

CROMER HIGH SCHOOL SPORTS FIELD LIGHTING

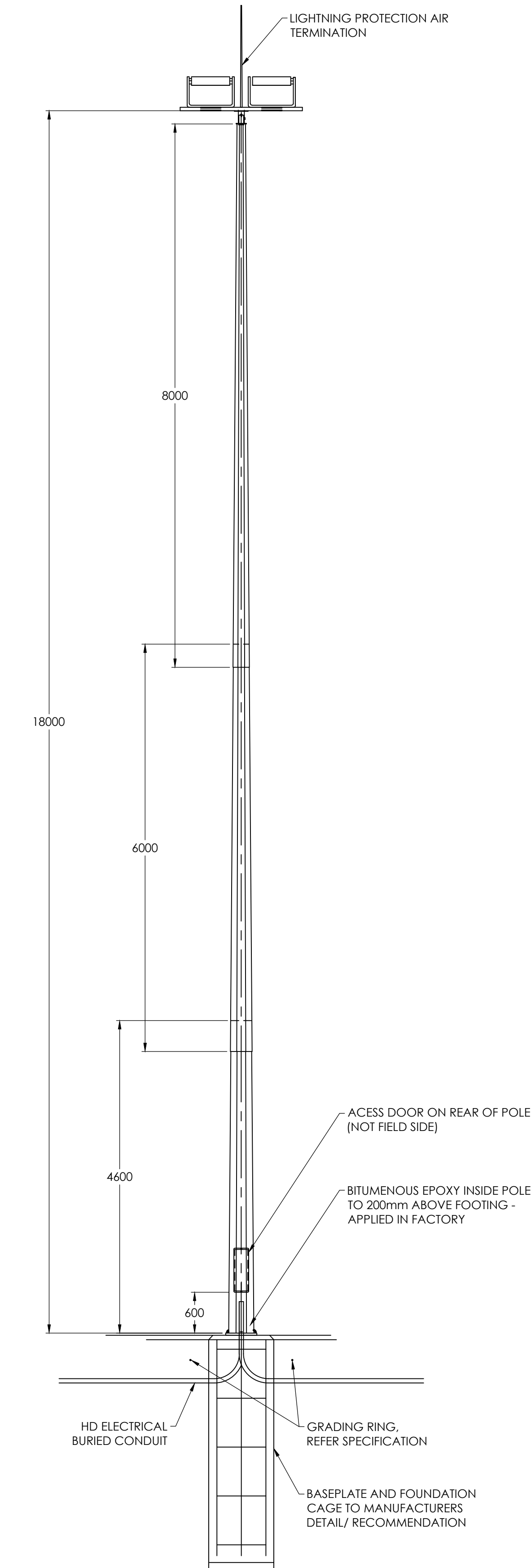
LIGHTING LEGEND

SYMBOL	DESCRIPTION	HOUSING/COLOUR	REFLECTOR	LAMP	CONTROL GEAR	SUPPLIER	PRODUCT No.
 FL1	IP66, LED FLOODLIGHT MOUNTED AT 18.0m ON SPORTS TAPERED OCTAGONAL POLE BY INGAL.	RAL 9006 LUMINAIRE GALVANIZED POLE	ASYMMETRIC NARROW BEAM + BL	1420W LED 153203 lm 5700K	DALI DIMMING ELECTRONIC CONTROL GEAR	APEX LIGHTING / PHILIPS + INGAL EPS POLES	PHILIPS OPTIVISION LED GEN3.5 8VP528 LED2130 757 OUT T30 50K A35-N8 +BL 35 - DALI
	HORIZONTAL LUMINAIRE AIMING VECTOR	-	-	-	-	-	-

