

**DATE:** 7 April 2022  
**DESIGNER:** Thomas McCormack / Ross Traynor  
**PROJECT No:** 20051-E-LR-040  
**PROJECT NAME:** Castle Street Bray



This development will not be taken in charge by Wicklow County Council.

LED bollards installed at a height of 1m throughout which will be dark sky friendly (zero tilt).

Colour temperature of 2700k.

Glass lantern covers to filter UV light and baffles to cut off any excess light should be fitted. Bollards be time-clock controlled and will contain dusk to dawn sensors for when the ambient light levels drop below 35lux.

## External Lighting Report

**PREPARED BY:** McElligott Consulting Engineers

## Layout Report

### General Data

Dimensions in Metres Angles in Degrees  
 Grid Origin 726054.2m x 719009.6m  
 Area 127.2m x 132.8m  
 Sample Spacing 1.50m x 1.49m

### Luminaires



### Luminaire A Data

Supplier	Urbis Schreder
Type	PHAROS 0 Symmetrical 8 LEDs 350mA N W Cylindrical, PC, Frosted
Lamp(s)	8 LEDs NW
Lamp Flux (klm)	0.65
File Name	PHAROS 0 8 LEDs 350mA NW 356004 Cylindrical PC Frosted Symmetrical TF.Idt
Maintenance Factor	0.82
Imax70,80,90(cd/klm)	152.8, 98.8, 58.0
No. in Project	81

### Layout

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1	A	726102.82	719042.58	1.00	328.00	0.00	0.00	0.00			
2	A	726107.99	719050.31	1.00	338.00	0.00	0.00	0.00			
3	A	726106.73	719040.27	1.00	148.00	0.00	0.00	0.00			
4	A	726111.96	719047.54	1.00	145.00	0.00	0.00	0.00			
5	A	726112.95	719056.76	1.00	329.00	0.00	0.00	0.00			
6	A	726116.78	719053.57	1.00	145.00	0.00	0.00	0.00			
7	A	726118.26	719063.84	1.00	328.00	0.00	0.00	0.00			
8	A	726124.67	719061.75	1.00	149.00	0.00	0.00	0.00			
9	A	726119.45	719067.88	1.00	53.00	0.00	0.00	0.00			
10	A	726117.23	719075.36	1.00	149.00	0.00	0.00	0.00			
11	A	726113.66	719080.94	1.00	240.00	0.00	0.00	0.00			
12	A	726110.22	719076.10	1.00	58.00	0.00	0.00	0.00			
13	A	726109.27	719081.68	1.00	242.00	0.00	0.00	0.00			
14	A	726102.97	719082.47	1.00	57.00	0.00	0.00	0.00			
15	A	726101.88	719086.87	1.00	151.00	0.00	0.00	0.00			
16	A	726099.58	719092.00	1.00	326.00	0.00	0.00	0.00			
17	A	726094.80	719088.82	1.00	58.00	0.00	0.00	0.00			
18	A	726096.29	719095.82	1.00	229.00	0.00	0.00	0.00			
19	A	726091.70	719097.22	1.00	235.00	0.00	0.00	0.00			
20	A	726088.63	719103.13	1.00	234.00	0.00	0.00	0.00			

