

DATE: 3 May 2022
DESIGNER: Alex Naper
PROJECT No: SES 05322-2 Section 3 Rev B
PROJECT NAME: SHD Development Belcamp - Gerard Gannon Properties



Calculation Section 3: Grids 12,16 & 17

Residential area designed in accordance with EN13201-2:2015 Category P4.

Link road designed in accordance with EN13201-2:2015 Category P2.

All luminaires proposed are warm white 2700K.

Rev A: Updated layout.
Rev B: Revised layout.

Outdoor Lighting Report

PREPARED BY: Sabre Electrical Services Ltd.
Unit 11,
Bellview Industrial Estate,
Tolka Valley Road,
Dublin 11
Phone Number: 01 8110875
Contact: Graham Sheehan
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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	720405.84	741318.98	374.90	144.00	187.45	72.00
2	Grid 2	720032.14	741403.01	374.90	117.00	187.45	58.50
3	Grid 3	719768.61	741729.26	374.90	169.28	187.45	84.64
4	Grid 4	719568.53	741760.88	297.40	76.10	148.70	38.05
5	Grid 5	720149.05	741446.67	69.00	21.00	1.50	1.50
6	Grid 6	720172.43	741215.96	57.00	187.00	28.50	93.50
7	Grid 7	719955.65	741190.12	244.00	283.00	122.00	141.50
8	Grid 8	719739.76	741170.36	216.00	344.00	108.00	172.00
9	Grid 9	720195.95	741174.53	245.88	255.85	122.94	127.92
10	Grid 10	720460.63	741289.87	341.74	315.16	170.87	157.58
11	Grid 11	720115.89	741459.90	341.74	331.00	170.87	165.50
12	Grid 12	719957.94	741480.11	159.00	331.00	1.50	1.50
13	Grid 13	719900.52	741304.33	282.61	57.00	1.50	1.50
14	Grid 14	719954.93	741234.97	141.00	18.00	70.50	9.00
15	Grid 15	719845.55	741243.13	79.45	18.00	39.72	9.00
16	Grid 16	719633.05	741693.59	132.00	91.45	1.50	1.50
17	Grid 17	720503.77	741244.78	341.97	151.07	1.50	1.50

Luminaires



Luminaire A Data

Supplier	Urbis Schreder
Type	AXIA 2.1 5165 Integrated lenses Rear louvers 16 OSLON SQUARE
Lamp(s)	16 OSLON SQUARE GIANT@300mA WW 727 230V 00-36-648
LampFlux(klm)/Colour	2.27 WW 2700K/70
File Name	AXIA 2.1 5165 16 OSLON SQUARE GIANT 300mA WW 727 15.9W 434262 Integrated ...
Maintenance Factor	0.84
Imax70,80,90(cd/klm)	1250.5, 121.8, 2.3
No. in Project	12

Luminaire E Data

Supplier	C U Phosco
Type	E950-28-R3P-727-C300-9W
Lamp(s)	727N
Lamp Flux (klm)	1.12
File Name	E950-28-R3P-727-C0300-9W.ies
Maintenance Factor	0.84
Imax70,80,90(cd/klm)	900.6, 60.7, 0.3
No. in Project	8

Luminaire I Data

Supplier	C U Phosco
Type	E951-64-P4-G-727-W5-0700-62W
Lamp(s)	727SS
Lamp Flux (klm)	8.67
File Name	E951-64-P4-G-727-W5-0700-62W.ies
Maintenance Factor	0.84
Imax70,80,90(cd/klm)	492.6, 81.8, 0.0
No. in Project	47

Luminaire J Data

Supplier	C U Phosco
Type	E950-28-P4A-727-C550-14W
Lamp(s)	727N
Lamp Flux (klm)	2.03
File Name	E950-28-P4A-727-C0550-14W.ies
Maintenance Factor	0.84
Imax70,80,90(cd/klm)	659.3, 183.1, 0.3
No. in Project	34

