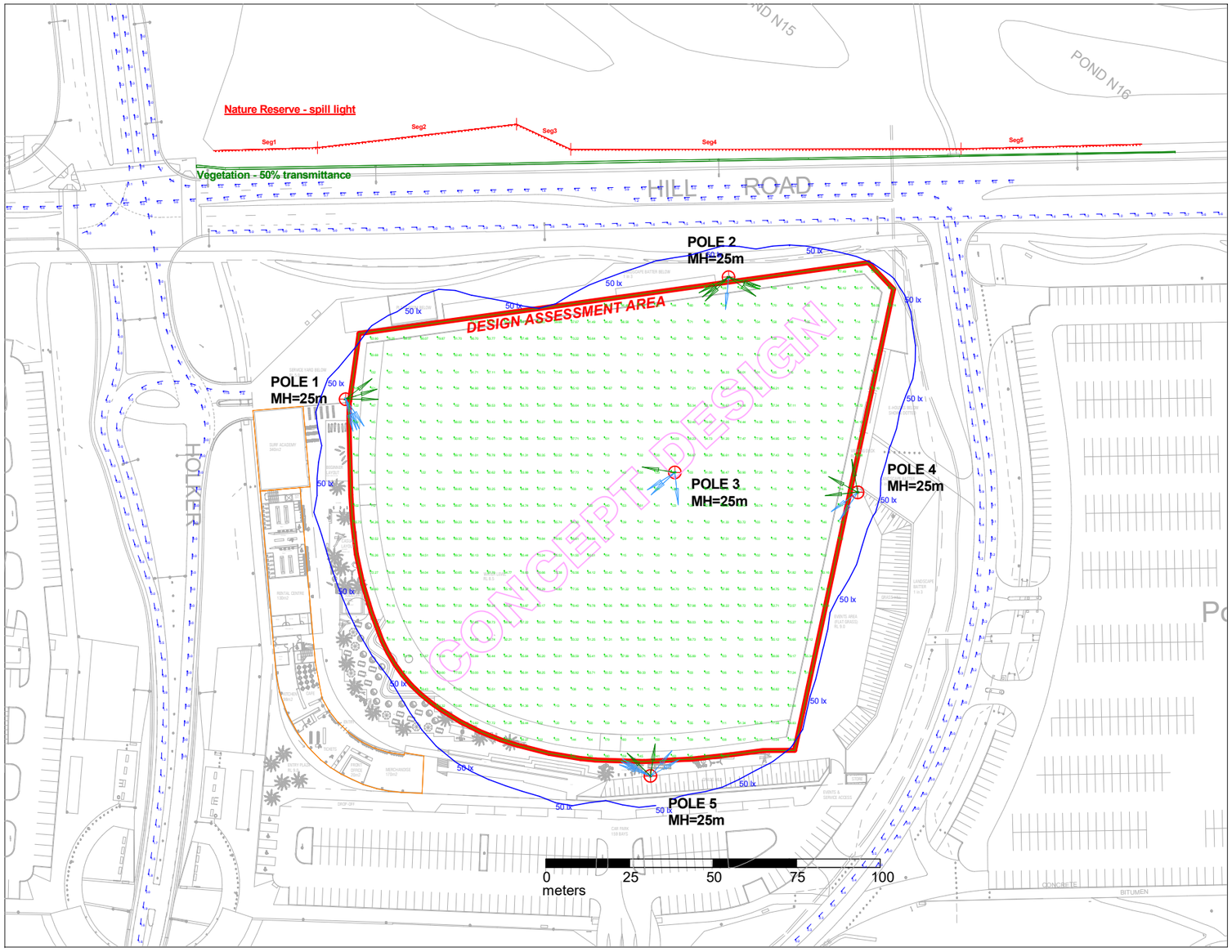

THIS DESIGN HAS NOT BEEN ACHIEVED TO MEET THE REQUIREMENTS OF ANY AUSTRALIAN SPORT LIGHTING STANDARD.

THIS DESIGN HAS BEEN PRODUCED AS PER THE REQUESTS OF THE CLIENT. THE CLIENT REQUESTED A MINIMUM HORIZONTAL POINT ILLUMINANCE AT GROUND LEVEL OF Eph=50lx (surf lagoon only).

Luminaire Schedule

Project: Floods

Symbol	Qty	Label	Arrangement	LLF	Description	Total Watts	Lum. Lumens	Arm	CIE Type	IES Class
	15	Ra3	SINGLE	0.800	SR4H840A2 4000K CRI80 Flat Glass	19200	113956	0	Direct	Type III
	15	Ra3b	SINGLE	0.800	SR4H840A2 with Baffle	19186.5	107018	0	Direct	Type III

Design Notes

For further calculations or details please consult your GPS representative.

A maintenance factor of 0.8 has been applied to all IP6x luminaires. A maintenance policy should be adopted to support the maintenance factor of 0.80.

Mounting height MH - refers to the height above the pool surface from the luminaire.

