

DATE: 17 August 2022

DESIGNER: Alex Naper

PROJECT No: SES 01222 Rev B

PROJECT NAME: Site C – Strategic Housing Development- Sky Castle Ltd.



Residential area designed in accordance with EN13201-2:2015 Category P4.
Car parks designed in accordance with EN12464-2:2014 5.9.1
Distributor road carriageway section designed in accordance with EN13201-2:2015 Category M4.
Distributor road as a whole designed in accordance with EN13201-2:2015 Category P2.
Conflict areas designed in accordance with EN13201-2:2015 Category C3.
Link Road designed in accordance with EN13201-2:2015 Category P3.

Rev A: Updated site layout.
Rev B: Existing HID luminaires added.

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
eMail: graham@sabrelighting.ie

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 | 179.15 | 672.48 | 54.00 | 69.00 | 1.50 | 1.50 |
| 2 | Grid 2 | 223.73 | 640.13 | 172.38 | 108.00 | 1.50 | 1.50 |
| 3 | Grid 3 | 398.26 | 562.05 | 48.00 | 36.00 | 1.50 | 1.50 |
| 4 | Grid 4 | 444.41 | 552.71 | 192.00 | 30.00 | 1.50 | 1.50 |
| 5 | Grid 5 | 631.43 | 503.18 | 36.00 | 51.00 | 1.50 | 1.50 |
| 6 | Grid 6 | 660.28 | 451.05 | 138.00 | 105.00 | 1.50 | 1.50 |
| 7 | Grid 7 | 793.90 | 416.44 | 48.00 | 39.00 | 1.50 | 1.50 |
| 8 | Grid 8 | 627.97 | 130.25 | 375.78 | 307.00 | 1.50 | 1.50 |
| 9 | Grid 9 | 115.61 | 401.72 | 375.67 | 83.99 | 1.50 | 1.50 |
| 10 | Grid 10 | 642.63 | 273.10 | 70.40 | 30.00 | 1.50 | 1.50 |
| 11 | Grid 11 | 748.56 | 399.27 | 33.00 | 54.00 | 1.50 | 1.50 |
| 12 | Grid 12 | 775.36 | 384.00 | 24.00 | 27.00 | 1.50 | 1.50 |
| 13 | Grid 13 | 67.17 | 515.26 | 276.00 | 211.29 | 1.50 | 1.50 |
| 14 | Grid 14 | 295.17 | 361.95 | 240.00 | 234.00 | 1.50 | 1.50 |
| 15 | Grid 15 | 432.91 | 479.64 | 227.97 | 73.42 | 1.50 | 1.50 |
| 16 | Grid 16 | 56.10 | 603.07 | 81.00 | 138.00 | 1.50 | 1.50 |
| 17 | Grid 17 | -19.92 | 543.87 | 81.00 | 96.00 | 1.50 | 1.50 |
| 18 | Grid 18 | -74.64 | 623.33 | 96.00 | 96.00 | 1.50 | 1.50 |
| 19 | Grid 19 | 588.24 | 384.15 | 154.00 | 27.00 | 1.50 | 1.50 |
| 20 | Grid 20 | 931.01 | -191.05 | 81.00 | 307.00 | 1.50 | 1.50 |

Luminaires



Luminaire A Data

| | |
|----------------------|---------------------------------|
| Supplier | C U Phosco |
| Type | P863-128-R2E-730-W3-425-55W |
| Lamp(s) | 730SS |
| Lamp Flux (klm) | 7.78 |
| File Name | P863-128-R2E-730-W3-425-55W.ies |
| Maintenance Factor | 0.87 |
| Imax70,80,90(cd/klm) | 463.7, 84.3, 0.0 |
| No. in Project | 23 |

Luminaire B Data

| | |
|----------------------|-------------------------------|
| Supplier | C U Phosco |
| Type | E950-28-P4A-730-C550-14W |
| Lamp(s) | 730N |
| Lamp Flux (klm) | 2.08 |
| File Name | E950-28-P4A-730-C0550-14W.ies |
| Maintenance Factor | 0.82 |
| Imax70,80,90(cd/klm) | 659.3, 183.1, 0.3 |
| No. in Project | 81 |

Luminaire C Data

| | |
|----------------------|------------------------------|
| Supplier | C U Phosco |
| Type | E950-28-P4A-730-C250-8W |
| Lamp(s) | 730N |
| Lamp Flux (klm) | 0.98 |
| File Name | E950-28-P4A-730-C0250-8W.ies |
| Maintenance Factor | 0.82 |
| Imax70,80,90(cd/klm) | 659.3, 183.1, 0.3 |
| No. in Project | 23 |

Luminaire D Data

| | |
|----------------------|-------------------------------|
| Supplier | C U Phosco |
| Type | E950-28-F2A-730-C550-14W |
| Lamp(s) | 730N |
| Lamp Flux (klm) | 2.11 |
| File Name | E950-28-F2A-730-C0550-14W.ies |
| Maintenance Factor | 0.82 |
| Imax70,80,90(cd/klm) | 623.6, 113.9, 0.3 |
| No. in Project | 15 |

Luminaires



Luminaire E Data

| | |
|----------------------|----------------------------------|
| Supplier | C U Phosco |
| Type | P862-256-R2E-730-W3-425-107W |
| Lamp(s) | 730SS |
| Lamp Flux (klm) | 14.97 |
| File Name | P862-256-R2E-730-W3-425-107W.ies |
| Maintenance Factor | 0.87 |
| Imax70,80,90(cd/klm) | 458.4, 47.0, 0.0 |
| No. in Project | 10 |



Luminaire F Data

| | |
|----------------------|--------------------------------|
| Supplier | C U Phosco |
| Type | P863-128-R4-730-W3-300-40W |
| Lamp(s) | 730SS |
| Lamp Flux (klm) | 5.53 |
| File Name | P863-128-R4-730-W3-300-40W.ies |
| Maintenance Factor | 0.87 |
| Imax70,80,90(cd/klm) | 386.2, 27.2, 0.4 |
| No. in Project | 24 |



Luminaire G Data

| | |
|----------------------|---------------------------------|
| Supplier | C U Phosco |
| Type | P862-256-R2E-730-W3-300-76W |
| Lamp(s) | 730SS |
| Lamp Flux (klm) | 10.70 |
| File Name | P862-256-R2E-730-W3-300-76W.ies |
| Maintenance Factor | 0.87 |
| Imax70,80,90(cd/klm) | 458.4, 47.0, 0.0 |
| No. in Project | 5 |



Luminaire H Data

| | |
|----------------------|---------------------------------|
| Supplier | C U Phosco |
| Type | P863-128-F2B-730-W3-300-40W |
| Lamp(s) | 730SS |
| Lamp Flux (klm) | 5.39 |
| File Name | P863-128-F2B-730-W3-300-40W.ies |
| Maintenance Factor | 0.87 |
| Imax70,80,90(cd/klm) | 461.8, 61.8, 0.8 |
| No. in Project | 1 |

Luminaire I Data

| | |
|----------------------|----------------------------------|
| Supplier | C U Phosco |
| Type | E950-28-P4A-822-BB-A0500-13W |
| Lamp(s) | 822N |
| Lamp Flux (klm) | 1.23 |
| File Name | E950-28-P4A-822-BB-A0500-13W.ies |
| Maintenance Factor | 0.83 |
| Imax70,80,90(cd/klm) | 590.5, 96.9, 0.3 |
| No. in Project | 46 |

Luminaire J Data

| | |
|----------------------|---|
| Supplier | |
| Type | 2685 SNN-1C# |
| Lamp(s) | 1 ST 150 17500 2000 E40 |
| LampFlux(klm)/Colour | 17.50 1950 / 23 |
| File Name | Arc 2685 SNN 1C# 1 ST 150 17500 1950 E 40.ltd |
| Maintenance Factor | 0.75 |
| Imax70,80,90(cd/klm) | 352.0, 100.0, 5.0 |
| No. in Project | 8 |

Layout

| ID | Type | X | Y | Height | Angle | Tilt | Cant | Out-reach | Target X | Target Y | Target Z |
|----|------|--------|--------|--------|--------|------|------|-----------|----------|----------|----------|
| 1 | E | 208.27 | 672.81 | 10.00 | 311.00 | 0.00 | 0.00 | 0.50 | | | |
| 2 | E | 198.95 | 640.33 | 10.00 | 125.00 | 0.00 | 0.00 | 0.50 | | | |
| 3 | A | 228.69 | 644.88 | 8.00 | 43.00 | 0.00 | 0.00 | 0.50 | | | |
| 4 | A | 297.50 | 604.85 | 8.00 | 250.00 | 0.00 | 0.00 | 0.50 | | | |
| 5 | A | 273.01 | 609.26 | 8.00 | 49.00 | 0.00 | 0.00 | 0.50 | | | |
| 6 | A | 323.34 | 583.61 | 8.00 | 73.00 | 0.00 | 0.00 | 0.50 | | | |
| 7 | B | 296.20 | 588.77 | 6.00 | 151.00 | 0.00 | 0.00 | 0.40 | | | |
| 8 | A | 423.50 | 573.20 | 8.00 | 265.00 | 0.00 | 0.00 | 0.50 | | | |
| 9 | A | 389.16 | 568.47 | 8.00 | 76.00 | 0.00 | 0.00 | 0.50 | | | |
| 10 | A | 444.89 | 560.40 | 8.00 | 89.00 | 0.00 | 0.00 | 0.50 | | | |
| 11 | B | 427.10 | 554.90 | 6.00 | 178.00 | 0.00 | 0.00 | 0.50 | | | |
| 12 | A | 355.14 | 574.15 | 8.00 | 79.00 | 0.00 | 0.00 | 0.50 | | | |
| 13 | A | 640.33 | 530.26 | 8.00 | 60.00 | 0.00 | 0.00 | 0.50 | | | |
| 14 | A | 665.55 | 512.77 | 8.00 | 57.00 | 0.00 | 0.00 | 0.50 | | | |
| 15 | A | 783.31 | 443.06 | 8.00 | 59.00 | 0.00 | 0.00 | 0.50 | | | |
| 16 | A | 813.58 | 436.85 | 8.00 | 243.00 | 0.00 | 0.00 | 0.50 | | | |
| 17 | A | 828.49 | 418.69 | 8.00 | 62.00 | 0.00 | 0.00 | 0.50 | | | |
| 18 | F | 797.71 | 417.43 | 8.00 | 325.00 | 0.00 | 0.00 | 0.50 | | | |
| 19 | A | 252.24 | 623.80 | 8.00 | 54.00 | 0.00 | 0.00 | 0.50 | | | |
| 20 | A | 611.82 | 536.40 | 8.00 | 85.00 | 0.00 | 0.00 | 0.50 | | | |
| 21 | A | 478.53 | 555.68 | 8.00 | 89.00 | 0.00 | 0.00 | 0.50 | | | |
| 22 | A | 512.26 | 550.80 | 8.00 | 89.00 | 0.00 | 0.00 | 0.50 | | | |
| 23 | A | 545.79 | 545.82 | 8.00 | 89.00 | 0.00 | 0.00 | 0.50 | | | |
| 24 | A | 578.26 | 541.07 | 8.00 | 89.00 | 0.00 | 0.00 | 0.50 | | | |
| 25 | A | 693.79 | 492.02 | 8.00 | 67.00 | 0.00 | 0.00 | 0.50 | | | |
| 26 | A | 723.22 | 475.42 | 8.00 | 60.00 | 0.00 | 0.00 | 0.50 | | | |
| 27 | A | 753.17 | 459.05 | 8.00 | 59.00 | 0.00 | 0.00 | 0.50 | | | |
| 28 | F | 794.24 | 390.83 | 8.00 | 156.00 | 0.00 | 0.00 | 0.50 | | | |
| 29 | F | 771.34 | 371.59 | 8.00 | 325.00 | 0.00 | 0.00 | 0.50 | | | |
| 30 | F | 686.76 | 241.27 | 8.00 | 61.00 | 0.00 | 0.00 | 0.50 | | | |
| 31 | F | 670.22 | 261.89 | 8.00 | 241.00 | 0.00 | 0.00 | 0.50 | | | |
| 32 | F | 710.19 | 239.97 | 8.00 | 240.00 | 0.00 | 0.00 | 0.50 | | | |
| 33 | F | 700.27 | 276.13 | 8.00 | 322.00 | 0.00 | 0.00 | 0.50 | | | |
| 34 | A | 641.37 | 275.58 | 8.00 | 252.00 | 0.00 | 0.00 | 0.50 | | | |
| 35 | F | 747.73 | 348.75 | 8.00 | 312.00 | 0.00 | 0.00 | 0.50 | | | |
| 36 | F | 726.09 | 320.59 | 8.00 | 329.00 | 0.00 | 0.00 | 0.50 | | | |

