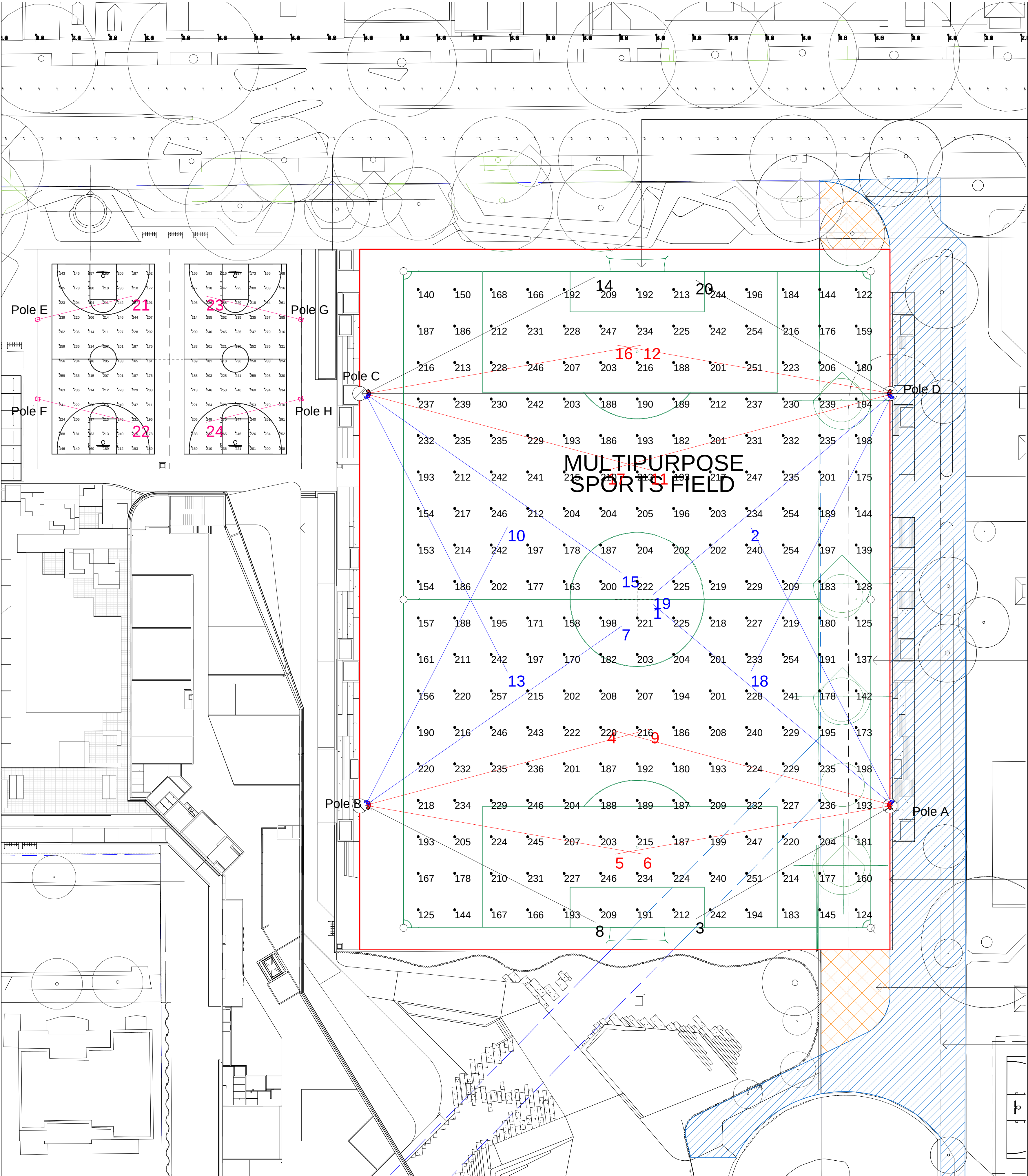




Semi-Professional level - Semi-Pro Competition (On A1)
Scale= 1: 300



Image File : Champion Pro 396



Image File : Champion Pro 264

Luminaire Schedule

Scene: All On

Symbol	Label	Qty	Description	Lum. Watts	Lumens/Lamp	LLF
	CP3 A60 757 GY	8	ChampionPro396L105-757 A60V2-Gmask	1380	84814	0.850
	CP3 A60 757	8	ChampionPro396L105-757 A60V2	1380	130393	0.850
	CP3 A60 757 BK	4	ChampionPro396L105-757 A60V2-Bmask	1380	77301	0.850
	CP2 A45 757	4	ChampionPro264L105-757 A45	920	98059	0.850