Luminaires

Luminaire K Data

Supplier	C U Phosco
Type	E950-28-R3P-727-C300-9W
Lamp(s)	727N
Lamp Flux (klm)	1.12
File Name	E950-28-R3P-727-C0300-9W.ies
Maintenance Factor	0.84
Imax70,80,90(cd/klm)	900.6, 60.7, 0.3
No. in Project	1

Luminaire L Data

Supplier	C U Phosco
Type	E950-28-P4A-727-C350-10W
Lamp(s)	727N
Lamp Flux (klm)	1.33
File Name	E950-28-P4A-727-C0350-10W.ies
Maintenance Factor	0.84
Imax70,80,90(cd/klm)	659.3, 183.1, 0.3
No. in Project	11

Luminaire M Data

Supplier	C U Phosco
Type	E950-28-F2A-727-C700-18W
Lamp(s)	727N
Lamp Flux (klm)	2.56
File Name	E950-28-F2A-727-C0700-18W.ies
Maintenance Factor	0.84
Imax70,80,90(cd/klm)	623.6, 113.9, 0.3
No. in Project	10

Luminaire O Data

Supplier	Urbis Schreder
Type	AXIA 2.1 5165 Integrated lenses Rear louvers 16 OSOLON SQUARE
Lamp(s)	16 OSOLON SQUARE GIANT@300mA WW 727 230V 00-36-648
LampFlux(klm)/Colour	2.27 WW 2700K/70
File Name	AXIA 2.1 5165 16 OSOLON SQUARE GIANT 300mA WW 727 15.9W 434262 Integrated ...
Maintenance Factor	0.84
Imax70,80,90(cd/klm)	1250.5, 121.8, 2.3
No. in Project	1



Luminaire P Data

Supplier	C U Phosco
Type	E950-28-P4A-727-C350-10W
Lamp(s)	727N
Lamp Flux (klm)	1.33
File Name	E950-28-P4A-727-C0350-10W.ies
Maintenance Factor	0.84
Imax70,80,90(cd/klm)	659.3, 183.1, 0.3
No. in Project	5

Luminaire Q Data

Supplier	C U Phosco
Type	E950-28-P4A-727-C550-14W
Lamp(s)	727N
Lamp Flux (klm)	2.03
File Name	E950-28-P4A-727-C0550-14W.ies
Maintenance Factor	0.84
Imax70,80,90(cd/klm)	659.3, 183.1, 0.3
No. in Project	2

Luminaire R Data

Supplier	C U Phosco
Type	E950-28-F2A-727-C700-18W
Lamp(s)	727N
Lamp Flux (klm)	2.56
File Name	E950-28-F2A-727-C0700-18W.ies
Maintenance Factor	0.84
Imax70,80,90(cd/klm)	623.6, 113.9, 0.3
No. in Project	1

Luminaire T Data

Supplier	C U Phosco
Type	P852-12-P4-NW-CB0450-18W
Lamp(s)	740C NW
Lamp Flux (klm)	2.28
File Name	P852-12-P4-NW-CB0450-18W.ies
Maintenance Factor	0.84
Imax70,80,90(cd/klm)	760.6, 161.3, 0.8
No. in Project	1