**Layout Continued**

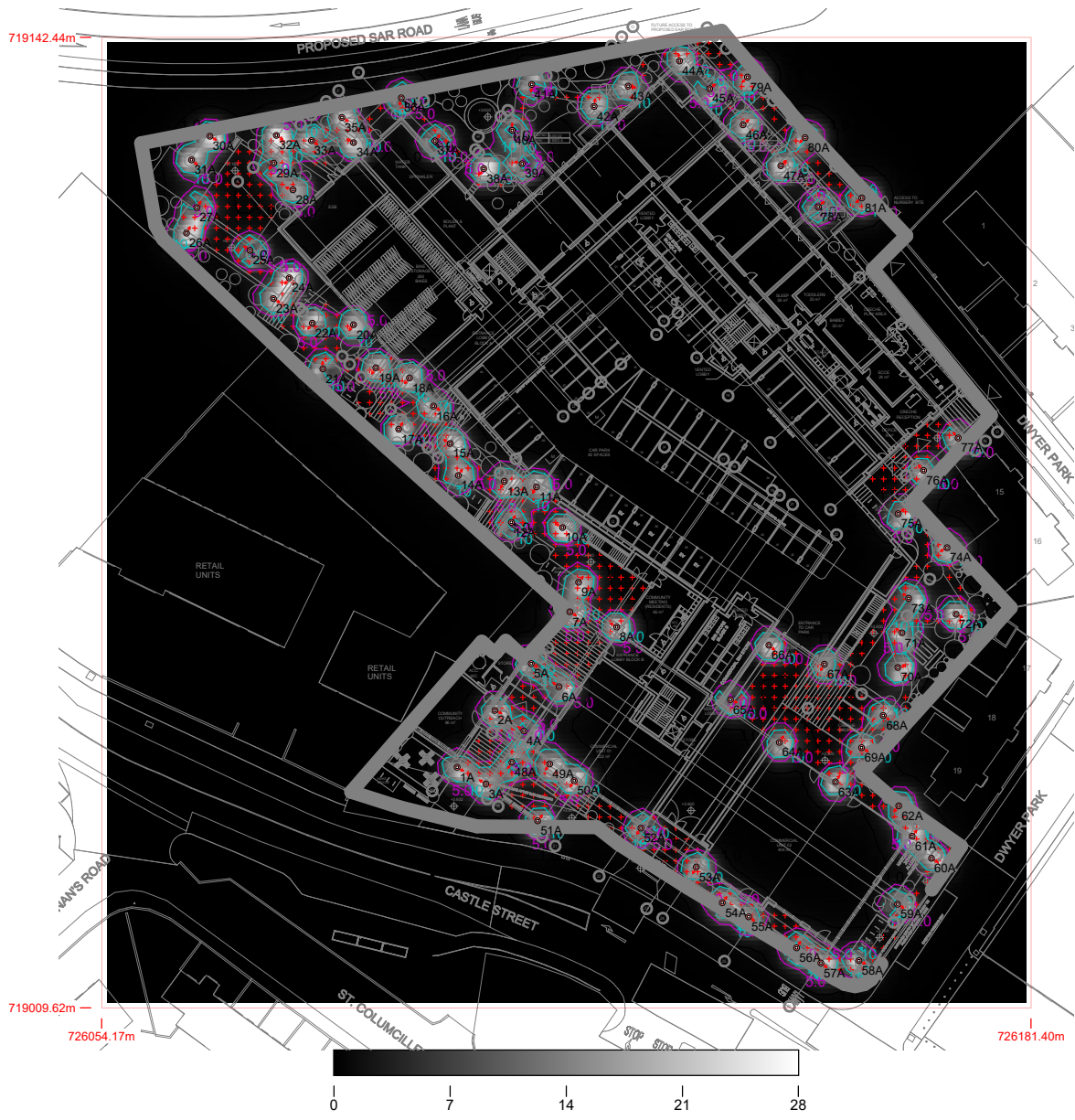
ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
21	A	726084.46	719097.05	1.00	94.00	0.00	0.00	0.00			
22	A	726083.00	719103.31	1.00	234.00	0.00	0.00	0.00			
23	A	726077.66	719106.68	1.00	328.00	0.00	0.00	0.00			
24	A	726079.82	719109.53	1.00	237.00	0.00	0.00	0.00			
25	A	726074.47	719113.27	1.00	145.00	0.00	0.00	0.00			
26	A	726065.76	719115.64	1.00	59.00	0.00	0.00	0.00			
27	A	726067.17	719119.15	1.00	56.00	0.00	0.00	0.00			
28	A	726080.35	719121.56	1.00	160.00	0.00	0.00	0.00			
29	A	726077.70	719125.20	1.00	232.00	0.00	0.00	0.00			
30	A	726069.00	719128.92	1.00	328.00	0.00	0.00	0.00			
31	A	726066.45	719125.65	1.00	322.00	0.00	0.00	0.00			
32	A	726078.08	719129.03	1.00	327.00	0.00	0.00	0.00			
33	A	726082.87	719128.32	1.00	327.00	0.00	0.00	0.00			
34	A	726088.65	719128.01	1.00	150.00	0.00	0.00	0.00			
35	A	726087.07	719131.48	1.00	327.00	0.00	0.00	0.00			
36	A	726095.19	719134.15	1.00	258.00	0.00	0.00	0.00			
37	A	726099.78	719128.28	1.00	50.00	0.00	0.00	0.00			
38	A	726106.48	719124.47	1.00	235.00	0.00	0.00	0.00			
39	A	726111.71	719125.13	1.00	163.00	0.00	0.00	0.00			
40	A	726110.34	719129.70	1.00	89.00	0.00	0.00	0.00			
41	A	726113.04	719136.00	1.00	263.00	0.00	0.00	0.00			
42	A	726121.57	719133.00	1.00	81.00	0.00	0.00	0.00			
43	A	726126.22	719135.74	1.00	350.00	0.00	0.00	0.00			
44	A	726133.26	719139.22	1.00	99.00	0.00	0.00	0.00			
45	A	726137.37	719135.37	1.00	41.00	0.00	0.00	0.00			
46	A	726141.96	719130.46	1.00	42.00	0.00	0.00	0.00			
47	A	726147.10	719124.86	1.00	44.00	0.00	0.00	0.00			
48	A	726110.30	719043.25	1.00	237.00	0.00	0.00	0.00			
49	A	726115.49	719043.01	1.00	235.00	0.00	0.00	0.00			
50	A	726118.85	719040.73	1.00	237.00	0.00	0.00	0.00			
51	A	726113.85	719035.22	1.00	52.00	0.00	0.00	0.00			
52	A	726127.99	719034.22	1.00	234.00	0.00	0.00	0.00			
53	A	726135.54	719028.91	1.00	241.00	0.00	0.00	0.00			
54	A	726139.10	719024.03	1.00	53.00	0.00	0.00	0.00			
55	A	726142.70	719022.12	1.00	325.00	0.00	0.00	0.00			
56	A	726149.29	719017.84	1.00	59.00	0.00	0.00	0.00			