Layout Continued

| ID | Type | X | Y | Height | Angle | Tilt | Cant | Out-reach | Target X | Target Y | Target Z |
|----|------|--------|--------|--------|--------|------|------|-----------|----------|----------|----------|
| 37 | F | 711.50 | 300.20 | 8.00 | 331.00 | 0.00 | 0.00 | 0.50 | | | |
| 38 | B | 271.67 | 573.26 | 6.00 | 322.00 | 0.00 | 0.00 | 0.40 | | | |
| 39 | B | 677.46 | 261.15 | 6.00 | 58.00 | 0.00 | 0.00 | 0.50 | | | |
| 40 | B | 660.52 | 270.56 | 6.00 | 58.00 | 0.00 | 0.00 | 0.50 | | | |
| 41 | B | 677.61 | 282.33 | 6.00 | 238.00 | 0.00 | 0.00 | 0.50 | | | |
| 42 | B | 774.76 | 395.71 | 6.00 | 58.00 | 0.00 | 0.00 | 0.50 | | | |
| 43 | B | 767.41 | 417.70 | 6.00 | 327.00 | 0.00 | 0.00 | 0.50 | | | |
| 44 | B | 776.77 | 434.42 | 6.00 | 327.00 | 0.00 | 0.00 | 0.50 | | | |
| 45 | B | 787.23 | 417.57 | 6.00 | 148.00 | 0.00 | 0.00 | 0.50 | | | |
| 46 | B | 275.64 | 553.87 | 6.00 | 140.00 | 0.00 | 0.00 | 0.40 | | | |
| 47 | B | 246.98 | 545.57 | 6.00 | 316.00 | 0.00 | 0.00 | 0.40 | | | |
| 48 | B | 248.25 | 526.32 | 6.00 | 138.00 | 0.00 | 0.00 | 0.40 | | | |
| 49 | D | 234.00 | 544.16 | 6.00 | 222.00 | 0.00 | 0.00 | 0.40 | | | |
| 50 | B | 213.31 | 554.39 | 6.00 | 36.00 | 0.00 | 0.00 | 0.40 | | | |
| 51 | B | 200.97 | 585.16 | 6.00 | 39.00 | 0.00 | 0.00 | 0.40 | | | |
| 52 | B | 217.06 | 615.74 | 6.00 | 310.00 | 0.00 | 0.00 | 0.40 | | | |
| 53 | B | 224.73 | 596.57 | 6.00 | 127.00 | 0.00 | 0.00 | 0.40 | | | |
| 54 | C | 231.90 | 633.42 | 5.00 | 313.00 | 0.00 | 0.00 | 0.40 | | | |
| 55 | B | 244.16 | 613.12 | 6.00 | 134.00 | 0.00 | 0.00 | 0.40 | | | |
| 56 | C | 266.87 | 587.60 | 5.00 | 241.00 | 0.00 | 0.00 | 0.40 | | | |
| 57 | C | 246.59 | 600.19 | 5.00 | 241.00 | 0.00 | 0.00 | 0.40 | | | |
| 58 | C | 254.30 | 580.21 | 5.00 | 135.00 | 0.00 | 0.00 | 0.40 | | | |
| 59 | C | 237.65 | 563.61 | 5.00 | 134.00 | 0.00 | 0.00 | 0.40 | | | |
| 60 | E | -28.10 | 534.01 | 10.00 | 297.00 | 0.00 | 0.00 | 0.50 | | | |
| 61 | F | 651.85 | 545.35 | 8.00 | 317.00 | 0.00 | 0.00 | 0.50 | | | |
| 62 | B | 181.47 | 602.07 | 6.00 | 297.00 | 0.00 | 0.00 | 0.40 | | | |
| 63 | B | 149.70 | 578.39 | 6.00 | 304.00 | 0.00 | 0.00 | 0.40 | | | |
| 64 | B | 173.80 | 581.98 | 6.00 | 123.00 | 0.00 | 0.00 | 0.40 | | | |
| 65 | B | 146.04 | 561.30 | 6.00 | 129.00 | 0.00 | 0.00 | 0.40 | | | |
| 66 | B | 134.48 | 579.99 | 6.00 | 213.00 | 0.00 | 0.00 | 0.40 | | | |
| 67 | B | 118.03 | 569.29 | 6.00 | 31.00 | 0.00 | 0.00 | 0.40 | | | |
| 68 | B | 149.91 | 537.15 | 6.00 | 219.00 | 0.00 | 0.00 | 0.40 | | | |
| 69 | B | 171.35 | 508.25 | 6.00 | 221.00 | 0.00 | 0.00 | 0.40 | | | |
| 70 | B | 180.92 | 482.69 | 6.00 | 62.00 | 0.00 | 0.00 | 0.40 | | | |
| 71 | B | 198.60 | 496.74 | 6.00 | 305.00 | 0.00 | 0.00 | 0.40 | | | |
| 72 | B | 224.20 | 516.18 | 6.00 | 307.00 | 0.00 | 0.00 | 0.40 | | | |

Layout Continued

| ID | Type | X | Y | Height | Angle | Tilt | Cant | Out-reach | Target X | Target Y | Target Z |
|-----|------|--------|--------|--------|--------|------|------|-----------|----------|----------|----------|
| 73 | B | 226.41 | 461.79 | 6.00 | 230.00 | 0.00 | 0.00 | 0.40 | | | |
| 74 | B | 202.95 | 465.56 | 6.00 | 47.00 | 0.00 | 0.00 | 0.40 | | | |
| 75 | B | 253.36 | 448.16 | 6.00 | 274.00 | 0.00 | 0.00 | 0.40 | | | |
| 76 | B | 296.38 | 445.50 | 6.00 | 243.00 | 0.00 | 0.00 | 0.40 | | | |
| 77 | B | 239.79 | 438.65 | 6.00 | 72.00 | 0.00 | 0.00 | 0.40 | | | |
| 78 | B | 281.03 | 461.62 | 6.00 | 344.00 | 0.00 | 0.00 | 0.40 | | | |
| 79 | B | 302.61 | 493.25 | 6.00 | 307.00 | 0.00 | 0.00 | 0.40 | | | |
| 80 | B | 332.89 | 500.44 | 6.00 | 245.00 | 0.00 | 0.00 | 0.40 | | | |
| 81 | B | 300.22 | 527.19 | 6.00 | 237.00 | 0.00 | 0.00 | 0.40 | | | |
| 82 | B | 281.97 | 543.71 | 6.00 | 220.00 | 0.00 | 0.00 | 0.40 | | | |
| 83 | B | 330.72 | 516.49 | 6.00 | 143.00 | 0.00 | 0.00 | 0.40 | | | |
| 84 | B | 347.52 | 538.51 | 6.00 | 144.00 | 0.00 | 0.00 | 0.40 | | | |
| 85 | B | 357.35 | 560.27 | 6.00 | 165.00 | 0.00 | 0.00 | 0.40 | | | |
| 86 | B | 358.92 | 482.09 | 6.00 | 234.00 | 0.00 | 0.00 | 0.40 | | | |
| 87 | B | 316.66 | 420.15 | 6.00 | 198.00 | 0.00 | 0.00 | 0.40 | | | |
| 88 | B | 322.98 | 397.50 | 6.00 | 258.00 | 0.00 | 0.00 | 0.40 | | | |
| 89 | C | 306.11 | 402.28 | 5.00 | 8.00 | 0.00 | 0.00 | 0.40 | | | |
| 90 | C | 298.98 | 428.02 | 5.00 | 38.00 | 0.00 | 0.00 | 0.40 | | | |
| 91 | C | 274.80 | 438.99 | 5.00 | 89.00 | 0.00 | 0.00 | 0.40 | | | |
| 92 | C | 224.12 | 567.50 | 5.00 | 195.00 | 0.00 | 0.00 | 0.40 | | | |
| 93 | C | 343.14 | 505.98 | 5.00 | 199.00 | 0.00 | 0.00 | 0.40 | | | |
| 94 | B | 423.66 | 527.77 | 6.00 | 174.00 | 0.00 | 0.00 | 0.50 | | | |
| 95 | B | 425.88 | 509.17 | 6.00 | 263.00 | 0.00 | 0.00 | 0.50 | | | |
| 96 | B | 457.09 | 497.24 | 6.00 | 237.00 | 0.00 | 0.00 | 0.50 | | | |
| 97 | B | 470.12 | 475.37 | 6.00 | 55.00 | 0.00 | 0.00 | 0.50 | | | |
| 98 | B | 478.23 | 496.47 | 6.00 | 326.00 | 0.00 | 0.00 | 0.50 | | | |
| 99 | B | 493.61 | 495.57 | 6.00 | 160.00 | 0.00 | 0.00 | 0.50 | | | |
| 100 | B | 483.62 | 521.03 | 6.00 | 354.00 | 0.00 | 0.00 | 0.50 | | | |
| 101 | B | 499.50 | 467.67 | 6.00 | 232.00 | 0.00 | 0.00 | 0.50 | | | |
| 102 | B | 496.06 | 441.66 | 6.00 | 140.00 | 0.00 | 0.00 | 0.50 | | | |
| 103 | D | 517.67 | 444.83 | 6.00 | 154.00 | 0.00 | 0.00 | 0.50 | | | |
| 104 | B | 490.81 | 456.25 | 6.00 | 52.00 | 0.00 | 0.00 | 0.50 | | | |
| 105 | B | 476.74 | 435.98 | 6.00 | 294.00 | 0.00 | 0.00 | 0.50 | | | |
| 106 | B | 466.05 | 419.15 | 6.00 | 130.00 | 0.00 | 0.00 | 0.50 | | | |
| 107 | B | 440.78 | 406.48 | 6.00 | 326.00 | 0.00 | 0.00 | 0.50 | | | |
| 108 | B | 442.93 | 390.58 | 6.00 | 140.00 | 0.00 | 0.00 | 0.50 | | | |