Layout

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Dimmed to	Target X	Target Y	Target Z
1	J	720049.19	741500.95	6.00	156.00	0.00	0.00	0.40	100%			
2	R	720125.74	741509.69	6.00	261.00	0.00	0.00	0.40	100%			
3	M	720106.01	741512.62	6.00	262.00	0.00	0.00	0.40	100%			
4	M	720084.77	741516.35	6.00	262.00	0.00	0.00	0.40	100%			
5	M	720066.94	741519.39	6.00	262.00	0.00	0.00	0.40	100%			
10	J	720087.08	741534.93	6.00	260.00	0.00	0.00	0.40	100%			
11	J	720053.74	741541.48	6.00	268.00	0.00	0.00	0.40	100%			
12	J	720015.90	741546.02	6.00	268.00	0.00	0.00	0.40	100%			
13	L	719998.09	741569.65	6.00	174.00	0.00	0.00	0.40	100%			
14	L	720001.76	741600.63	6.00	176.00	0.00	0.00	0.40	100%			
15	L	719995.01	741634.02	6.00	4.00	0.00	0.00	0.40	100%			
16	J	720013.05	741621.75	6.00	83.00	0.00	0.00	0.40	100%			
17	J	720046.19	741617.52	6.00	85.00	0.00	0.00	0.40	100%			
18	J	720058.50	741560.99	6.00	349.00	0.00	0.00	0.40	100%			
19	J	720062.62	741596.73	6.00	349.00	0.00	0.00	0.40	100%			
20	J	720075.41	741618.30	6.00	135.00	0.00	0.00	0.40	100%			
21	J	720101.94	741618.06	6.00	83.00	0.00	0.00	0.40	100%			
22	J	720112.89	741604.75	6.00	168.00	0.00	0.00	0.40	100%			
23	J	720110.62	741576.86	6.00	170.00	0.00	0.00	0.40	100%			
24	J	720114.59	741548.70	6.00	173.00	0.00	0.00	0.40	100%			
25	J	720015.39	741645.41	6.00	264.00	0.00	0.00	0.40	100%			
26	J	720049.04	741641.35	6.00	265.00	0.00	0.00	0.40	100%			
27	J	720076.92	741641.44	6.00	173.00	0.00	0.00	0.40	100%			
28	J	720081.34	741675.15	6.00	173.00	0.00	0.00	0.40	100%			
29	J	720085.68	741708.58	6.00	173.00	0.00	0.00	0.40	100%			
30	J	720088.40	741734.36	6.00	174.00	0.00	0.00	0.40	100%			
31	J	720092.23	741765.05	6.00	172.00	0.00	0.00	0.40	100%			
32	L	720095.51	741774.41	6.00	66.00	0.00	0.00	0.40	100%			
33	L	720069.18	741773.87	6.00	90.00	0.00	0.00	0.40	100%			
34	L	720044.74	741774.56	6.00	79.00	0.00	0.00	0.40	100%			
35	L	720024.03	741777.03	6.00	172.00	0.00	0.00	0.40	100%			
36	I	720127.50	741451.55	10.00	76.00	0.00	0.00	0.40	100%			
37	I	720122.41	741474.34	10.00	261.00	0.00	0.00	0.40	100%			
38	I	720084.19	741479.81	10.00	254.00	0.00	0.00	0.40	100%			
39	I	720090.12	741459.60	10.00	73.00	0.00	0.00	0.40	100%			
40	I	720053.34	741469.78	10.00	66.00	0.00	0.00	0.40	100%			