**Layout Continued**

ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
57	A	726152.60	719015.76	1.00	324.00	0.00	0.00	0.00			
58	A	726157.81	719016.09	1.00	334.00	0.00	0.00	0.00			
59	A	726163.08	719023.82	1.00	329.00	0.00	0.00	0.00			
60	A	726167.75	719030.12	1.00	326.00	0.00	0.00	0.00			
61	A	726165.10	719033.12	1.00	54.00	0.00	0.00	0.00			
62	A	726163.25	719037.26	1.00	231.00	0.00	0.00	0.00			
63	A	726154.61	719040.55	1.00	60.00	0.00	0.00	0.00			
64	A	726146.92	719045.95	1.00	57.00	0.00	0.00	0.00			
65	A	726140.24	719051.80	1.00	336.00	0.00	0.00	0.00			
66	A	726145.47	719059.27	1.00	321.00	0.00	0.00	0.00			
67	A	726153.11	719056.65	1.00	237.00	0.00	0.00	0.00			
68	A	726161.13	719049.63	1.00	324.00	0.00	0.00	0.00			
69	A	726158.18	719045.23	1.00	330.00	0.00	0.00	0.00			
70	A	726163.13	719056.20	1.00	13.00	0.00	0.00	0.00			
71	A	726163.69	719060.94	1.00	144.00	0.00	0.00	0.00			
72	A	726171.10	719063.50	1.00	334.00	0.00	0.00	0.00			
73	A	726164.64	719065.68	1.00	142.00	0.00	0.00	0.00			
74	A	726169.87	719072.58	1.00	208.00	0.00	0.00	0.00			
75	A	726163.19	719077.26	1.00	38.00	0.00	0.00	0.00			
76	A	726166.66	719083.18	1.00	134.00	0.00	0.00	0.00			
77	A	726171.39	719087.61	1.00	131.00	0.00	0.00	0.00			
78	A	726152.24	719119.26	1.10	42.00	0.00	0.00	0.00			
79	A	726142.56	719136.98	1.10	224.00	0.00	0.00	0.00			
80	A	726150.45	719128.72	1.10	222.00	0.00	0.00	0.00			
81	A	726158.21	719120.46	1.10	218.00	0.00	0.00	0.00			

# Horizontal Illuminance (lux)

Grid 1



### Results

Eav	7.57
Emin	0.31
Emax	28.26
Emin/Emax	0.01
Emin/Eav	0.04