Layout Continued

| ID | Type | X | Y | Height | Angle | Tilt | Cant | Out-reach | Target X | Target Y | Target Z |
|-----|------|--------|--------|--------|--------|------|------|-----------|----------|----------|----------|
| 109 | B | 426.81 | 363.15 | 6.00 | 18.00 | 0.00 | 0.00 | 0.50 | | | |
| 110 | B | 424.59 | 345.72 | 6.00 | 319.00 | 0.00 | 0.00 | 0.50 | | | |
| 111 | B | 396.40 | 322.28 | 6.00 | 242.00 | 0.00 | 0.00 | 0.50 | | | |
| 112 | B | 409.25 | 326.79 | 6.00 | 314.00 | 0.00 | 0.00 | 0.50 | | | |
| 113 | B | 372.62 | 340.54 | 6.00 | 239.00 | 0.00 | 0.00 | 0.50 | | | |
| 114 | B | 344.84 | 363.21 | 6.00 | 241.00 | 0.00 | 0.00 | 0.50 | | | |
| 115 | B | 321.96 | 381.61 | 6.00 | 229.00 | 0.00 | 0.00 | 0.50 | | | |
| 116 | B | 347.35 | 399.66 | 6.00 | 130.00 | 0.00 | 0.00 | 0.50 | | | |
| 117 | B | 364.96 | 420.50 | 6.00 | 139.00 | 0.00 | 0.00 | 0.50 | | | |
| 118 | B | 373.58 | 445.86 | 6.00 | 316.00 | 0.00 | 0.00 | 0.50 | | | |
| 119 | B | 379.02 | 459.97 | 6.00 | 48.00 | 0.00 | 0.00 | 0.50 | | | |
| 120 | B | 399.63 | 472.79 | 6.00 | 316.00 | 0.00 | 0.00 | 0.50 | | | |
| 121 | B | 409.65 | 496.21 | 6.00 | 345.00 | 0.00 | 0.00 | 0.50 | | | |
| 122 | C | 391.43 | 424.91 | 5.00 | 144.00 | 0.00 | 0.00 | 0.50 | | | |
| 123 | C | 395.47 | 444.57 | 5.00 | 233.00 | 0.00 | 0.00 | 0.50 | | | |
| 124 | B | 384.72 | 416.65 | 6.00 | 227.00 | 0.00 | 0.00 | 0.50 | | | |
| 125 | B | 411.72 | 394.79 | 6.00 | 231.00 | 0.00 | 0.00 | 0.50 | | | |
| 126 | C | 508.27 | 479.94 | 5.00 | 328.00 | 0.00 | 0.00 | 0.50 | | | |
| 127 | C | 519.77 | 472.40 | 5.00 | 144.00 | 0.00 | 0.00 | 0.50 | | | |
| 128 | C | 537.56 | 466.02 | 5.00 | 331.00 | 0.00 | 0.00 | 0.50 | | | |
| 129 | D | 543.97 | 489.24 | 5.00 | 347.00 | 0.00 | 0.00 | 0.50 | | | |
| 130 | C | 524.01 | 453.57 | 5.00 | 253.00 | 0.00 | 0.00 | 0.50 | | | |
| 131 | C | 514.28 | 501.86 | 5.00 | 351.00 | 0.00 | 0.00 | 0.50 | | | |
| 132 | C | 526.07 | 500.76 | 6.00 | 167.00 | 0.00 | 0.00 | 0.50 | | | |
| 133 | D | 500.20 | 539.53 | 6.00 | 165.00 | 0.00 | 0.00 | 0.50 | | | |
| 134 | D | 509.90 | 528.45 | 6.00 | 264.00 | 0.00 | 0.00 | 0.50 | | | |
| 135 | D | 501.10 | 509.45 | 6.00 | 84.00 | 0.00 | 0.00 | 0.50 | | | |
| 136 | D | 527.15 | 526.13 | 6.00 | 266.00 | 0.00 | 0.00 | 0.50 | | | |
| 137 | D | 522.37 | 506.65 | 6.00 | 82.00 | 0.00 | 0.00 | 0.50 | | | |
| 138 | D | 547.57 | 523.10 | 6.00 | 265.00 | 0.00 | 0.00 | 0.50 | | | |
| 139 | D | 544.34 | 503.86 | 6.00 | 82.00 | 0.00 | 0.00 | 0.50 | | | |
| 140 | D | 558.25 | 488.54 | 6.00 | 84.00 | 0.00 | 0.00 | 0.50 | | | |
| 141 | D | 567.97 | 509.61 | 6.00 | 264.00 | 0.00 | 0.00 | 0.50 | | | |
| 142 | D | 586.74 | 499.03 | 6.00 | 168.00 | 0.00 | 0.00 | 0.50 | | | |
| 143 | C | 601.64 | 505.07 | 5.00 | 275.00 | 0.00 | 0.00 | 0.50 | | | |
| 144 | C | 620.91 | 515.99 | 5.00 | 318.00 | 0.00 | 0.00 | 0.50 | | | |

Layout Continued

| ID | Type | X | Y | Height | Angle | Tilt | Cant | Out-reach | Target X | Target Y | Target Z |
|-----|------|---------|---------|--------|--------|------|------|-----------|----------|----------|----------|
| 145 | E | 75.26 | 561.55 | 10.00 | 125.00 | 0.00 | 0.00 | 0.50 | | | |
| 146 | E | 40.21 | 567.02 | 10.00 | 313.00 | 0.00 | 0.00 | 0.50 | | | |
| 147 | C | 383.32 | 436.68 | 5.00 | 142.00 | 0.00 | 0.00 | 0.40 | | | |
| 148 | F | 49.02 | 575.93 | 8.00 | 34.00 | 0.00 | 0.00 | 0.50 | | | |
| 149 | E | 6.98 | 549.98 | 10.00 | 297.00 | 0.00 | 0.00 | 0.50 | | | |
| 150 | E | 162.19 | 638.30 | 10.00 | 303.00 | 0.00 | 0.00 | 0.50 | | | |
| 151 | B | 715.81 | 327.52 | 6.00 | 64.00 | 0.00 | 0.00 | 0.50 | | | |
| 152 | E | 99.02 | 597.80 | 10.00 | 301.00 | 0.00 | 0.00 | 0.50 | | | |
| 153 | E | 140.32 | 598.64 | 10.00 | 126.00 | 0.00 | 0.00 | 0.50 | | | |
| 154 | B | 685.36 | 344.20 | 6.00 | 64.00 | 0.00 | 0.00 | 0.50 | | | |
| 155 | B | 709.67 | 348.46 | 6.00 | 242.00 | 0.00 | 0.00 | 0.50 | | | |
| 156 | B | 660.76 | 358.30 | 6.00 | 64.00 | 0.00 | 0.00 | 0.50 | | | |
| 157 | B | 615.68 | 379.08 | 6.00 | 70.00 | 0.00 | 0.00 | 0.50 | | | |
| 158 | D | 610.85 | 399.55 | 6.00 | 242.00 | 0.00 | 0.00 | 0.50 | | | |
| 159 | B | 638.30 | 369.37 | 6.00 | 64.00 | 0.00 | 0.00 | 0.50 | | | |
| 160 | B | 683.24 | 363.39 | 6.00 | 249.00 | 0.00 | 0.00 | 0.50 | | | |
| 161 | E | 248.25 | 675.60 | 10.00 | 123.00 | 0.00 | 0.00 | 0.50 | | | |
| 162 | C | 332.89 | 384.60 | 5.00 | 134.00 | 0.00 | 0.00 | 0.40 | | | |
| 163 | C | 561.70 | 533.10 | 5.00 | 355.00 | 0.00 | 0.00 | 0.40 | | | |
| 164 | G | 1006.55 | 105.63 | 10.00 | 355.00 | 0.00 | 0.00 | 0.50 | | | |
| 165 | G | 1000.63 | 66.40 | 10.00 | 353.00 | 0.00 | 0.00 | 0.50 | | | |
| 166 | G | 995.78 | 27.16 | 10.00 | 355.00 | 0.00 | 0.00 | 0.50 | | | |
| 167 | G | 990.35 | -11.84 | 10.00 | 355.00 | 0.00 | 0.00 | 0.50 | | | |
| 168 | J | 1001.14 | -52.97 | 10.00 | 175.00 | 5.00 | 0.00 | 2.00 | | | |
| 169 | J | 994.47 | -113.53 | 10.00 | 171.00 | 5.00 | 0.00 | 2.00 | | | |
| 170 | J | 989.12 | -157.38 | 10.00 | 177.00 | 5.00 | 0.00 | 2.00 | | | |
| 171 | J | 956.10 | -208.57 | 10.00 | 293.00 | 5.00 | 0.00 | 2.00 | | | |
| 172 | J | 982.61 | -217.53 | 10.00 | 192.00 | 5.00 | 0.00 | 2.00 | | | |
| 173 | F | 937.97 | 105.63 | 8.00 | 251.00 | 0.00 | 0.00 | 0.50 | | | |
| 174 | F | 987.51 | 84.47 | 8.00 | 86.00 | 0.00 | 0.00 | 0.50 | | | |
| 175 | F | 958.07 | 89.41 | 8.00 | 70.00 | 0.00 | 0.00 | 0.50 | | | |
| 176 | F | 912.98 | 106.38 | 8.00 | 61.00 | 0.00 | 0.00 | 0.50 | | | |
| 177 | F | 892.20 | 130.44 | 8.00 | 243.00 | 0.00 | 0.00 | 0.50 | | | |
| 178 | F | 863.46 | 148.55 | 8.00 | 247.00 | 0.00 | 0.00 | 0.50 | | | |
| 179 | F | 835.85 | 153.95 | 8.00 | 59.00 | 0.00 | 0.00 | 0.50 | | | |
| 180 | F | 816.89 | 177.30 | 8.00 | 246.00 | 0.00 | 0.00 | 0.50 | | | |