Calculation Summary

Scene: All On

Label	Description	Avg	Max	Min	Min/Avg	Min/Max
Basketball 1	Horizontal Illuminance on field at 0m from ffl	207.44	263	143	0.69	0.54
Basketball 2	Horizontal Illuminance on field at 0m from ffl	236.76	334	156	0.66	0.47
Sports Field	Horizontal Illuminance @ Ground Level	204.74	257	122	0.60	0.47
Ev Spill - Nth_Cd_Seg1	Vertical Spill Illuminance on Buckland St Residential Boundary	4522	8634	2605	0.58	0.30
Ev Spill - Nth_Ill_Seg1	Vertical Spill Illuminance on Buckland St Residential Boundary	3.37	7.8	0.4	0.12	0.05
TI_2	Threshold increment on Buckland St, heading east	0.89	2	0	0.00	0.00
TI_1	Threshold increment on Buckland St, heading west	1.45	3	0	0.00	0.00

Luminaire Location Summary

Scene: All On

LumNo	Label	Pole	X	Y	Z	X-Aimpt	Y-Aimpt	Orient	Tilt	Switched	Tilt
1	CP3 A60 757	A	35	-28.2	18	2.194	-0.672	140	12	On	67
2	CP3 A60 757	A	35	-28.2	18	15.558	9.958	117	12	On	67
3	CP3 A60 757 BK	A	35	-28.2	18	8	-43.788	210	5	On	60
4	CP3 A60 757 GY	A	35	-28.2	18	-4.051	-17.736	165	11	On	66
5	CP3 A60 757 GY	A	35	-28.2	18	-3.015	-34.903	190	10	On	65
6	CP3 A60 757 GY	B	-37.2	-28.2	18	0.815	-34.903	350	10	On	65
7	CP3 A60 757	B	-37.2	-28.2	18	-2.12	-3.636	35	12	On	67
8	CP3 A60 757 BK	B	-37.2	-28.2	18	-5.723	-44.238	333	8	On	63
9	CP3 A60 757 GY	B	-37.2	-28.2	18	1.851	-17.736	15	11	On	66
10	CP3 A60 757	B	-37.2	-28.2	18	-17.758	9.958	63	12	On	67
11	CP3 A60 757 GY	C	-37.2	28.2	18	1.851	17.736	345	11	On	66
12	CP3 A60 757 GY	C	-37.2	28.2	18	0.815	34.903	10	10	On	65
13	CP3 A60 757	C	-37.2	28.2	18	-17.758	-9.958	297	12	On	67
14	CP3 A60 757 BK	C	-37.2	28.2	18	-5.723	44.238	27	8	On	63
15	CP3 A60 757	C	-37.2	28.2	18	-2.12	3.636	325	12	On	67
16	CP3 A60 757 GY	D	35	28.2	18	-3.015	34.903	170	10	On	65
17	CP3 A60 757 GY	D	35	28.2	18	-4.051	17.736	195	11	On	66
18	CP3 A60 757	D	35	28.2	18	15.558	-9.958	243	12	On	67
19	CP3 A60 757	D	35	28.2	18	2.194	0.672	220	12	On	67
20	CP3 A60 757 BK	D	35	28.2	18	8	43.788	150	5	On	60
21	CP2 A45 757	E	-82.201	38.352	12	-69.166	41.58	13.908	5	On	48
22	CP2 A45 757	F	-82.201	27.508	12	-69.166	24.28	346.092	5	On	48
23	CP2 A45 757	G	-46.005	38.352	12	-59.04	41.58	166.092	5	On	48
24	CP2 A45 757	H	-46.005	27.508	12	-59.04	24.28	193.908	5	On	48

Total Quantity: 24

Obtrusive Light - Compliance Report

AS/NZS 4282:2019, A3 - Medium District Brightness, Non-Curlew L1
Filename: 7427-1b
6/11/2019 1:27:36 PM

Illuminance

Maximum Allowable Value: 10 Lux

Calculations Tested (1):

Calculation Label	Test Results	Max. Illum.
Ev Spill - Nth_Ill_Seg1	PASS	7.8

Luminous Intensity (Cd) At Vertical Planes

Maximum Allowable Value: 12500 Cd

Calculations Tested (1):

Calculation Label	Test Results
Ev Spill - Nth_Cd_Seg1	PASS

Threshold Increment (TI)