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Dimmed to	Target X	Target Y	Target Z
41	I	720047.94	741491.90	10.00	239.00	0.00	0.00	0.40	100%			
42	I	720013.75	741490.15	10.00	59.00	0.00	0.00	0.40	100%			
43	L	720020.33	741748.95	6.00	171.00	0.00	0.00	0.40	100%			
44	L	720016.63	741718.85	6.00	166.00	0.00	0.00	0.40	100%			
45	I	720008.74	741516.80	10.00	232.00	0.00	0.00	0.40	100%			
46	I	719973.41	741526.66	10.00	24.00	0.00	0.00	0.40	100%			
47	I	719980.16	741548.00	10.00	210.00	0.00	0.00	0.40	100%			
48	L	720012.93	741687.96	6.00	170.00	0.00	0.00	0.40	100%			
49	I	719950.28	741562.38	10.00	23.00	0.00	0.00	0.40	100%			
50	I	719959.75	741586.55	10.00	207.00	0.00	0.00	0.40	100%			
51	I	719934.55	741607.66	10.00	9.00	0.00	0.00	0.40	100%			
52	I	719950.44	741623.15	10.00	189.00	0.00	0.00	0.40	100%			
53	I	719930.79	741637.28	10.00	2.00	0.00	0.00	0.40	100%			
54	I	719949.03	741661.54	10.00	173.00	0.00	0.00	0.40	100%			
55	I	719932.97	741679.45	10.00	347.00	0.00	0.00	0.40	100%			
56	I	719953.42	741707.80	10.00	177.00	0.00	0.00	0.40	100%			
57	I	719934.06	741719.39	10.00	10.00	0.00	0.00	0.40	100%			
58	I	719942.15	741750.73	10.00	205.00	0.00	0.00	0.40	100%			
59	I	719920.11	741752.20	10.00	39.00	0.00	0.00	0.40	100%			
60	I	719919.79	741779.08	10.00	229.00	0.00	0.00	0.40	100%			
61	L	720010.01	741664.47	6.00	175.00	0.00	0.00	0.40	100%			
62	A	720093.10	741786.46	5.00	263.00	0.00	0.00	0.40	80%			
63	A	720064.02	741783.68	5.00	278.00	0.00	0.00	0.40	80%			
64	A	720031.60	741789.25	5.00	260.00	0.00	0.00	0.40	80%			
65	A	720010.69	741766.92	5.00	352.00	0.00	0.00	0.40	80%			
66	A	720005.12	741738.33	5.00	343.00	0.00	0.00	0.40	80%			
67	A	720001.97	741710.29	5.00	0.00	0.00	0.00	0.40	80%			
68	A	720000.09	741681.77	5.00	346.00	0.00	0.00	0.40	80%			
69	A	719994.45	741652.72	5.00	348.00	0.00	0.00	0.40	80%			
70	A	719991.80	741619.29	5.00	354.00	0.00	0.00	0.40	80%			
71	A	719969.29	741637.26	5.00	78.00	0.00	0.00	0.40	80%			
72	A	719989.53	741592.43	5.00	348.00	0.00	0.00	0.40	80%			
73	A	719984.38	741567.82	5.00	342.00	0.00	0.00	0.40	80%			
74	J	720061.41	741525.27	6.00	156.00	0.00	0.00	0.40	100%			
176	J	720118.44	741532.62	6.00	260.00	0.00	0.00	0.40	100%			
188	Q	720126.07	741624.17	6.00	264.00	0.00	0.00	0.40	100%			