Layout Continued

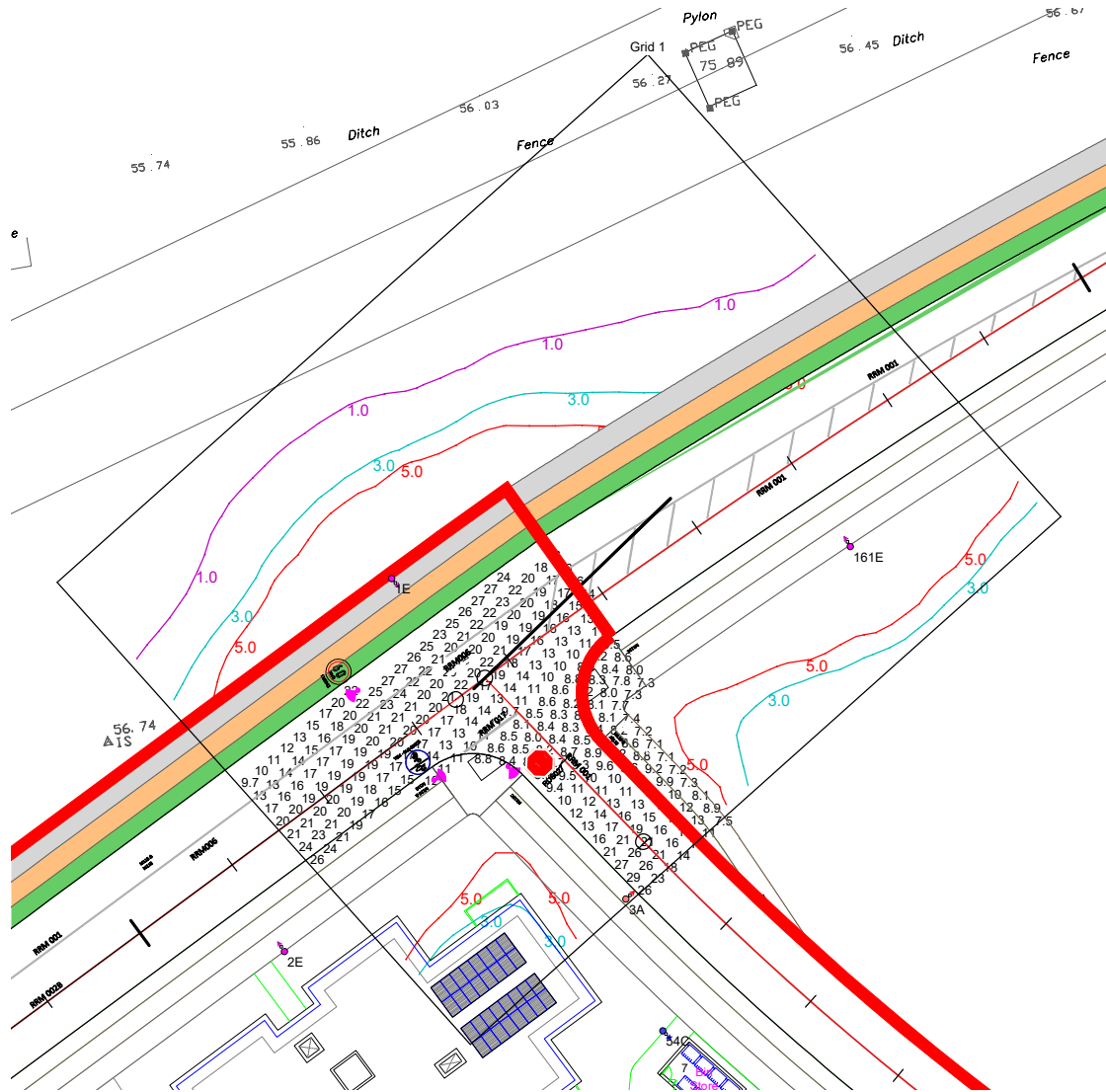
| ID | Type | X | Y | Height | Angle | Tilt | Cant | Out-reach | Target X | Target Y | Target Z |
|-----|------|--------|--------|--------|--------|------|------|-----------|----------|----------|----------|
| 181 | F | 788.11 | 183.51 | 8.00 | 58.00 | 0.00 | 0.00 | 0.50 | | | |
| 182 | F | 766.22 | 208.72 | 8.00 | 243.00 | 0.00 | 0.00 | 0.50 | | | |
| 183 | F | 735.82 | 226.08 | 8.00 | 243.00 | 0.00 | 0.00 | 0.50 | | | |
| 184 | D | 594.84 | 383.64 | 6.00 | 70.00 | 0.00 | 0.00 | 0.50 | | | |
| 185 | F | 799.54 | 158.47 | 8.00 | 330.00 | 0.00 | 0.00 | 0.50 | | | |
| 186 | H | 780.49 | 132.70 | 8.00 | 29.00 | 0.00 | 0.00 | 0.50 | | | |
| 187 | I | 64.13 | 538.16 | 5.00 | 48.00 | 0.00 | 0.00 | 0.40 | | | |
| 188 | I | 87.03 | 517.08 | 5.00 | 48.00 | 0.00 | 0.00 | 0.40 | | | |
| 189 | I | 111.38 | 497.91 | 5.00 | 48.00 | 0.00 | 0.00 | 0.40 | | | |
| 190 | I | 136.46 | 479.56 | 5.00 | 48.00 | 0.00 | 0.00 | 0.40 | | | |
| 191 | I | 160.45 | 459.93 | 5.00 | 48.00 | 0.00 | 0.00 | 0.40 | | | |
| 192 | I | 181.25 | 440.39 | 5.00 | 42.00 | 0.00 | 0.00 | 0.40 | | | |
| 193 | I | 201.88 | 417.79 | 5.00 | 38.00 | 0.00 | 0.00 | 0.40 | | | |
| 194 | I | 224.60 | 396.05 | 5.00 | 48.00 | 0.00 | 0.00 | 0.40 | | | |
| 195 | I | 249.26 | 378.49 | 5.00 | 53.00 | 0.00 | 0.00 | 0.40 | | | |
| 196 | I | 273.95 | 361.17 | 5.00 | 52.00 | 0.00 | 0.00 | 0.40 | | | |
| 197 | I | 297.84 | 341.16 | 5.00 | 58.00 | 0.00 | 0.00 | 0.40 | | | |
| 198 | I | 323.20 | 321.70 | 5.00 | 45.00 | 0.00 | 0.00 | 0.40 | | | |
| 199 | I | 348.01 | 303.11 | 5.00 | 48.00 | 0.00 | 0.00 | 0.40 | | | |
| 200 | I | 373.31 | 285.07 | 5.00 | 55.00 | 0.00 | 0.00 | 0.40 | | | |
| 201 | I | 396.13 | 268.56 | 5.00 | 43.00 | 0.00 | 0.00 | 0.40 | | | |
| 202 | I | 147.09 | 498.61 | 5.00 | 77.00 | 0.00 | 0.00 | 0.40 | | | |
| 203 | I | 119.89 | 503.21 | 5.00 | 97.00 | 0.00 | 0.00 | 0.40 | | | |
| 204 | I | 317.42 | 348.14 | 5.00 | 171.00 | 0.00 | 0.00 | 0.40 | | | |
| 205 | I | 308.91 | 369.22 | 5.00 | 5.00 | 0.00 | 0.00 | 0.40 | | | |
| 206 | I | 433.11 | 273.04 | 5.00 | 142.00 | 0.00 | 0.00 | 0.40 | | | |
| 207 | I | 403.17 | 253.35 | 5.00 | 355.00 | 0.00 | 0.00 | 0.40 | | | |
| 208 | I | 420.81 | 245.68 | 5.00 | 226.00 | 0.00 | 0.00 | 0.40 | | | |
| 209 | I | 412.85 | 262.60 | 5.00 | 289.00 | 0.00 | 0.00 | 0.40 | | | |
| 210 | I | 437.93 | 222.41 | 5.00 | 203.00 | 0.00 | 0.00 | 0.40 | | | |
| 211 | I | 183.96 | 454.08 | 5.00 | 172.00 | 0.00 | 0.00 | 0.40 | | | |
| 212 | I | 451.10 | 297.06 | 5.00 | 148.00 | 0.00 | 0.00 | 0.40 | | | |
| 213 | I | 466.14 | 323.36 | 5.00 | 148.00 | 0.00 | 0.00 | 0.40 | | | |
| 214 | I | 479.67 | 349.91 | 5.00 | 148.00 | 0.00 | 0.00 | 0.40 | | | |
| 215 | I | 493.67 | 376.46 | 5.00 | 148.00 | 0.00 | 0.00 | 0.40 | | | |
| 216 | I | 510.56 | 401.32 | 5.00 | 148.00 | 0.00 | 0.00 | 0.40 | | | |

Layout Continued

| ID | Type | X | Y | Height | Angle | Tilt | Cant | Out-reach | Target X | Target Y | Target Z |
|-----|------|---------|---------|--------|--------|------|------|-----------|----------|----------|----------|
| 217 | I | 530.20 | 421.68 | 5.00 | 129.00 | 0.00 | 0.00 | 0.40 | | | |
| 218 | I | 553.69 | 439.94 | 5.00 | 123.00 | 0.00 | 0.00 | 0.40 | | | |
| 219 | I | 577.43 | 458.13 | 5.00 | 126.00 | 0.00 | 0.00 | 0.40 | | | |
| 220 | I | 447.30 | 385.17 | 5.00 | 117.00 | 0.00 | 0.00 | 0.40 | | | |
| 221 | I | 474.44 | 393.34 | 5.00 | 89.00 | 0.00 | 0.00 | 0.40 | | | |
| 222 | I | 484.18 | 399.27 | 5.00 | 0.00 | 0.00 | 0.00 | 0.40 | | | |
| 223 | I | 496.98 | 423.34 | 5.00 | 153.00 | 0.00 | 0.00 | 0.40 | | | |
| 224 | I | 569.58 | 385.24 | 5.00 | 90.00 | 0.00 | 0.00 | 0.40 | | | |
| 225 | I | 545.67 | 394.86 | 5.00 | 312.00 | 0.00 | 0.00 | 0.40 | | | |
| 226 | I | 546.78 | 386.45 | 5.00 | 310.00 | 0.00 | 0.00 | 0.40 | | | |
| 227 | I | 566.33 | 414.56 | 5.00 | 302.00 | 0.00 | 0.00 | 0.40 | | | |
| 228 | I | 581.85 | 429.68 | 5.00 | 210.00 | 0.00 | 0.00 | 0.40 | | | |
| 229 | I | 602.76 | 474.19 | 5.00 | 126.00 | 0.00 | 0.00 | 0.40 | | | |
| 230 | I | 628.29 | 487.86 | 5.00 | 126.00 | 0.00 | 0.00 | 0.40 | | | |
| 231 | I | 646.50 | 506.11 | 5.00 | 134.00 | 0.00 | 0.00 | 0.40 | | | |
| 232 | I | 571.36 | 446.42 | 5.00 | 209.00 | 0.00 | 0.00 | 0.40 | | | |
| 233 | G | 1021.25 | 84.61 | 10.00 | 177.00 | 0.00 | 0.00 | 0.50 | | | |
| 234 | J | 998.24 | -75.27 | 10.00 | 175.00 | 5.00 | 0.00 | 2.00 | | | |
| 235 | J | 996.10 | -92.71 | 10.00 | 175.00 | 5.00 | 0.00 | 2.00 | | | |
| 236 | J | 985.12 | -179.50 | 10.00 | 175.00 | 5.00 | 0.00 | 2.00 | | | |

Horizontal Illuminance (lux)

Grid 1

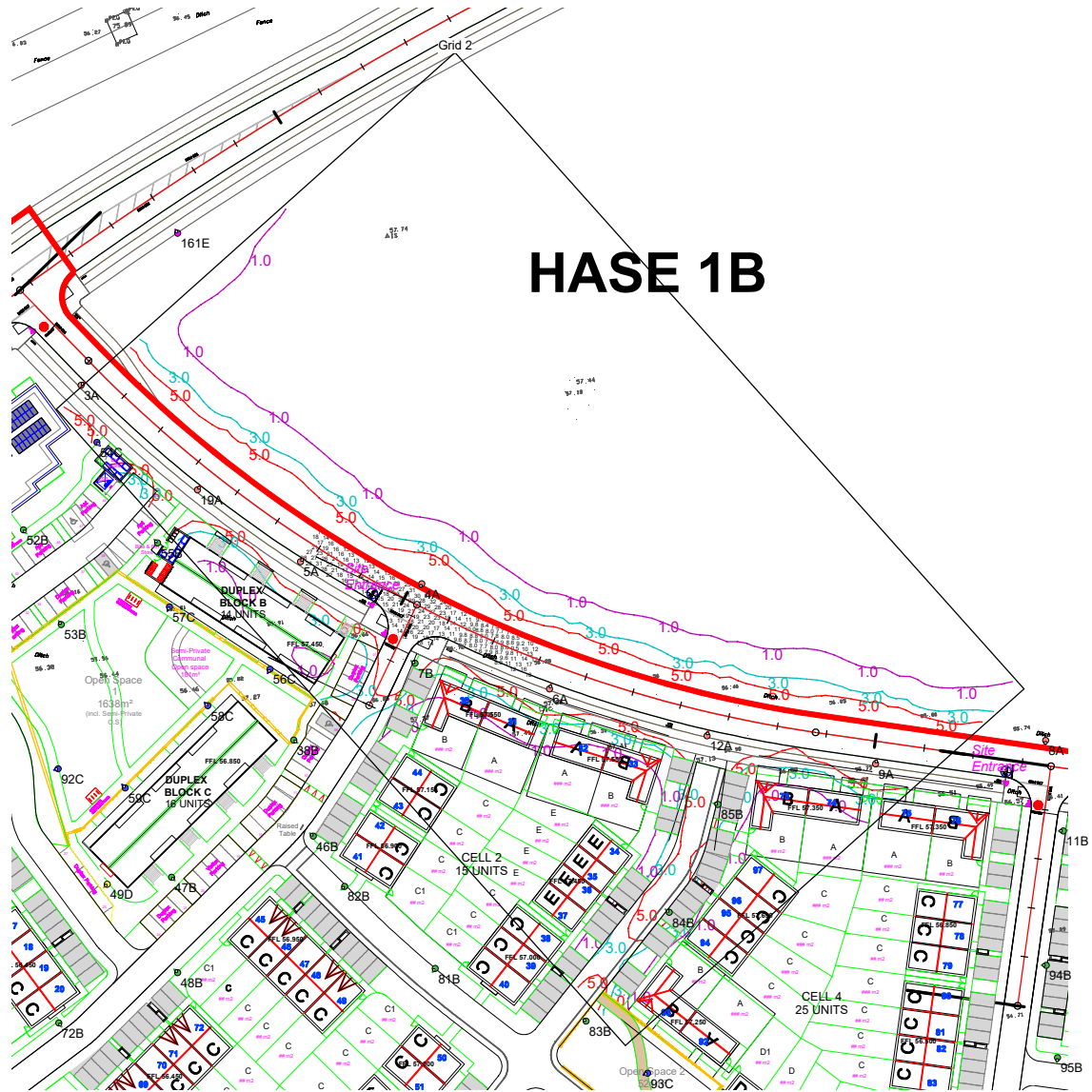


Results

| | |
|-----------|-------|
| Eav | 15.33 |
| Emin | 7.10 |
| Emax | 29.32 |
| Emin/Emax | 0.24 |
| Emin/Eav | 0.46 |
| | |

Horizontal Illuminance (lux)