Maximum Allowable Value: 20 %

Calculations Tested (2):

Calculation Label	Adaptation Test Luminaire Results
TI_1	1 PASS
TI_2	1 PASS

Upward Waste Light Ratio (UWLR)

Maximum Allowable Value: 2.0 %

Calculated UWLR:	0.2 %
Test Results:	PASS

LLF 0.85

Obtrusive Light - Compliance Report

AS/NZS 4282:2019, A3 - Medium District Brightness, Non-Curlew L1
Filename: 7427-1b
6/11/2019 1:22:09 PM

Illuminance

Maximum Allowable Value: 10 Lux

Calculations Tested (1):

Calculation Label	Test Results	Max. Illum.
Ev Spill - Nth_Ill_Seg1	PASS	9.2

Luminous Intensity (Cd) At Vertical Planes

Maximum Allowable Value: 12500 Cd

Calculations Tested (1):

Calculation Label	Test Results
Ev Spill - Nth_Cd_Seg1	PASS

Threshold Increment (TI)

Maximum Allowable Value: 20 %

Calculations Tested (2):

Calculation Label	Adaptation Test Luminaire Results
TI_1	1 PASS
TI_2	1 PASS

Upward Waste Light Ratio (UWLR)

Maximum Allowable Value: 2.0 %

Calculated UWLR:	0.2 %
Test Results:	PASS

LLF 1

Note:

1. This design is compliant with the requirements of Australian Standards AS2560.2.3-2007 'Lighting of Football' Semi-Pro level - Semi-Pro Comp, however it should be taken as provisional on as all dimension, pole locations and heights must be confirmed before installation.

2. An assessment of the floodlight system in accordance with the requirements of AS/NZS 4282-2019 'The obtrusive effect of outdoor lighting' has been performed and the system is fully compliant for non-curlew Lvl 1, A3 Zone.

3. The pole heights specified in this design proposal should be taken as notional and are taken as the vertical distance from the base of the pole to the top cross-arm and assumes that the base is at the same relative height as the centre of the field. They therefore do not take into consideration the topography of the site. An analysis of the site topography should be taken into account when determining the actual required heights of each poles.

zumtobel group

2/7 Millner Ave, Horsley Park NSW 2175

Project: Alexandria Park Community School
(All On)

Client: Pro Electrical

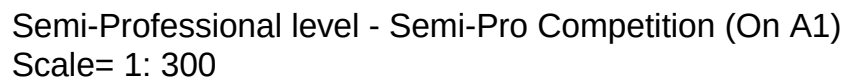
Page 1 of 1

Project No: 7427	PT/Quote No: 2015062	Date: 6/11/2019
Drawing No: 7427-1b	Lighting Engineer: C.A.	
Revision No: 2	File: 7427-1b.AGI	

THORN

zumtobel

BEGA



Calculation Summary						
Scene: Basketball						
Label	Description	Avg	Max	Min	Min/Avg	Min/Max
Basketball 1	Horizontal Illuminance on field at 0m from ffl	203.01	260	142	0.70	0.55
Basketball 2	Horizontal Illuminance on field at 0m from ffl	203.08	261	142	0.70	0.54
Sports Field	Horizontal Illuminance @ Ground Level	0.90	21	0	0.00	0.00
Ev Spill - Nth_Cd_Seg1	Vertical Spill Illuminance on Buckland St Residential Boundary	1828	3970	379	0.21	0.10
Ev Spill - Nth_Ill_Seg1	Vertical Spill Illuminance on Buckland St Residential Boundary	0.67	2.8	0.0	0.00	0.00
Tl_2	Threshold Increment on Buckland St, heading east	0.20	1	0	0.00	0.00
Tl_1	Threshold Increment on Buckland St, heading west	0.73	1	0	0.00	0.00

Obtrusive Light - Compliance Report			
AS/NZS 4282 2019, A3 - Medium District Brightness, Non-Curfew L1			
Filename: 7427-1b			
6/11/2019 1:27:36 PM			
Illuminance			
Maximum Allowable Value: 10 Lux			
Calculations Tested (1):			
Calculation Label	Test Results	Max Illum	
Ev Spill - Nth_IL_Seg1	PASS	7.8	
Luminous Intensity (Cd) At Vertical Planes			
Maximum Allowable Value: 12500 Cd			
Calculations Tested (1):			
Calculation Label	Test Results		
Ev Spill - Nth_Cd_Seg1	PASS		
Threshold Increment (TI)			
Maximum Allowable Value: 20 %			
Calculations Tested (2):			
Calculation Label	Adaptation Luminance	Test Results	
TI_1	1	PASS	
TI_2	1	PASS	
Upward Waste Light Ratio (UWLR)			
Maximum Allowable Value: 2.0 %			
Calculated UWLR:	0.2 %		
Test Results:	PASS		

Note:

2. An assessment of the floodlight system in accordance with the requirements of AS/NZS 4282-2019 'The obtrusive effect of outdoor lighting' has been performed and the system is fully compliant for non-curfew Lvl 1, A3 Zone.

