94
E _{min} /E _{max}	0.04
E _{min} /E _{av}	0.17

Horizontal Illuminance (lux)

Grid 4



Results

Eav	5.10
Emin	0.87
E _{max}	20.94
E _{min} /E _{max}	0.04
E _{min} /E _{av}	0.17