Obstructions such as fences HAVE NOT BEEN INCLUDED in this lighting calculation.

AS4282 1997 - "Control of the obtrusive effects of outdoor lighting"
LIGHT TECHNICAL PARAMETERS - Pre-curfew hours
-> Ev Residential Areas - 10 lux maximum
-> Luminous Intensity Emitted - Level 2 control
-> Threshold Increment - 20% maximum

DESIGN ASSESSMENT - Street lights & floods SWITCHED ON
Vertical spill illuminance has been calculated on the boundaries as shown from 0m to 25m above ground level (1 x 1m increment grid). The maximum calculated vertical illuminance with floods switched on is 0.5lux maintained (0.625lux initial).

The maximum luminous intensity emitted per luminaire has been assessed using a large controlling dimension of >75 metres.
The maximum elevation used in the design results in a maximum luminous intensity within Level 2 control limits.

Threshold increment has been calculated on the roadways.
The maximum TI calculated is 11.6% based on an assumed roadway adaptation luminance of 1.0 cd/m2.

This represents a CONCEPT DESIGN ONLY; site and pole locations must be confirmed prior to installation.

ASSUMPTIONS:
Vegetation on Hill Rd (North boundary) has been included in the lighting design using a 50% transmittance factor.

Rev:	Date:	Comment:	By:	Chkd:	Appd:
Rev3	08.03.2017	Revised design based on clients request.	AP		
Rev2	07.03.2017	Revised design based on clients request.	AP		
Rev1	02.02.2017	Changed pole height, location & lux level.	AP		

GERARD LIGHTING
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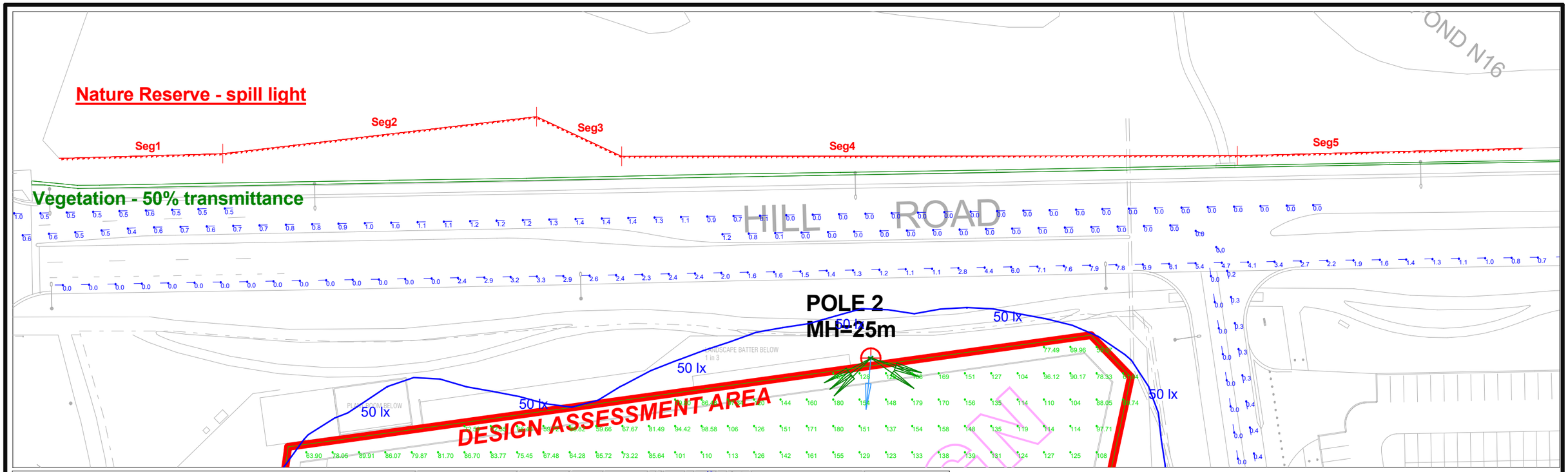
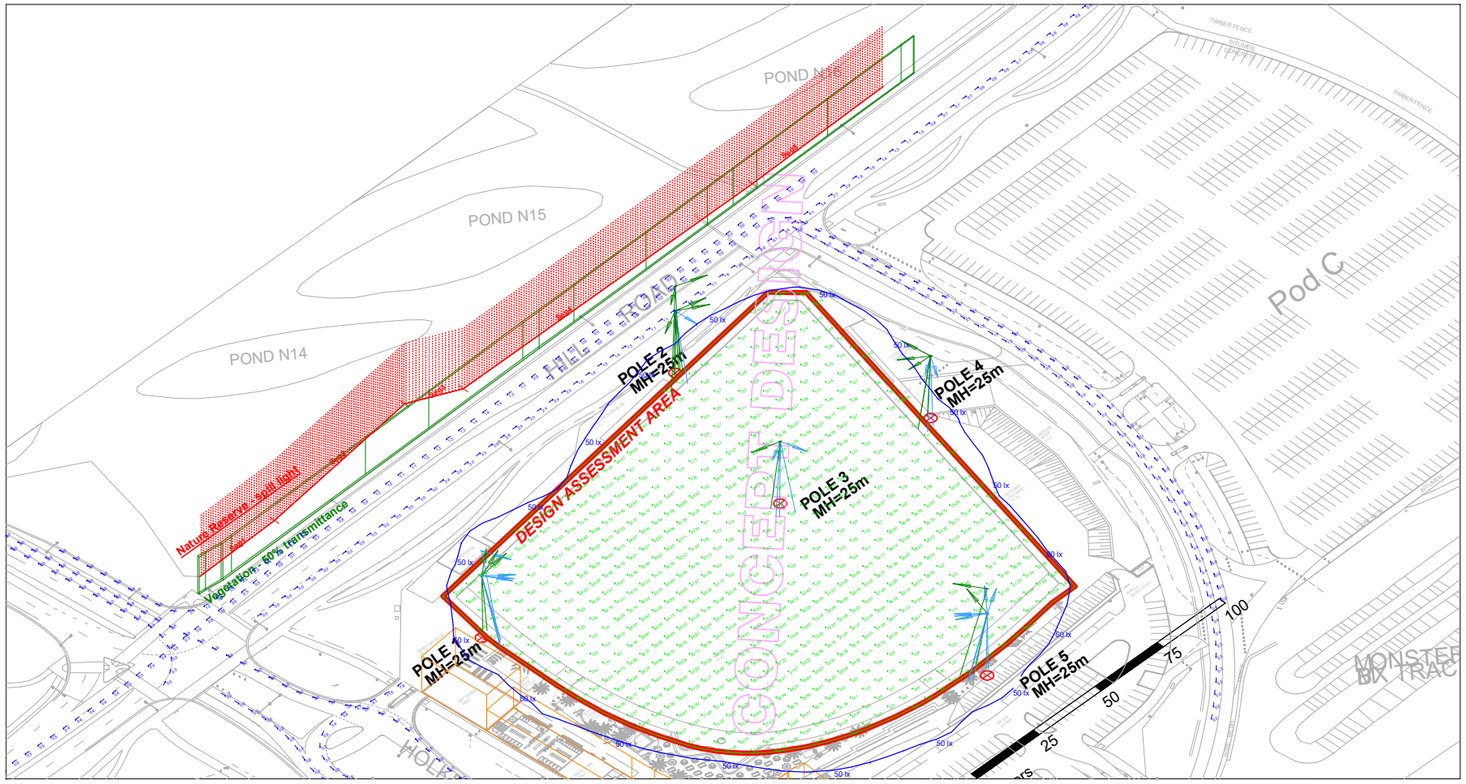
Ph: 1300-799-300