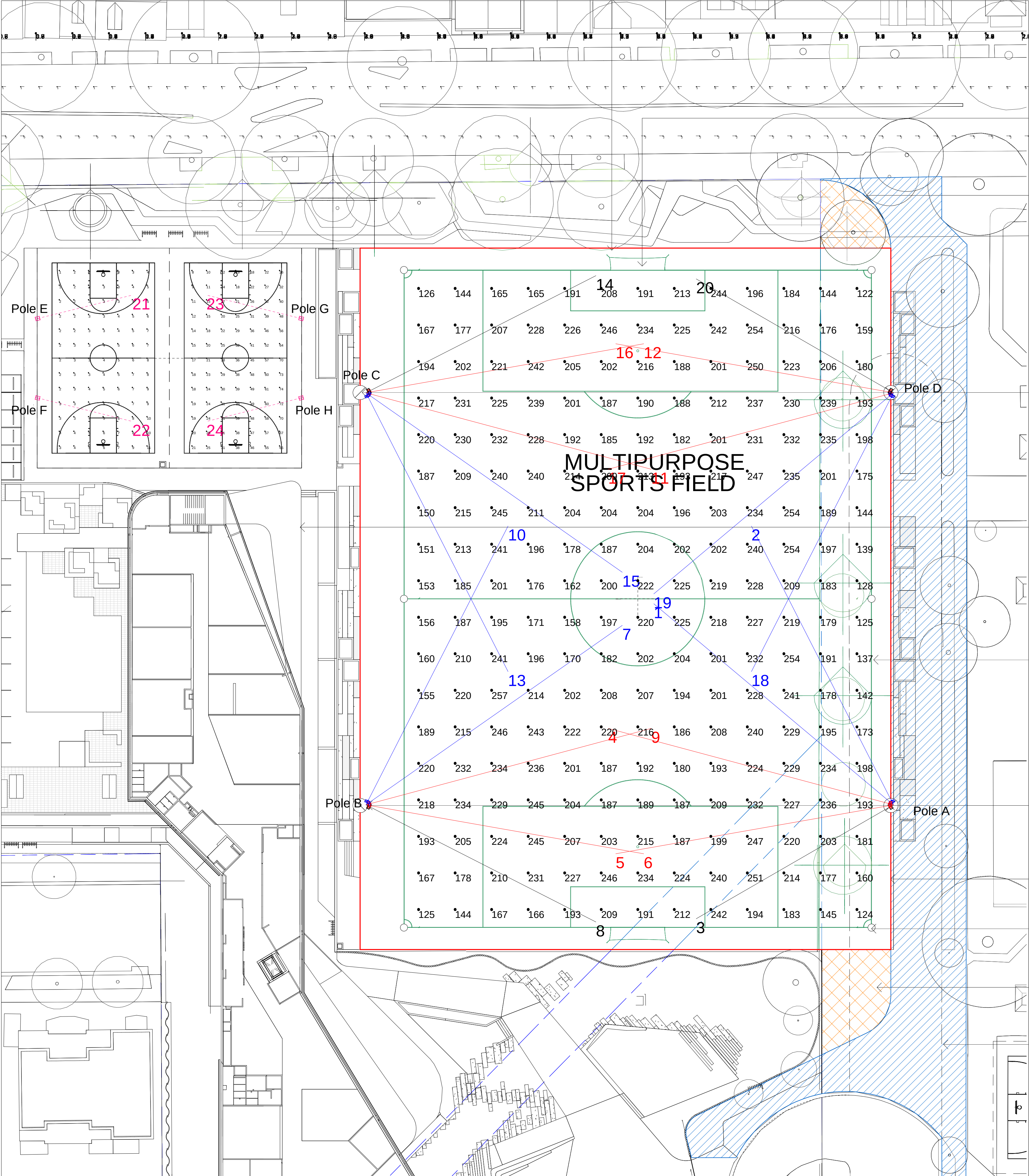
Obtrusive Light - Compliance Report			
AS/NZS 4282:2019, A3 - Medium Distinct Brightness, Non-Curfew L1			
Filename: 7427-1b			
6/11/2019 1:22:09 PM			
Illuminance			
Maximum Allowable Value: 10 Lux			
Calculations Tested (1):			
Calculation Label	Test	Result	Max. Illum.
Ev_Spill - Nth_III_Seg1	PASS		9.2
Luminous Intensity (Cd) At Vertical Planes			
Maximum Allowable Value: 12500 Cd			
Calculations Tested (1):			
Calculation Label	Test	Result	
Ev_Spill - Nth_Cd_Seg1	PASS		
Threshold Increment (TI)			
Maximum Allowable Value: 20 %			
Calculations Tested (2):			
Calculation Label	Adaptation	Test Luminance	Results
TI_1	1	PASS	
TI_2	1	PASS	
Upward Waste Light Ratio (UWLR)			
Maximum Allowable Value: 2.0 %			
Calculated UWLR:	0.2 %		
Test Results:	PASS		