Grid 2

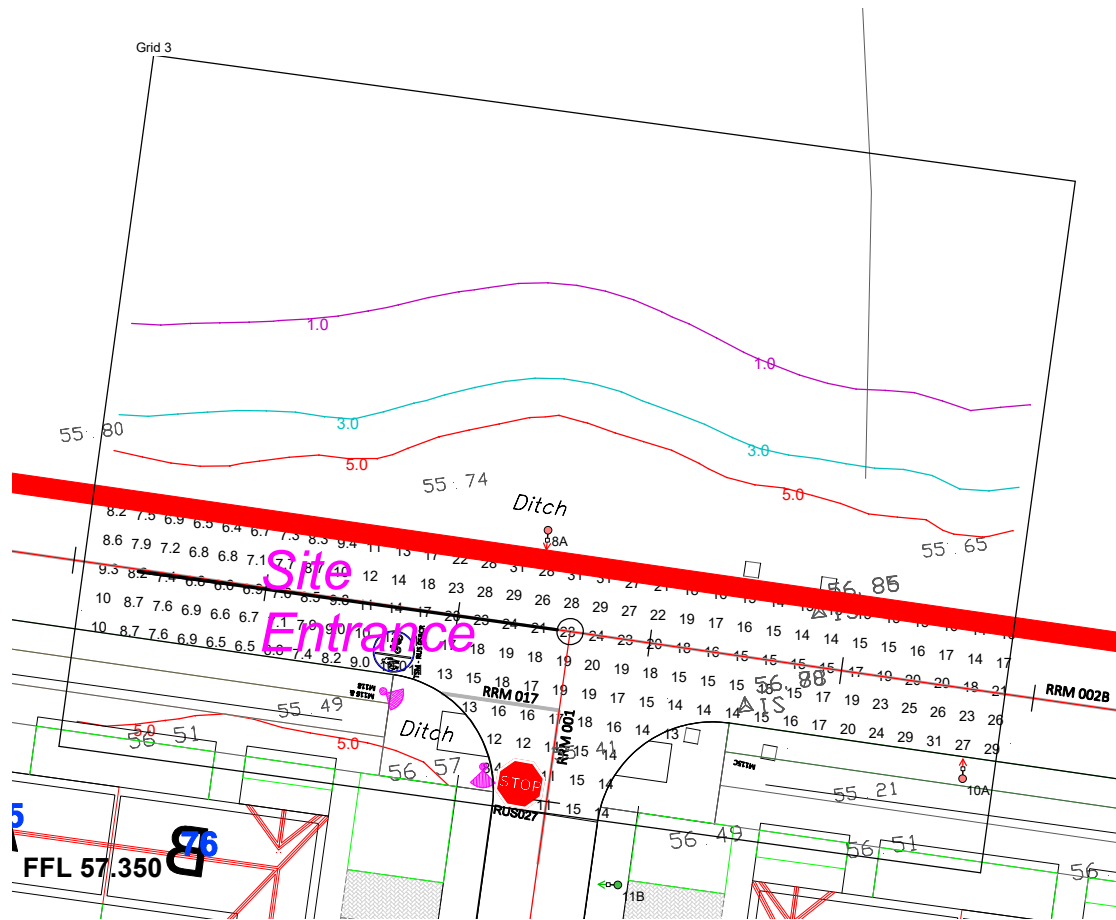


Results

| | |
|------------------------------------|-------|
| Eav | 16.16 |
| Emin | 7.54 |
| E _{max} | 32.17 |
| E _{min} /E _{max} | 0.23 |
| E _{min} /E _{av} | 0.47 |
| | |

Horizontal Illuminance (lux)

Grid 3

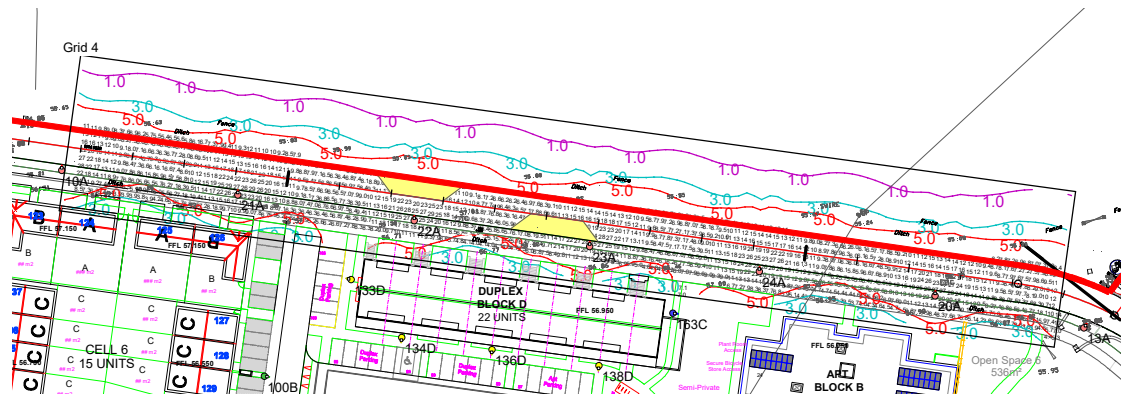


Results

| | |
|-----------|-------|
| Eav | 15.28 |
| Emin | 6.42 |
| Emax | 31.26 |
| Emin/Emax | 0.21 |
| Emin/Eav | 0.42 |
| | |

Horizontal Illuminance (lux)

Grid 4

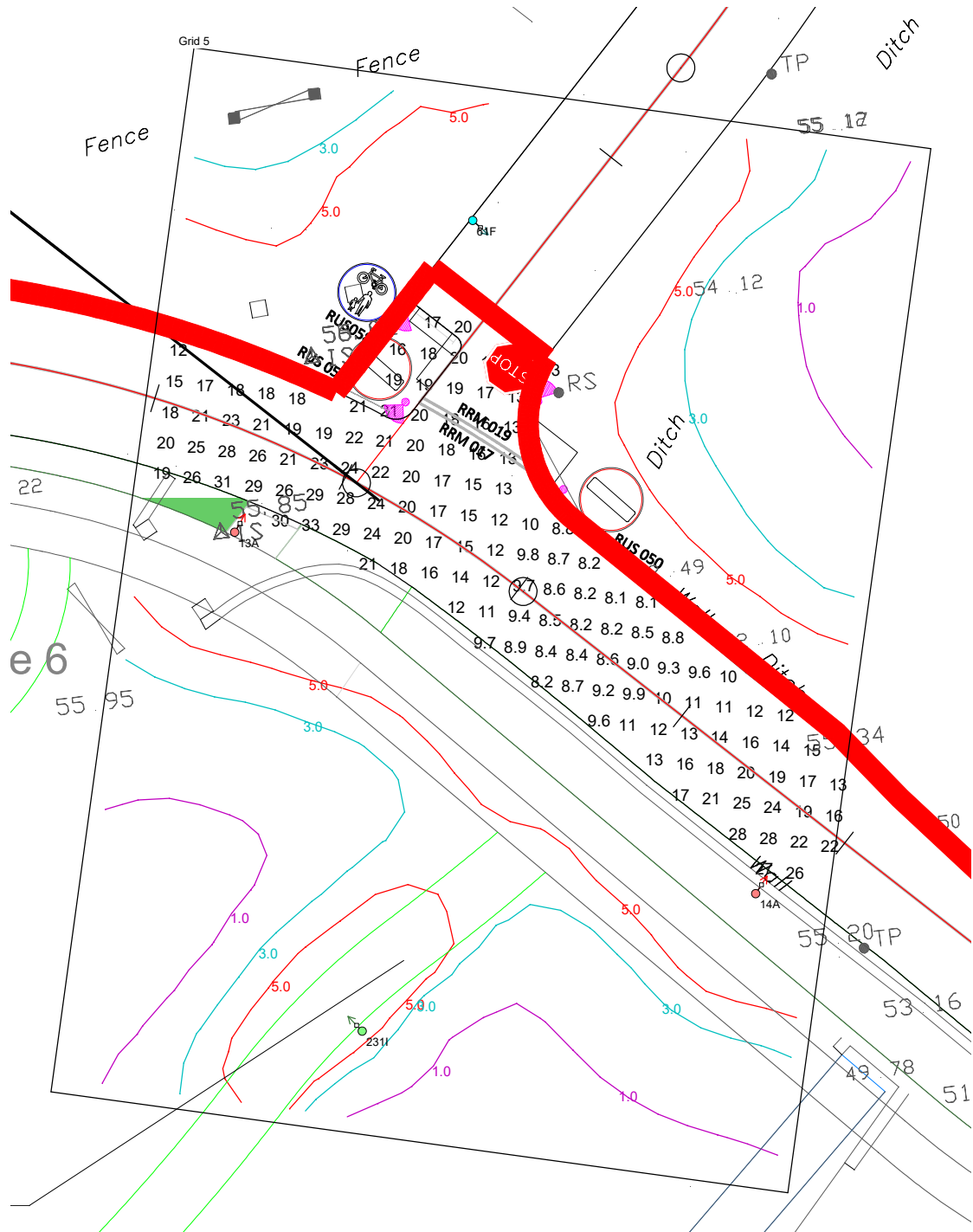


Results

| | |
|-----------|-------|
| Eav | 11.06 |
| Emin | 3.14 |
| Emax | 29.36 |
| Emin/Emax | 0.11 |
| Emin/Eav | 0.28 |

Horizontal Illuminance (lux)

Grid 5

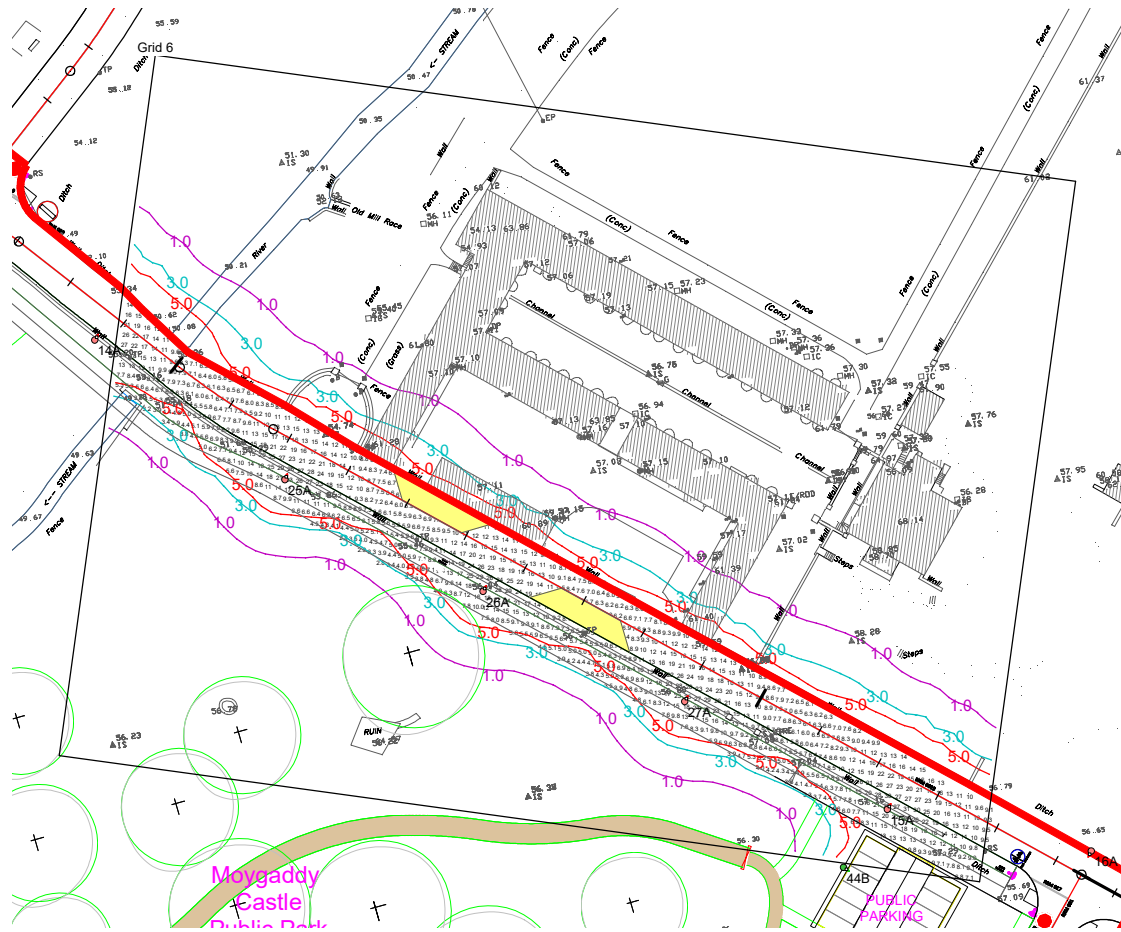


Results

| | |
|-----------|-------|
| Eav | 16.70 |
| Emin | 8.10 |
| Emax | 32.64 |
| Emin/Emax | 0.25 |
| Emin/Eav | 0.49 |
| | |

Horizontal Illuminance (lux)