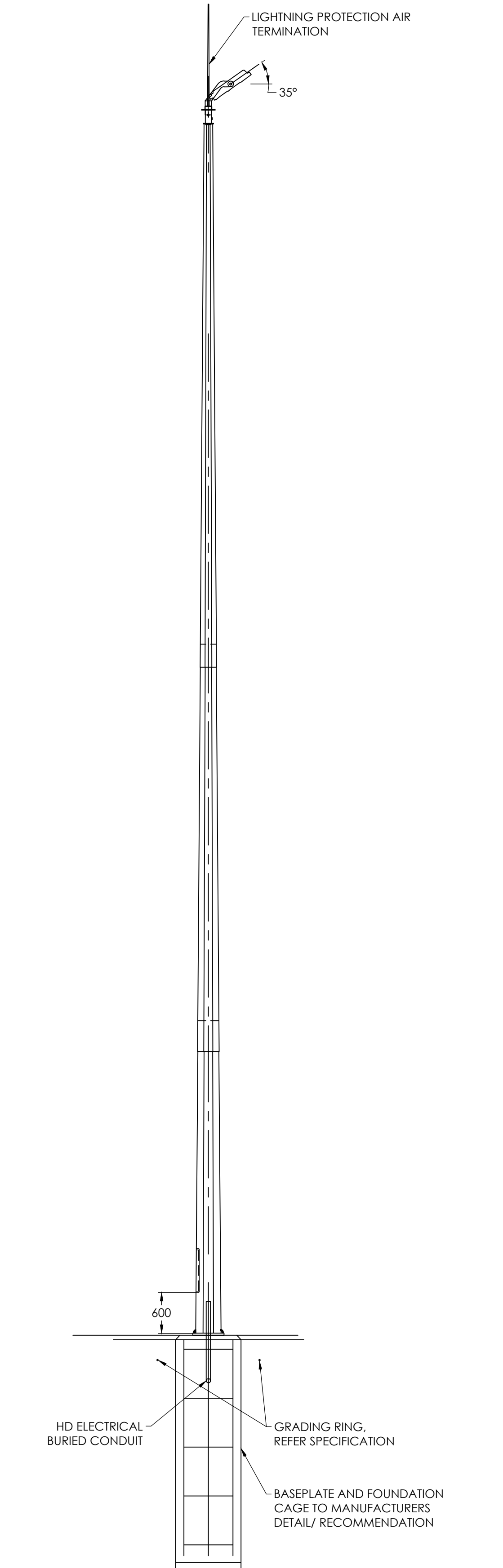
DRAWING LIST

CL-100	LEGEND, DRAWING LIST AND POLE ELEVATION
CL-101	SPORTS LIGHTING CALCULATION RESULTS - ILLUMINANCE - 100 lx AVERAGE
CL-102	SPORTS LIGHTING CALCULATION RESULTS - GLARE RATING
CL-103	SPORTS LIGHTING CALCULATION RESULTS - OBTRUSIVE LIGHTING ASSESSMENT

SPORTS POLE NUMBER	FLOOD LIGHT NUMBER	50 lx AVERAGE	100 lx AVERAGE	MOUNTING HEIGHT (m)	TILT °
POLE 1	FLOOD LIGHT 1	ON (DIM 50%)	ON (100%)	18	35°
	FLOOD LIGHT 2	ON (DIM 50%)	ON (100%)	18	35°
	FLOOD LIGHT 3	ON (DIM 50%)	ON (100%)	18	35°
POLE 2	FLOOD LIGHT 4	ON (DIM 50%)	ON (100%)	18	35°
	FLOOD LIGHT 5	ON (DIM 50%)	ON (100%)	18	35°
POLE 3	FLOOD LIGHT 6	ON (DIM 50%)	ON (100%)	18	35°
	FLOOD LIGHT 7	ON (DIM 50%)	ON (100%)	18	35°
POLE 4	FLOOD LIGHT 8	ON (DIM 50%)	ON (100%)	18	35°



01 SPORTS FIELD LIGHT POLE - SIDE ELEVATION
SCALE 1:50@A1



02 SPORTS FIELD LIGHT POLE - SIDE ELEVATION
SCALE 1:50@A1

Issue	Amendment	Date
P1	PRELIMINARY ISSUE	11-05-22

Lead Consultant

Client
NORTHERN BEACHES COUNCIL


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Project
CROMER HIGH SCHOOL
SPORTS FIELD LIGHTING

Drawing
SPORTS LIGHTING CALCULATION RESULTS
ILLUMINANCE - 100 lx AVERAGE

Date MAY 2022 Drawn MA Approved RM
Scale AS SHOWN
Project No L172Z
Drawing No CL-100 Rev P1

AS SHOWN

Luminaire Schedule								
Scene: OBTRUSIVE & GLARE								
Symbol	Qty	Label	Description	Tag	LLF	Luminaire Lumens	Luminaire Watts	Mounting Height
	8	Philips OptiVision NB+BL	BVP528 LED2130 757 OUT T30 50K A35-NB +BL_35	F2	1.000	153203	1420	18

Scene/Channel Summary			
Scene: OBTRUSIVE & GLARE			
Channel	Switched	Dimming	# Lums
FLOODLIGHTS	On	1.00	8