zumtobel group

Project: **Alexandria Park Community School**
(Basketball-200Lux)

Page 1 of 1

THORN	ZUMTOBEL	BEGA
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Semi-Professional level - Semi-Pro Competition (On A1)
Scale= 1: 300



Image File : Champion Pro 396



Image File : Champion Pro 264

Luminaire Schedule

Scene: Sportsfield

Symbol	Label	Qty	Description	Lum. Watts	Lumens/Lamp	LLF
	CP3 A60 757 GY	8	ChampionPro396L105-757 A60V2-Gmask	1380	84814	0.850
	CP3 A60 757	8	ChampionPro396L105-757 A60V2	1380	130393	0.850
	CP3 A60 757 BK	4	ChampionPro396L105-757 A60V2-Bmask	1380	77301	0.850
	CP2 A45 757	4	ChampionPro264L105-757 A45	920	98059	0.850

Calculation Summary

Scene: Sportsfield

Label	Description	Avg	Max	Min	Min/Avg	Min/Max
Basketball 1	Horizontal Illuminance on field at 0m from ffl	4.42	11	1	0.23	0.09
Basketball 2	Horizontal Illuminance on field at 0m from ffl	33.75	74	8	0.24	0.11
Sports Field	Horizontal Illuminance @ Ground Level	203.74	257	122	0.60	0.47
Ev Spill - Nth_Cd_Seg1	Vertical Spill Illuminance on Buckland St Residential Boundary	4521	8633	2605	0.58	0.30
Ev Spill - Nth_Ill_Seg1	Vertical Spill Illuminance on Buckland St Residential Boundary	2.69	7.5	0.3	0.11	0.04
TI_2	Threshold increment on Buckland St, heading east	0.73	1	0	0.00	0.00
TI_1	Threshold increment on Buckland St, heading west	0.79	2	0	0.00	0.00

Luminaire Location Summary

Scene: Sportsfield

LumNo	Label	Pole	X	Y	Z	X-Aimpt	Y-Aimpt	Orient	Tilt	Switched	Tilt
1	CP3 A60 757	A	35	-28.2	18	2.194	-0.672	140	12	On	67
2	CP3 A60 757	A	35	-28.2	18	15.558	9.958	117	12	On	67
3	CP3 A60 757 BK	A	35	-28.2	18	8	-43.788	210	5	On	60
4	CP3 A60 757 GY	A	35	-28.2	18	-4.051	-17.736	165	11	On	66
5	CP3 A60 757 GY	A	35	-28.2	18	-3.015	-34.903	190	10	On	65
6	CP3 A60 757 GY	B	-37.2	-28.2	18	0.815	-34.903	350	10	On	65
7	CP3 A60 757	B	-37.2	-28.2	18	-2.12	-3.636	35	12	On	67
8	CP3 A60 757 BK	B	-37.2	-28.2	18	-5.723	-44.238	333	8	On	63
9	CP3 A60 757 GY	B	-37.2	-28.2	18	1.851	-17.736	15	11	On	66
10	CP3 A60 757	B	-37.2	-28.2	18	-17.758	9.958	63	12	On	67
11	CP3 A60 757 GY	C	-37.2	28.2	18	1.851	17.736	345	11	On	66
12	CP3 A60 757 GY	C	-37.2	28.2	18	0.815	34.903	10	10	On	65
13	CP3 A60 757	C	-37.2	28.2	18	-17.758	-9.958	297	12	On	67
14	CP3 A60 757 BK	C	-37.2	28.2	18	-5.723	44.238	27	8	On	63
15	CP3 A60 757	C	-37.2	28.2	18	-2.12	3.636	325	12	On	67
16	CP3 A60 757 GY	D	35	28.2	18	-3.015	34.903	170	10	On	65
17	CP3 A60 757 GY	D	35	28.2	18	-4.051	17.736	195	11	On	66
18	CP3 A60 757	D	35	28.2	18	15.558	-9.958	243	12	On	67
19	CP3 A60 757	D	35	28.2	18	2.194	0.672	220	12	On	67
20	CP3 A60 757 BK	D	35	28.2	18	8	43.788	150	5	On	60
21	CP2 A45 757	E	-82.201	38.352	12	-69.166	41.58	13.908	5	Off	48
22	CP2 A45 757	F	-82.201	27.508	12	-69.166	24.28	346.092	5	Off	48
23	CP2 A45 757	G	-46.005	38.352	12	-59.04	41.58	166.092	5	Off	48
24	CP2 A45 757	H	-46.005	27.508	12	-59.04	24.28	193.908	5	Off	48