Layout Continued

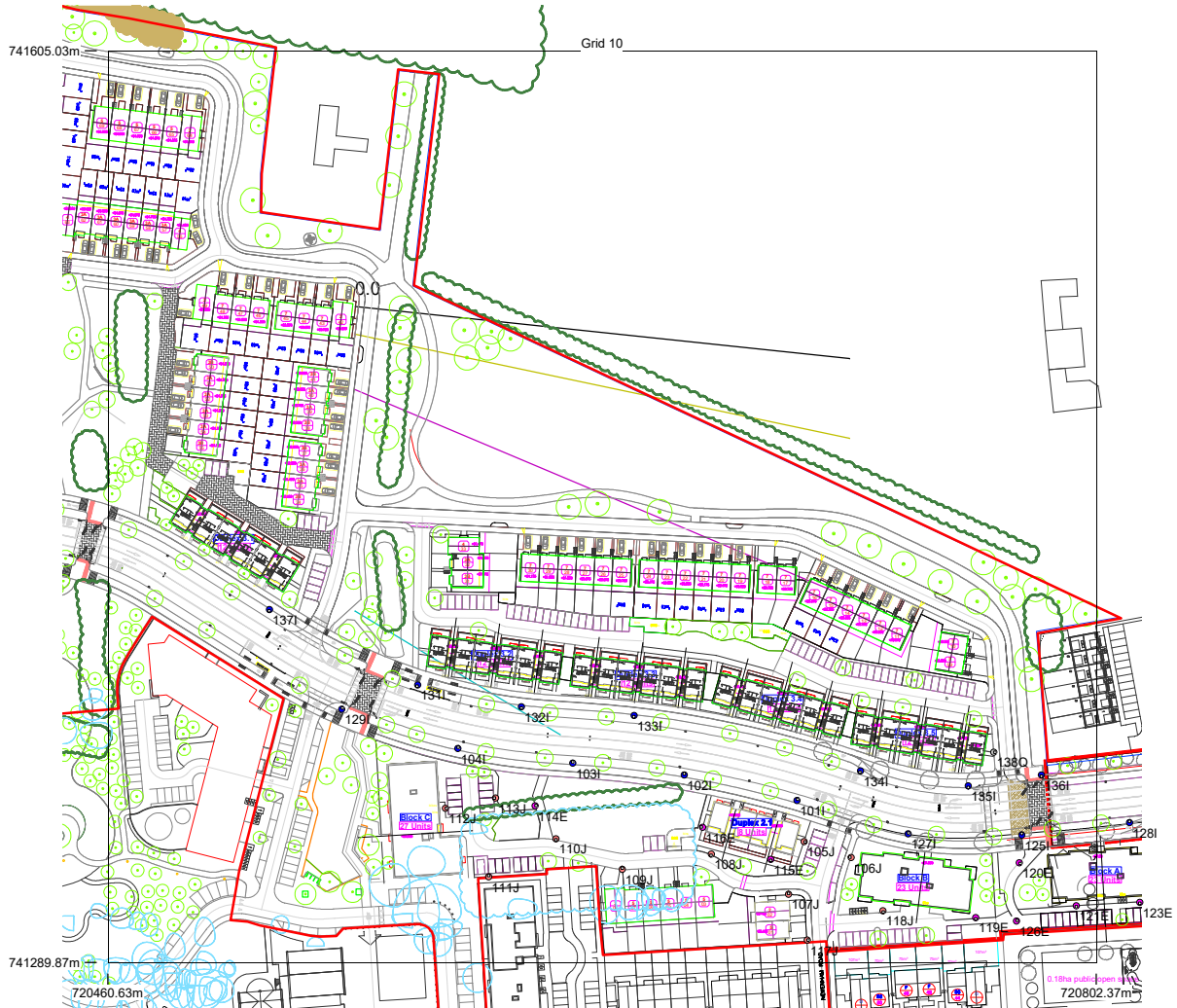
ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Dimmed to	Target X	Target Y	Target Z
245	P	720126.60	741759.84	6.00	60.00	0.00	0.00	0.40	100%			
246	P	720130.85	741744.70	6.00	178.00	0.00	0.00	0.40	100%			
247	P	720127.15	741714.59	6.00	170.00	0.00	0.00	0.40	100%			
248	K	720123.32	741690.82	5.00	178.00	0.00	0.00	0.40	100%			
249	P	720120.70	741666.66	6.00	175.00	0.00	0.00	0.40	100%			
250	P	720117.01	741634.00	6.00	178.00	0.00	0.00	0.40	100%			
264	O	720122.44	741775.14	5.00	243.00	0.00	0.00	0.40	80%			
85	I	719654.58	741785.19	10.00	98.00	0.00	0.00	0.45	100%			
86	I	719692.87	741789.37	10.00	98.00	0.00	0.00	0.45	100%			
87	I	719730.90	741791.23	10.00	98.00	0.00	0.00	0.45	100%			
88	I	719671.44	741805.48	10.00	277.00	0.00	0.00	0.45	100%			
89	I	719710.91	741808.63	10.00	277.00	0.00	0.00	0.45	100%			
90	I	719633.83	741799.79	10.00	277.00	0.00	0.00	0.45	100%			
91	I	719752.94	741809.22	10.00	273.00	0.00	0.00	0.45	100%			
92	I	719771.31	741790.26	10.00	88.00	0.00	0.00	0.45	100%			
93	I	719794.35	741807.22	10.00	269.00	0.00	0.00	0.45	100%			
94	I	719811.97	741787.99	10.00	79.00	0.00	0.00	0.45	100%			
95	M	719689.16	741772.49	6.00	265.00	0.00	0.00	0.40	100%			
96	M	719714.01	741770.01	6.00	261.00	0.00	0.00	0.40	100%			
97	M	719688.20	741752.95	6.00	81.00	0.00	0.00	0.40	100%			
98	M	719711.89	741750.57	6.00	75.00	0.00	0.00	0.40	100%			
99	M	719663.92	741771.40	6.00	350.00	0.00	0.00	0.40	100%			
100	M	719669.78	741741.23	6.00	74.00	0.00	0.00	0.40	100%			
101	I	720698.82	741345.98	10.00	67.00	0.00	0.00	0.45	100%			
102	I	720659.85	741354.74	10.00	86.00	0.00	0.00	0.45	100%			
103	I	720621.28	741358.87	10.00	86.00	0.00	0.00	0.45	100%			
104	I	720581.58	741363.92	10.00	68.00	0.00	0.00	0.45	100%			
105	J	720701.26	741331.80	6.00	335.00	0.00	0.00	0.40	100%			
106	J	720717.51	741326.21	6.00	163.00	0.00	0.00	0.40	100%			
107	J	720695.93	741313.51	6.00	97.00	0.00	0.00	0.40	100%			
108	J	720669.20	741327.42	6.00	255.00	0.00	0.00	0.40	100%			
109	J	720638.41	741322.21	6.00	92.00	0.00	0.00	0.40	100%			
110	J	720615.56	741332.75	6.00	266.00	0.00	0.00	0.40	100%			
111	J	720592.26	741319.61	6.00	90.00	0.00	0.00	0.40	100%			
112	J	720577.28	741343.29	6.00	359.00	0.00	0.00	0.40	100%			
113	J	720594.61	741346.84	6.00	183.00	0.00	0.00	0.40	100%			