Expanded Luminaire Location Summary						
Scene: OBTRUSIVE & GLARE						
LumNo	Label	Luminaire Coordinates			Orient	Tilt
		X	Y	Z		
1	Philips OptiVision NB+BL	-40.248	27.5	18	45	70
2	Philips OptiVision NB+BL	-40.248	26.5	18	325	70
3	Philips OptiVision NB+BL	40.25	27.5	18	135	70
4	Philips OptiVision NB+BL	40.25	26.5	18	215	70
5	Philips OptiVision NB+BL	-40.248	-26.5	18	35	70
6	Philips OptiVision NB+BL	-40.248	-27.5	18	315	70
7	Philips OptiVision NB+BL	40.25	-26.5	18	145	70
8	Philips OptiVision NB+BL	40.25	-27.5	18	225	70

Calculation Summary									
Project: Obtrusive Lighting									
Scene: OBTRUSIVE & GLARE									
Label	CalcType	Units	Max	PISpclR	PISpctb	Grid Orient	Grid Tilt	Meter Type	Ti
OL East 4-10 Inman Road_Cd_Seg1	Obtrusive - Cd	N.A.	2169	5	1	270	90	Vert-PerpCCW	N.A.
OL East 4-10 Inman Road_III_Seg1	Obtrusive - III	Lux	0.3	5	1	270	90	Vert-PerpCCW	N.A.
OL North Roband Head Office_Cd_Seg1	Obtrusive - Cd	N.A.	7384	5	1	0	90	Vert-PerpCW	N.A.
OL North Roband Head Office_III_Seg1	Obtrusive - III	Lux	1.1	5	1	0	90	Vert-PerpCW	N.A.
OL TI Inman Road North	Obtrusive - TI	%	0.2	5	0	0	0	Vert-Along	0.2
OL TI Inman Road South	Obtrusive - TI	%	0.2	5	0	0	0	Vert-Along	0.2
OL TI S Creek Road East	Obtrusive - TI	%	0.2	5	0	0	0	Vert-Along	0.2
OL TI S Creek Road West	Obtrusive - TI	%	0.1	5	0	0	0	Vert-Along	0.1

UWLR Area Summary		
Scene: OBTRUSIVE & GLARE		
Label	UWLR	Total Watts
Upward Waste Light Ratio	0.002	11360

Obtrusive Light - Compliance Report

AS/NZS 4282:2019, A3 - Medium District Brightness, Non-Curfew L1
Filename: L172Z Cromer High Calcs - CL01
11/05/2022 8:49:58 AM

Illuminance

Maximum Allowable Value: 10 Lux

Calculations Tested (2):

Calculation Label	Test Results	Max. Illum.
OL East 4-10 Inman Road_III_Seg1	PASS	0.3
OL North Roband Head Office_III_Seg1	PASS	1.1

Luminous Intensity (Cd) At Vertical Planes

Maximum Allowable Value: 12500 Cd

Calculations Tested (2):

Calculation Label	Test Results
OL East 4-10 Inman Road_Cd_Seg1	PASS
OL North Roband Head Office_Cd_Seg1	PASS

Threshold Increment (TI)

Maximum Allowable Value: 20 %

Calculations Tested (4):

Calculation Label	Adaptation Luminance	Test Results
OL TI S Creek Road East	1	PASS
OL TI S Creek Road West	1	PASS
OL TI Inman Road North	1	PASS
OL TI Inman Road South	1	PASS

Upward Waste Light Ratio (UWLR)

Maximum Allowable Value: 2.0 %

Calculated UWLR: 0.2 %
Test Results: PASS

Control of obtrusive effects of outdoor lighting - AS/NZS 4282:2019 (Maintenance factor 1.0)