Total Quantity: 24

Obtrusive Light - Compliance Report

AS/NZS 4282:2019, A3 - Medium District Brightness, Non-Curlew L1
Filename: 7427-1b
6/11/2019 1:27:36 PM

Illuminance

Maximum Allowable Value: 10 Lux

Calculations Tested (1):

Calculation Label	Test Results	Max. Illum.
Ev Spill - Nth_Ill_Seg1	PASS	7.8

Luminous Intensity (Cd) At Vertical Planes

Maximum Allowable Value: 12500 Cd

Calculations Tested (1):

Calculation Label	Test Results
Ev Spill - Nth_Cd_Seg1	PASS

Threshold Increment (TI)

Maximum Allowable Value: 20 %

Calculations Tested (2):

Calculation Label	Adaptation Test Lumiance Results
TI_1	1 PASS
TI_2	1 PASS

Upward Waste Light Ratio (UWLR)

Maximum Allowable Value: 2.0 %

Calculated UWLR:	0.2 %
Test Results:	PASS

LLF 0.85

Obtrusive Light - Compliance Report

AS/NZS 4282:2019, A3 - Medium District Brightness, Non-Curlew L1
Filename: 7427-1b
6/11/2019 1:22:09 PM

Illuminance

Maximum Allowable Value: 10 Lux

Calculations Tested (1):

Calculation Label	Test Results	Max. Illum.
Ev Spill - Nth_Ill_Seg1	PASS	9.2

Luminous Intensity (Cd) At Vertical Planes

Maximum Allowable Value: 12500 Cd

Calculations Tested (1):

Calculation Label	Test Results
Ev Spill - Nth_Cd_Seg1	PASS

Threshold Increment (TI)

Maximum Allowable Value: 20 %

Calculations Tested (2):

Calculation Label	Adaptation Test Lumiance Results
TI_1	1 PASS
TI_2	1 PASS

Upward Waste Light Ratio (UWLR)

Maximum Allowable Value: 2.0 %

Calculated UWLR:	0.2 %
Test Results:	PASS

LLF 1

Note:

1. This design is compliant with the requirements of Australian Standards AS2560.2.3-2007 'Lighting of Football' Semi-Pro level - Semi-Pro Comp, however it should be taken as provisional on as all dimension, pole locations and heights must be confirmed before installation.

2. An assessment of the floodlight system in accordance with the requirements of AS/NZS 4282-2019 'The obtrusive effect of outdoor lighting' has been performed and the system is fully compliant for non-curlew Lvl 1, A3 Zone.

3. The pole heights specified in this design proposal should be taken as notional and are taken as the vertical distance from the base of the pole to the top cross-arm and assumes that the base is at the same relative height as the centre of the field. They therefore do not take into consideration the topography of the site. An analysis of the site topography should be taken into account when determining the actual required heights of each poles.

zumtobel group

2/7 Millner Ave, Horsley Park NSW 2175

Project: Alexandria Park Community School
(Sportsfield-200Lux)

Client: Pro Electrical

Page 1 of 1

Project No: 7427	PT/Quote No: 2015062	Date: 6/11/2019
Drawing No: 7427-1b	Lighting Engineer: C.A.	
Revision No: 2	File: 7427-1b.AGI	

THORN

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BEGA