Grid 6

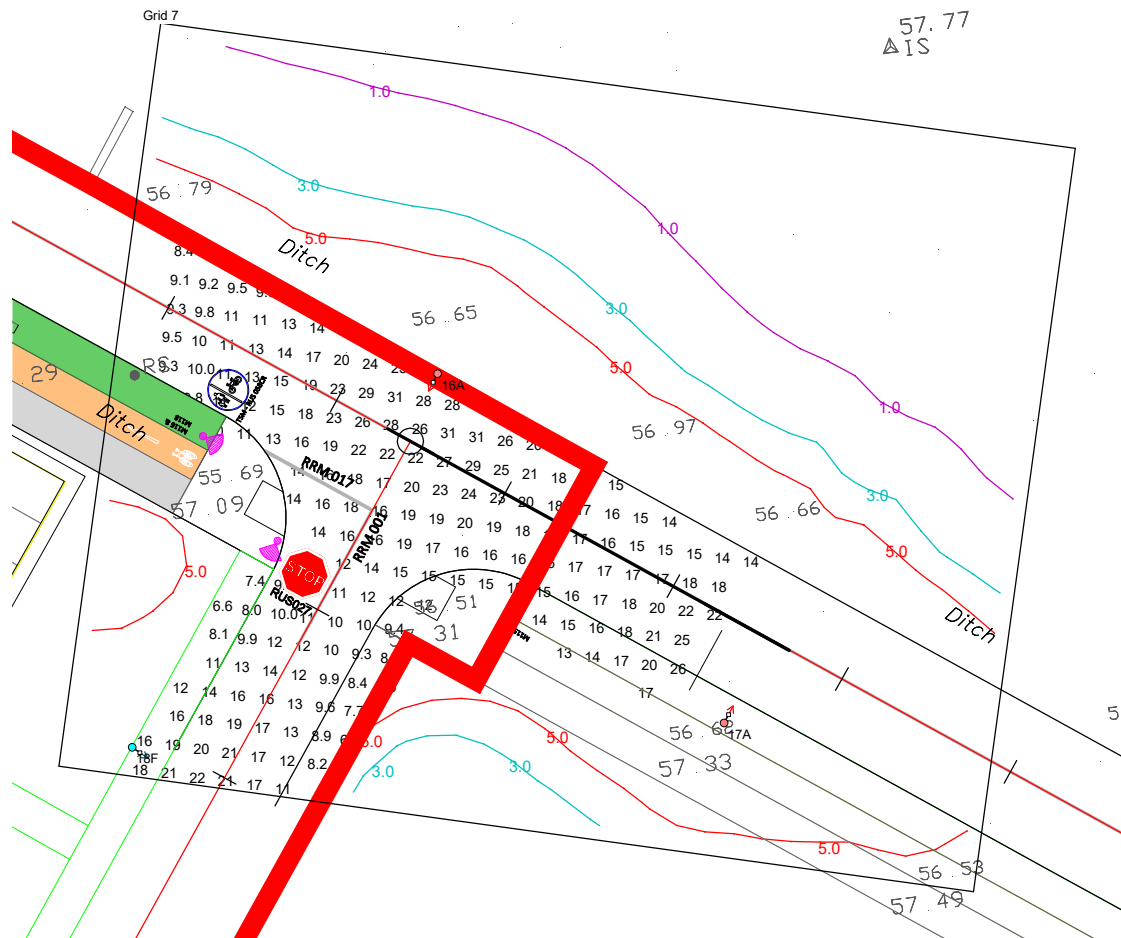


Results

| | |
|-----------|-------|
| Eav | 11.14 |
| Emin | 2.77 |
| Emax | 31.42 |
| Emin/Emax | 0.09 |
| Emin/Eav | 0.25 |
| | |

Horizontal Illuminance (lux)

Grid 7

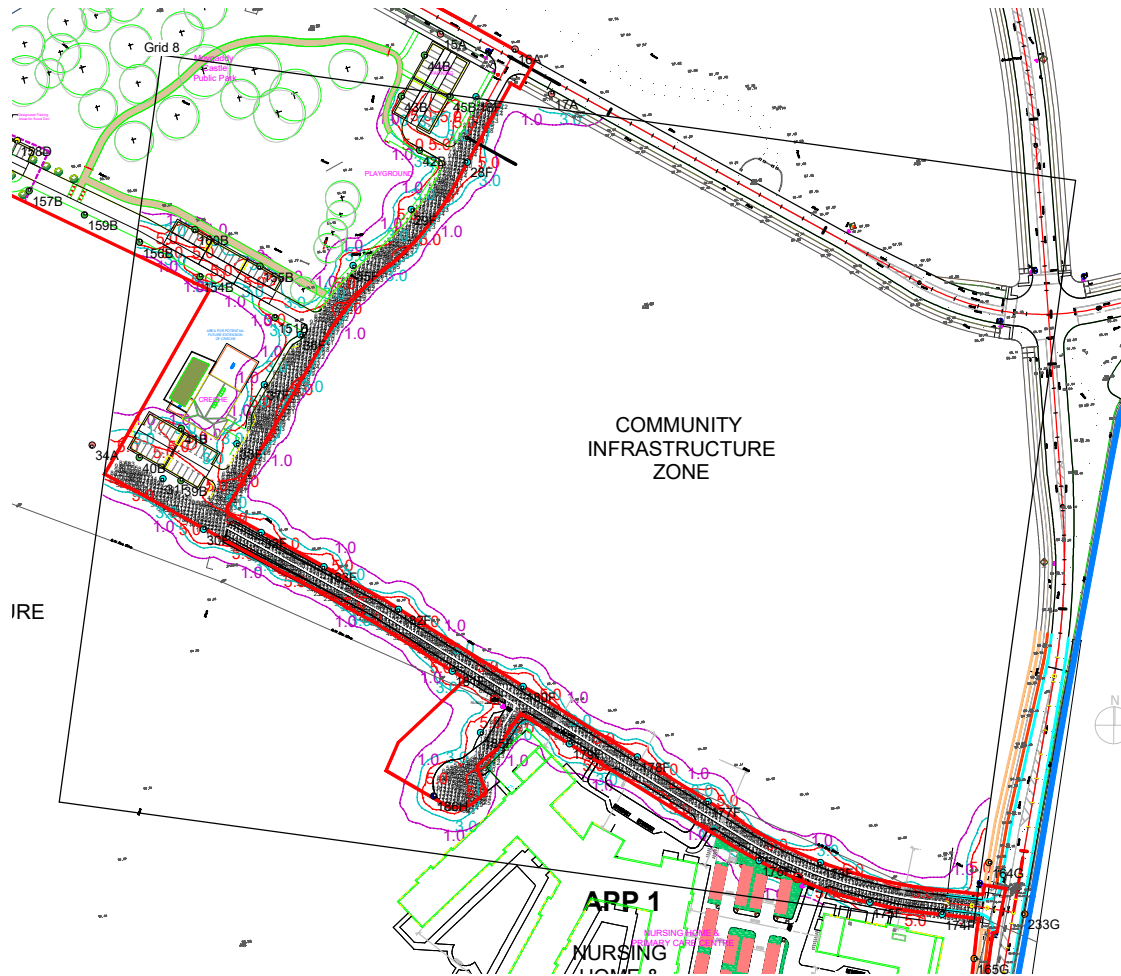


Results

| | |
|------------------------------------|-------|
| Eav | 15.86 |
| Emin | 6.64 |
| E _{max} | 31.33 |
| E _{min} /E _{max} | 0.21 |
| E _{min} /E _{av} | 0.42 |
| | |

Horizontal Illuminance (lux)

Grid 8

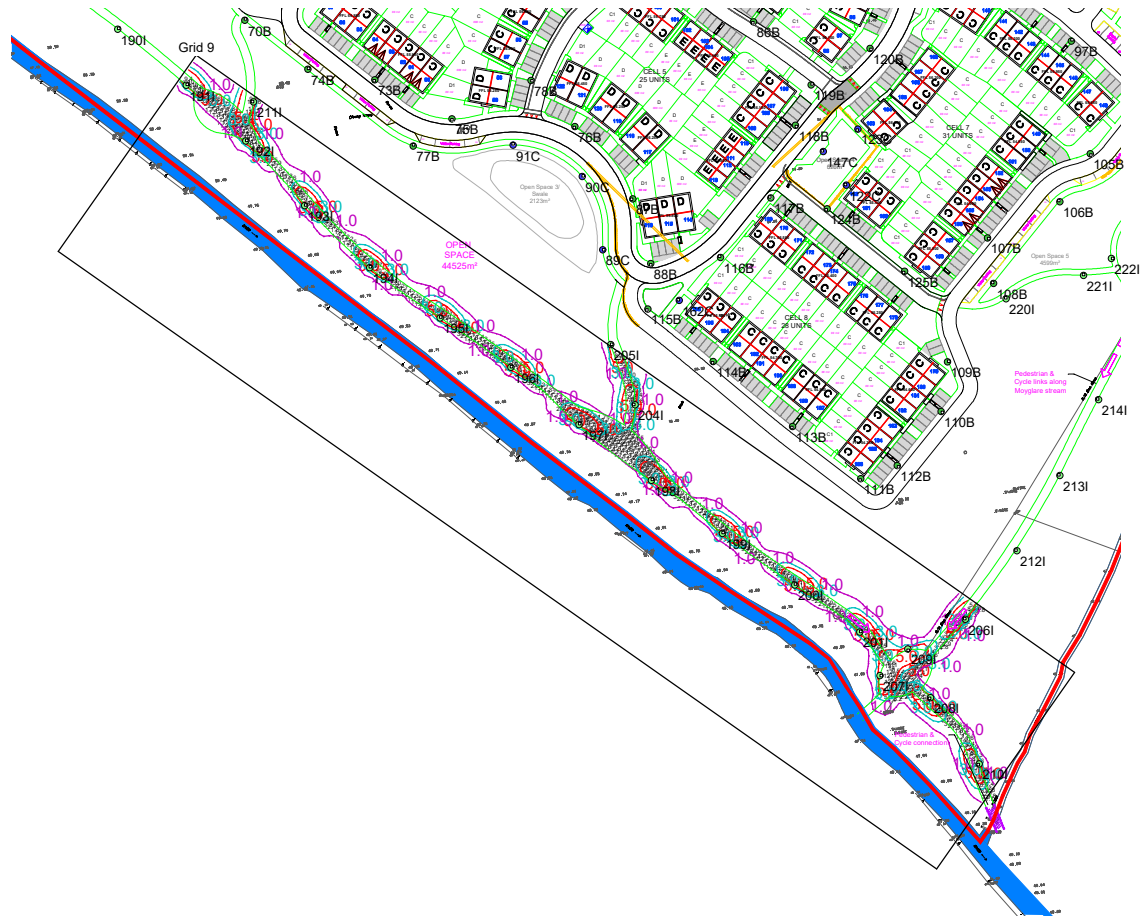


Results

| | |
|-----------|-------|
| Eav | 10.62 |
| Emin | 2.14 |
| Emax | 23.55 |
| Emin/Emax | 0.09 |
| Emin/Eav | 0.20 |
| | |

Horizontal Illuminance (lux)

Grid 9



Results

| | |
|-----------|-------|
| Eav | 5.01 |
| Emin | 1.01 |
| Emax | 13.55 |
| Emin/Emax | 0.07 |
| Emin/Eav | 0.20 |
| | |

Horizontal Illuminance (lux)