Layout Continued

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Dimmed to	Target X	Target Y	Target Z
114	E	720608.26	741344.11	5.00	10.00	0.00	0.00	0.40	100%			
115	E	720689.83	741325.64	5.00	255.00	0.00	0.00	0.40	100%			
116	E	720666.16	741336.69	5.00	163.00	0.00	0.00	0.40	100%			
117	J	720702.34	741297.77	6.00	358.00	0.00	0.00	0.40	100%			
118	J	720728.52	741307.80	6.00	281.00	0.00	0.00	0.40	100%			
119	E	720760.56	741305.50	5.00	273.00	0.00	0.00	0.40	100%			
120	E	720775.71	741324.47	5.00	324.00	0.00	0.00	0.40	100%			
121	E	720795.34	741309.61	5.00	273.00	0.00	0.00	0.40	100%			
122	T	720848.02	741311.79	6.00	180.00	5.00	0.00	0.40	100%			
123	E	720817.32	741310.78	5.00	273.00	0.00	0.00	0.40	100%			
124	J	720828.84	741329.00	6.00	357.00	0.00	0.00	0.40	100%			
125	I	720776.55	741334.05	10.00	94.00	0.00	0.00	0.45	100%			
126	E	720774.68	741304.26	5.00	47.00	0.00	0.00	0.40	100%			
127	I	720737.20	741334.38	10.00	62.00	0.00	0.00	0.45	100%			
128	I	720813.83	741338.29	10.00	94.00	0.00	0.00	0.45	100%			
129	I	720541.43	741377.53	10.00	58.00	0.00	0.00	0.45	100%			
130	M	719702.01	741747.94	6.00	169.00	0.00	0.00	0.40	100%			
131	I	720567.73	741385.86	10.00	242.00	0.00	0.00	0.45	100%			
132	I	720603.54	741378.37	10.00	270.00	0.00	0.00	0.45	100%			
133	I	720642.49	741375.37	10.00	264.00	0.00	0.00	0.45	100%			
134	I	720720.73	741356.15	10.00	255.00	0.00	0.00	0.45	100%			
135	I	720758.08	741350.96	10.00	264.00	0.00	0.00	0.45	100%			
136	I	720783.31	741354.82	10.00	272.00	0.00	0.00	0.45	100%			
137	I	720516.55	741411.94	10.00	242.00	0.00	0.00	0.45	100%			
138	Q	720766.86	741362.61	6.00	7.00	0.00	0.00	0.40	100%			

Horizontal Illuminance (lux)