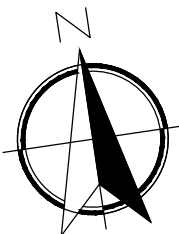
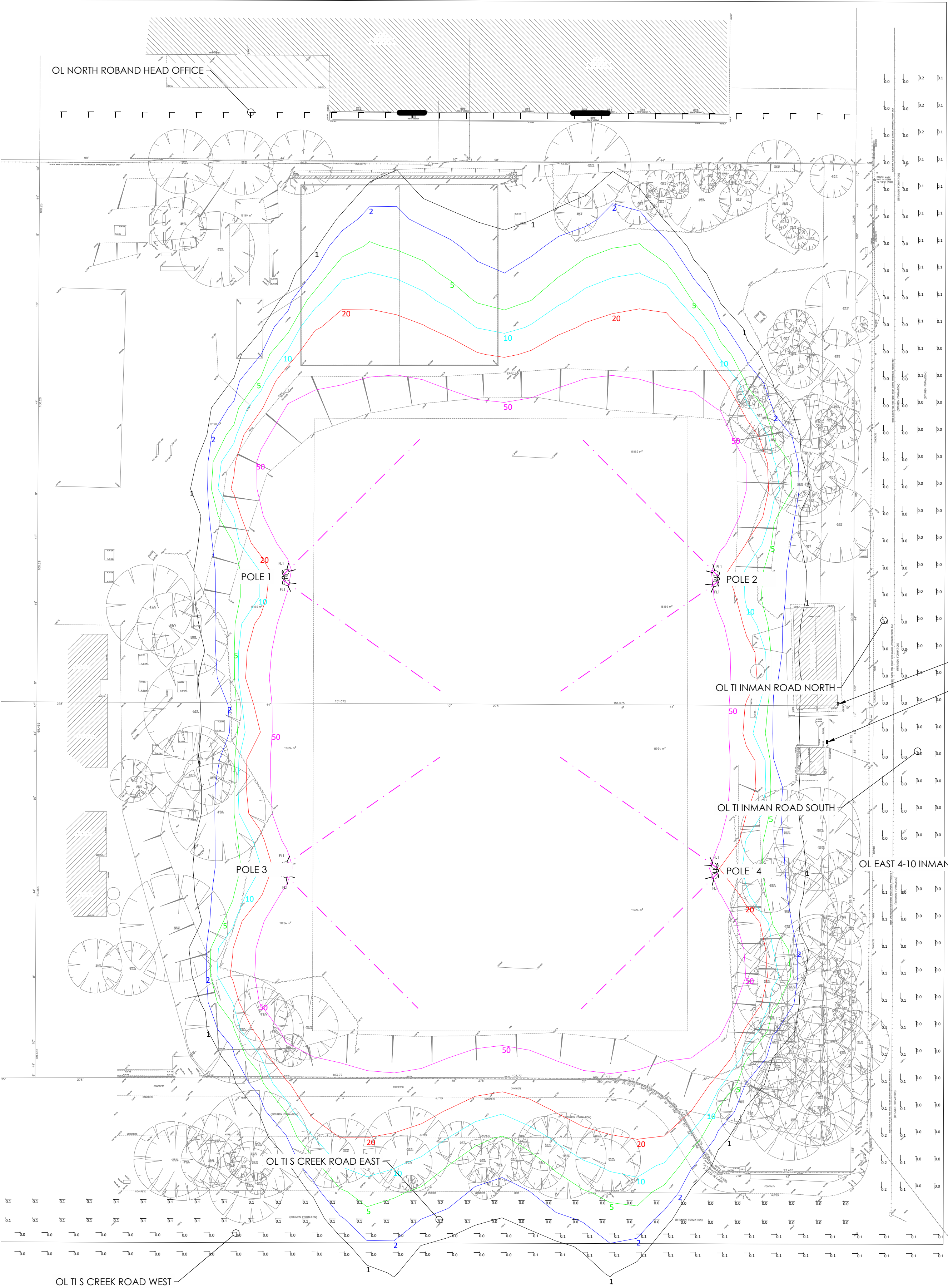
- Environmental zone: A3 - Medium district brightness - Suburban areas in towns and cities.
- Illuminance in vertical plane (Ev) < 10 lx (NON-CURFEW LEVEL 1)
- Upward light ratio < 0.02
- Maximum luminous intensity (I) from each luminaire < 12,500 cd (NON-CURFEW LEVEL 1)
- Threshold increment (TI) recommended maximum value: 20% Based on adaptation luminance of 1cd/m²

Certification

The proposed lighting design will meet the requirements of AS/NZS 4282:2019 Environmental Zone A3 - non-curfew conditions.

Maria Albuquerque
MIES 5490

0 5 10 15 20 25 50m 1:500@A1



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Project

CROMER HIGH SCHOOL
SPORTS FIELD LIGHTING

Drawing

SPORTS LIGHTING CALCULATION RESULTS
OBTRUSIVE LIGHTING ASSESSMENT

Date MAY 2022 Drawn Approv.
Scale 1:500@A1 MA RM
Project No L172Z

Drawing No Rev
CL-103 P1