Grid 10

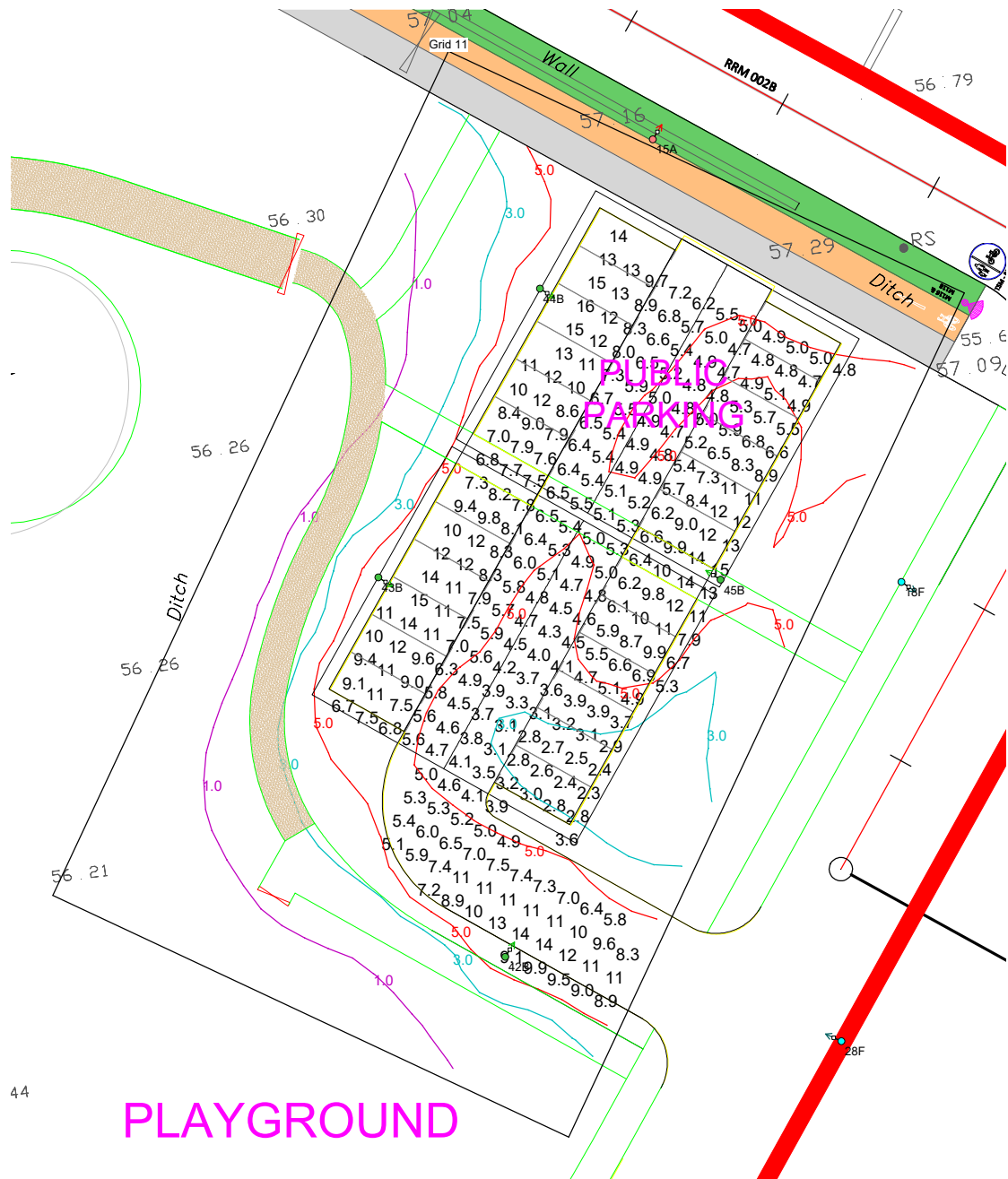


Results

| | |
|-----------|-------|
| Eav | 6.68 |
| Emin | 1.76 |
| Emax | 17.97 |
| Emin/Emax | 0.10 |
| Emin/Eav | 0.26 |
| | |

Horizontal Illuminance (lux)

Grid 11



Results

| | |
|-----------|-------|
| Eav | 7.20 |
| Emin | 2.32 |
| Emax | 15.72 |
| Emin/Emax | 0.15 |
| Emin/Eav | 0.32 |
| | |

Horizontal Illuminance (lux)

Grid 12



Results

| | |
|-----------|-------|
| Eav | 12.26 |
| Emin | 4.81 |
| Emax | 23.42 |
| Emin/Emax | 0.21 |
| Emin/Eav | 0.39 |
| | |

Horizontal Illuminance (lux)

Grid 13

HASE 1B

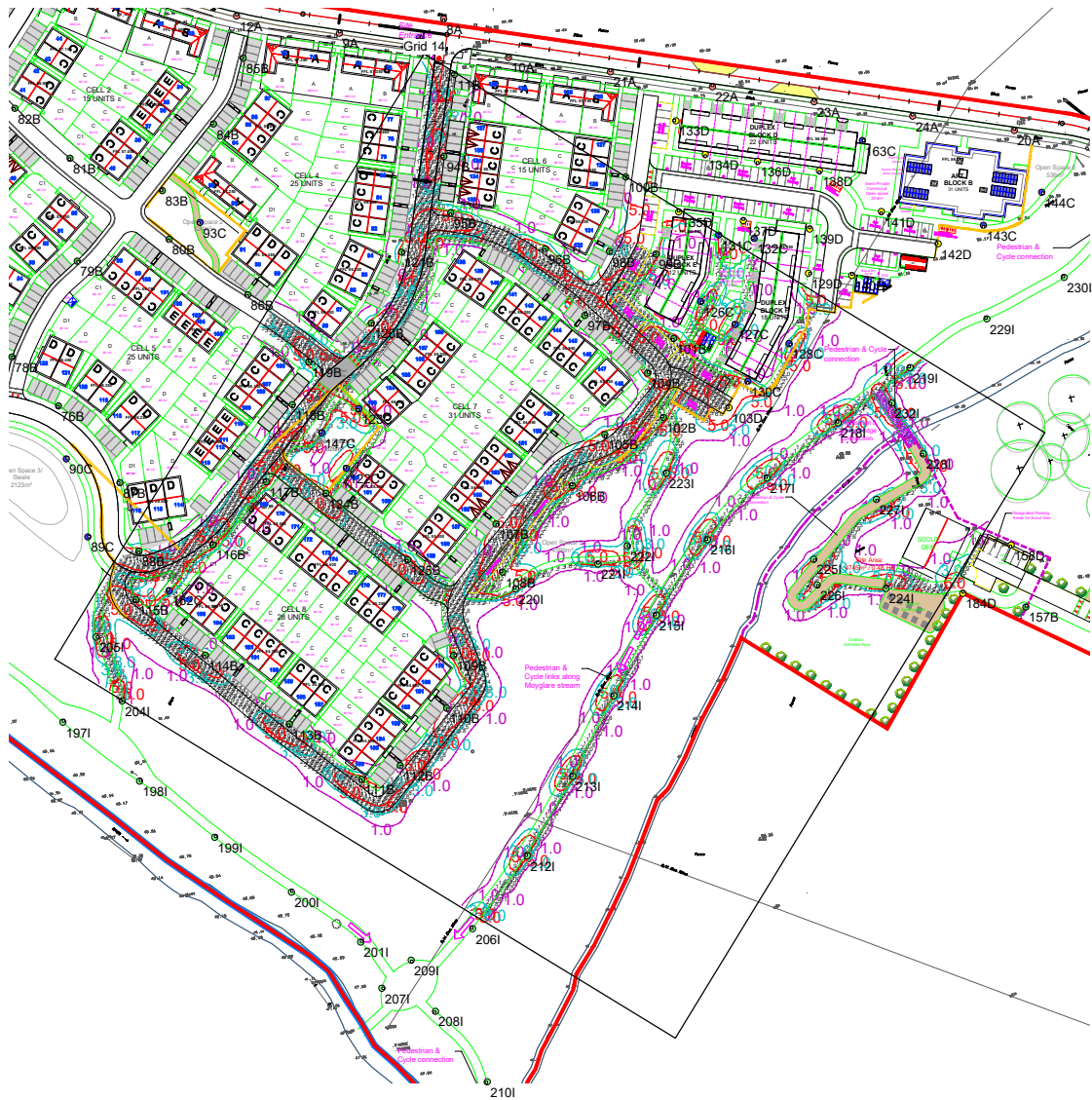


Results

| | |
|-----------|-------|
| Eav | 5.13 |
| Emin | 1.01 |
| Emax | 16.82 |
| Emin/Emax | 0.06 |
| Emin/Eav | 0.20 |
| | |

Horizontal Illuminance (lux)

Grid 14

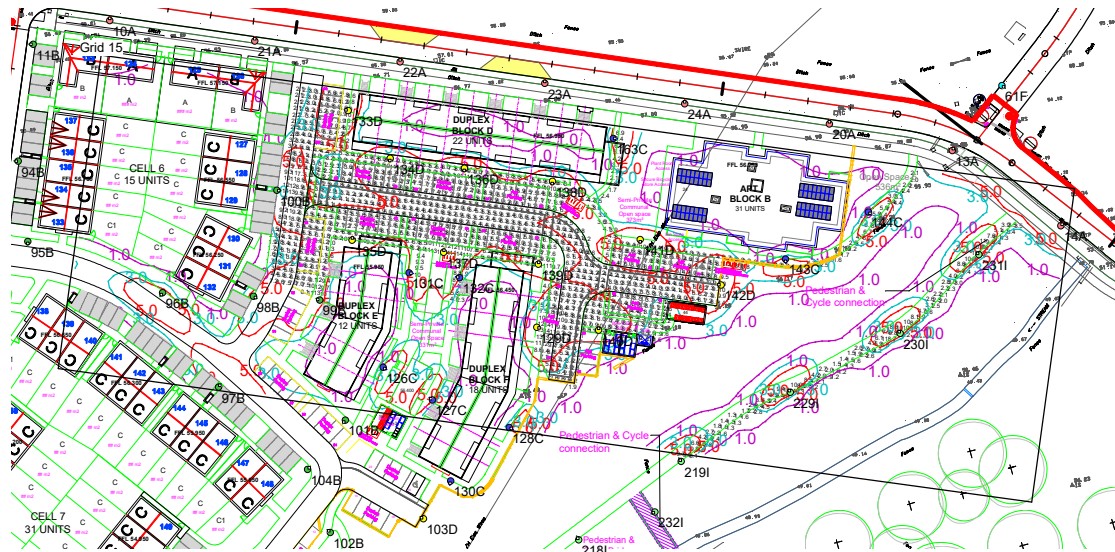


Results

| | |
|------------------------------------|-------|
| Eav | 5.52 |
| Emin | 1.08 |
| E _{max} | 15.62 |
| E _{min} /E _{max} | 0.07 |
| E _{min} /E _{av} | 0.20 |
| | |

Horizontal Illuminance (lux)