Grid 10

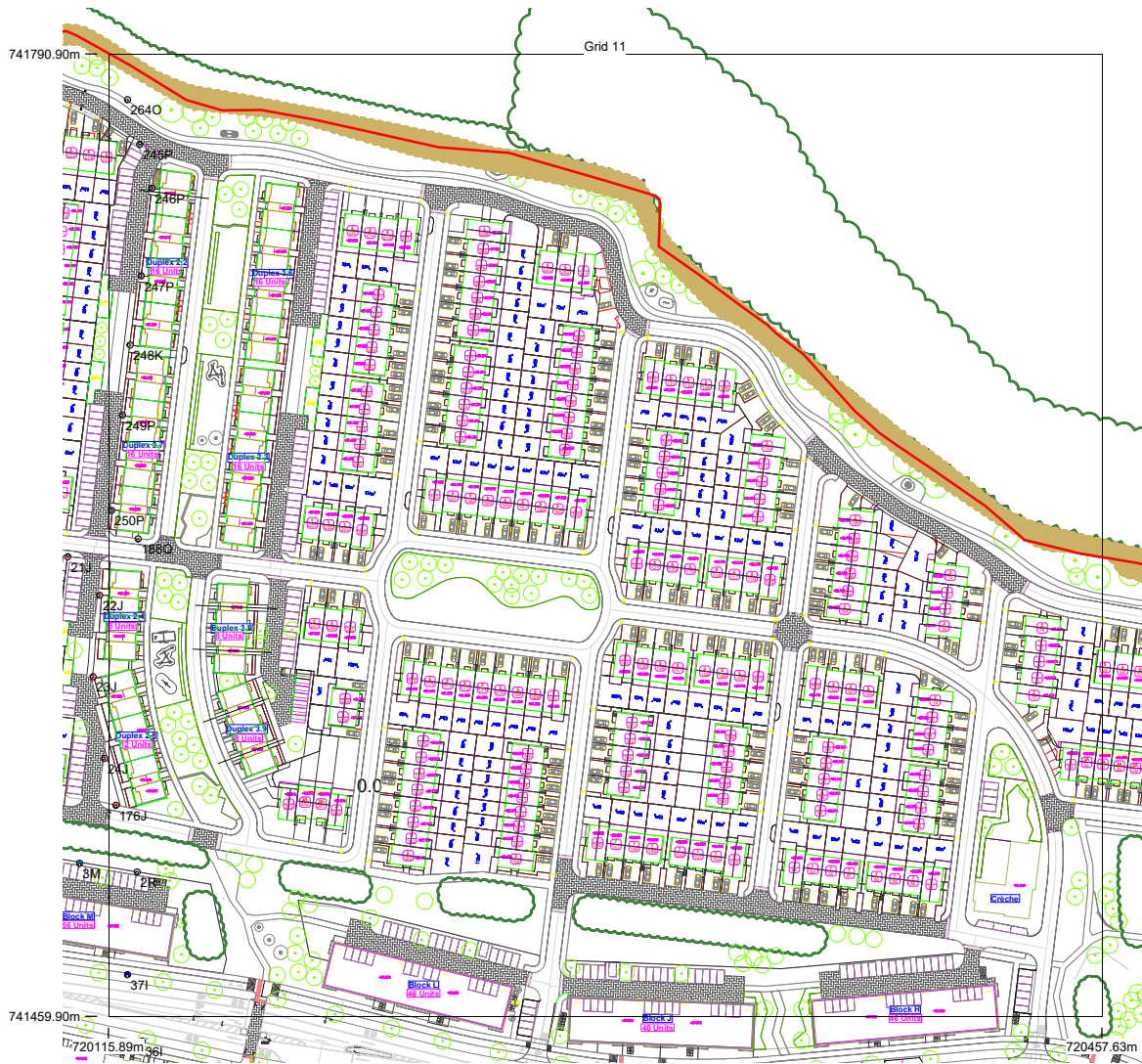


Results

Eav	0.00
Emin	0.00
Emax	0.00
Emin/Emax	0.00
Emin/Eav	0.00

Horizontal Illuminance (lux)

Grid 11



Results

Eav	0.00
Emin	0.00
Emax	0.00
Emin/Emax	0.00
Emin/Eav	0.00