Project: URBNSURF Sydney		Rev: 3	Scale: 1:1500 / A3
Title: 50lux min MH=25m	Designer: AP	Date: 3/9/2017	Page No: Page 1 of 2
Client: WAVEPARK Group	Document No: 0149771Rev3 - URBNSURF Sydney - concept lighting des		





Calculation Summary							
Project: Grids							
Label	CalcType	Units	Avg	Max	Min	Min/Avg	Min/Max
Pool - Eh @ 0m GL	Illuminance	Lux	102.31	181	56.19	0.55	0.31

Calculation Summary			
Project: Spill & TI			
Label	CalcType	Units	Max
Spill - nature reserve_Ill_Seg1	Obtrusive Ligh	Lux	0.2
Spill - nature reserve_Ill_Seg2	Obtrusive Ligh	Lux	0.3
Spill - nature reserve_Ill_Seg3	Obtrusive Ligh	Lux	0.2
Spill - nature reserve_Ill_Seg4	Obtrusive Ligh	Lux	0.5
Spill - nature reserve_Ill_Seg5	Obtrusive Ligh	Lux	0.1
TI - Car park access rd 1	Obtrusive Ligh	%	1.2
TI - Car park access rd 2	Obtrusive Ligh	%	2.3
TI - Hill Rd 1	Obtrusive Ligh	%	1.4
TI - Hill Rd 2	Obtrusive Ligh	%	7.9
TI - Holker Busway 1	Obtrusive Ligh	%	0.6
TI - Holker Busway 2	Obtrusive Ligh	%	3.7
TI - Holker Busway 3	Obtrusive Ligh	%	0.4
TI - Holker Busway 4	Obtrusive Ligh	%	2.0
TI - Holker Busway 5	Obtrusive Ligh	%	11.6

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Project: URBNSURF Sydney		**Rev:** 3	**Scale:** NTS
Title: 50lux min MH=25m	**Designer:** AP	**Date:** 3/9/2017	**Page No:** Page 2 of 2
Client: WAVEPARK Group	**Document No:** 0149771Rev3 - URBNSURF Sydney - concept lighting des		