Grid 15

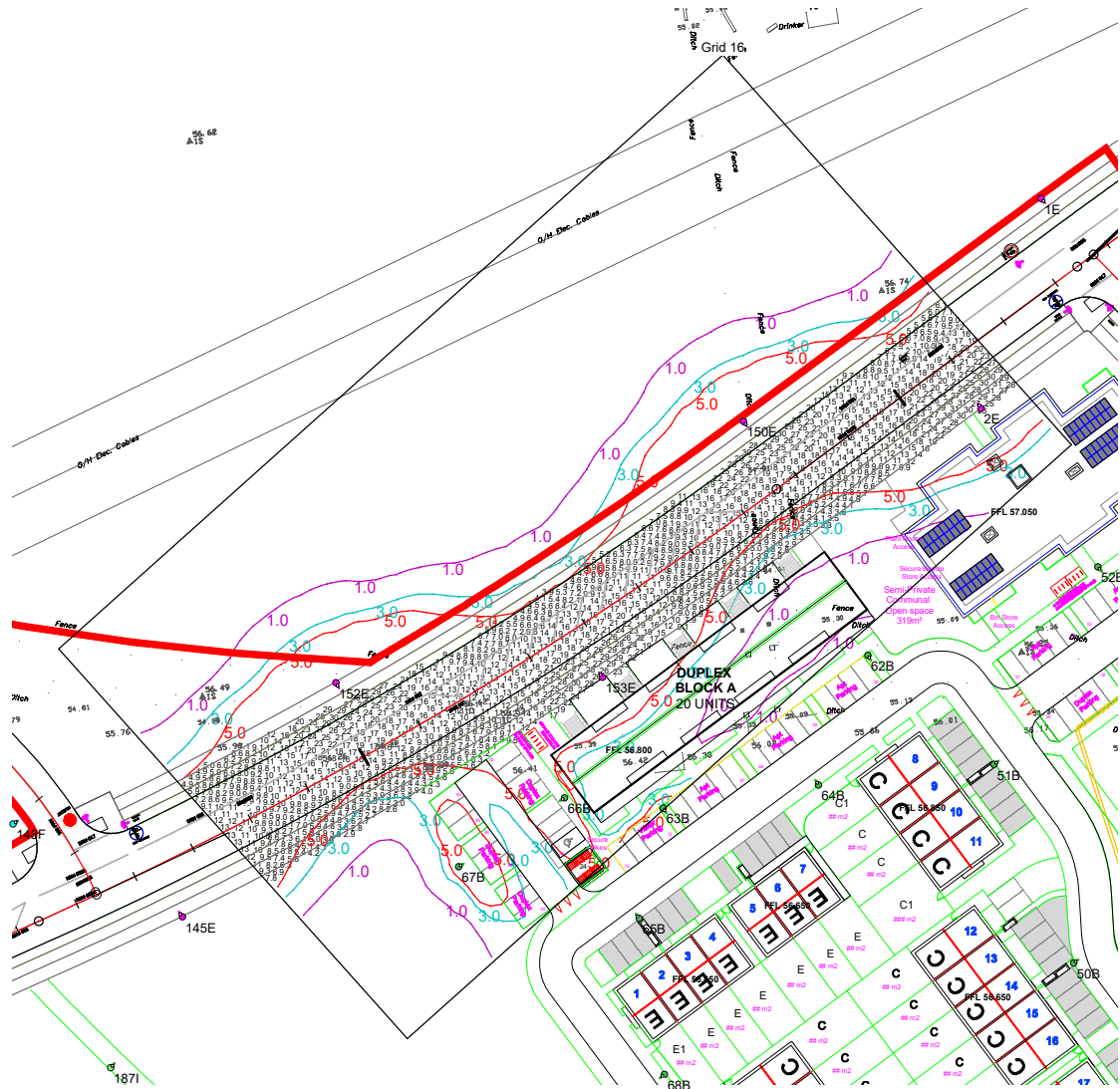


Results

| | |
|-----------|-------|
| Eav | 5.97 |
| Emin | 1.18 |
| Emax | 14.12 |
| Emin/Emax | 0.08 |
| Emin/Eav | 0.20 |
| | |

Horizontal Illuminance (lux)

Grid 16

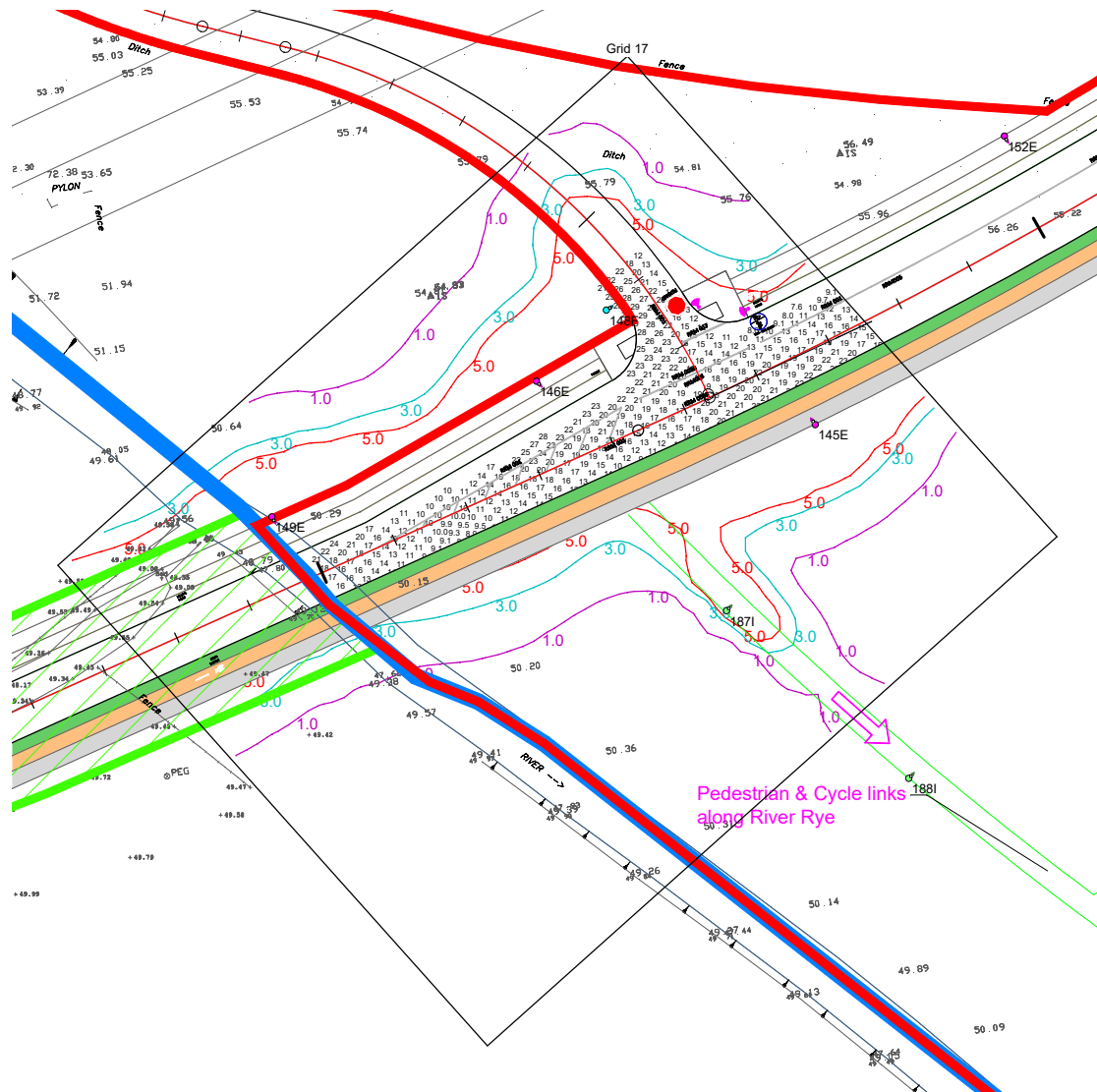


Results

| | |
|-----------|-------|
| Eav | 13.33 |
| Emin | 2.61 |
| Emax | 31.09 |
| Emin/Emax | 0.08 |
| Emin/Eav | 0.20 |
| | |

Horizontal Illuminance (lux)

Grid 17

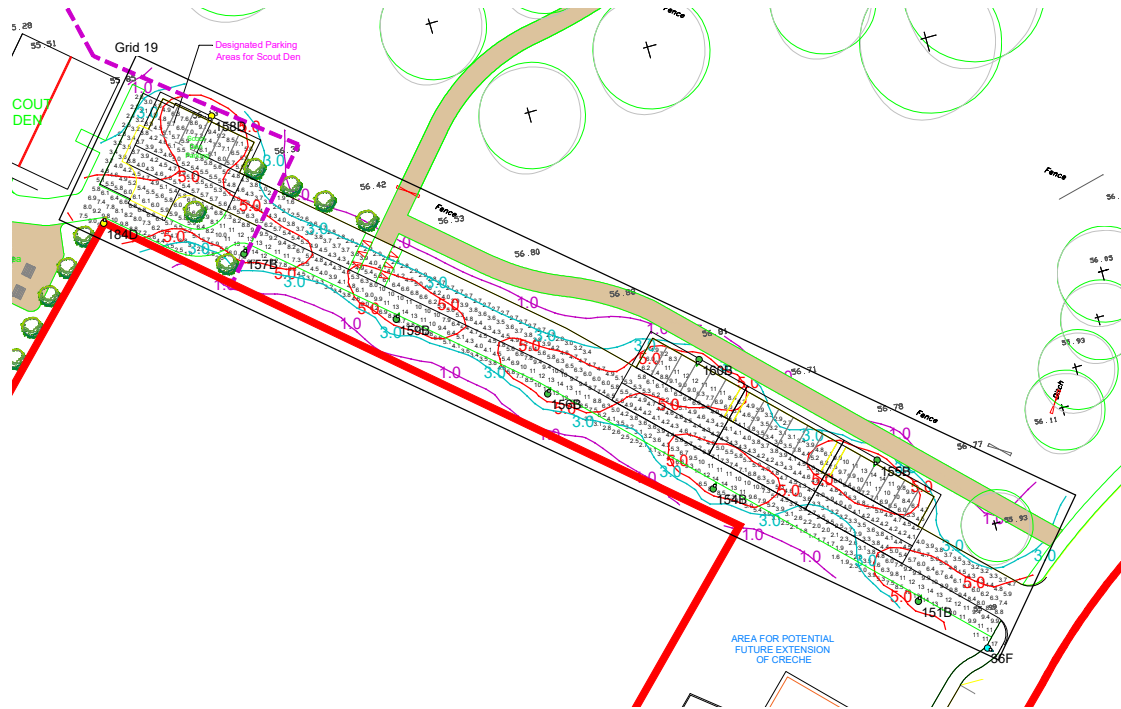


Results

| | |
|-----------|-------|
| Eav | 16.86 |
| Emin | 7.64 |
| Emax | 29.49 |
| Emin/Emax | 0.26 |
| Emin/Eav | 0.45 |
| | |

Horizontal Illuminance (lux)

Grid 19

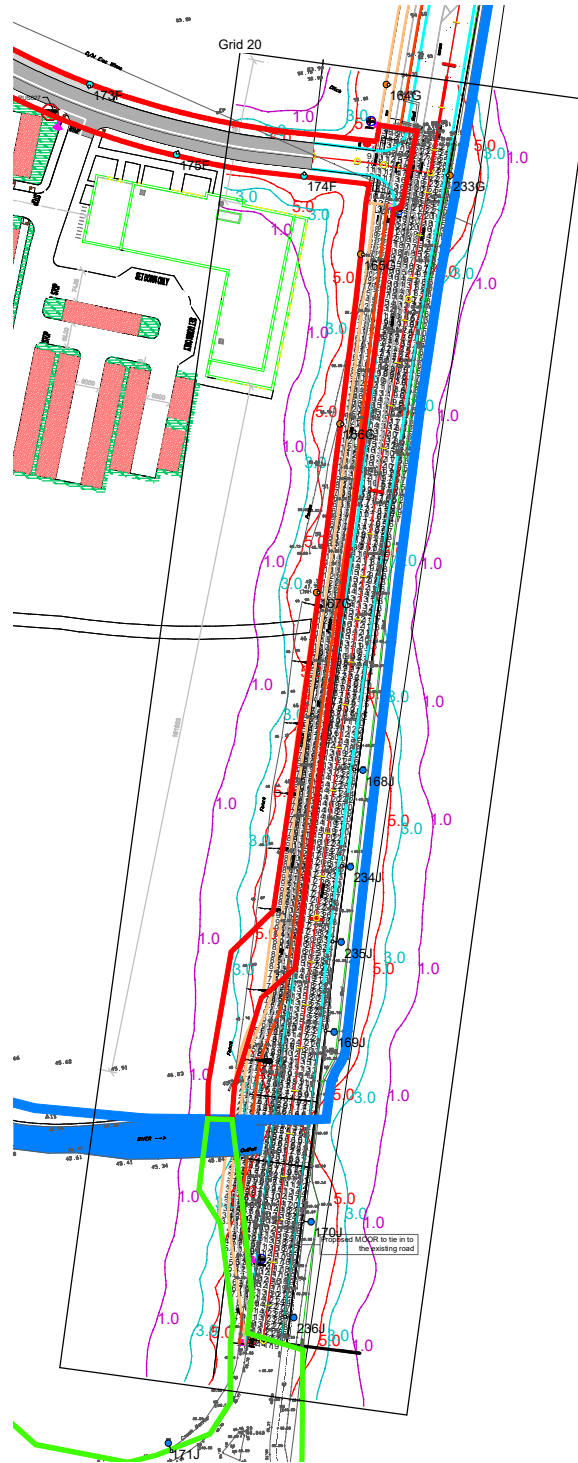


Results

| | |
|-----------|-------|
| Eav | 5.90 |
| Emin | 1.62 |
| Emax | 16.83 |
| Emin/Emax | 0.10 |
| Emin/Eav | 0.27 |
| | |

Horizontal Illuminance (lux)

Grid 20



Results

| | |
|-----------|-------|
| Eav | 12.57 |
| Emin | 2.48 |
| Emax | 33.97 |
| Emin/Emax | 0.07 |
| Emin/Eav | 0.20 |
| | |