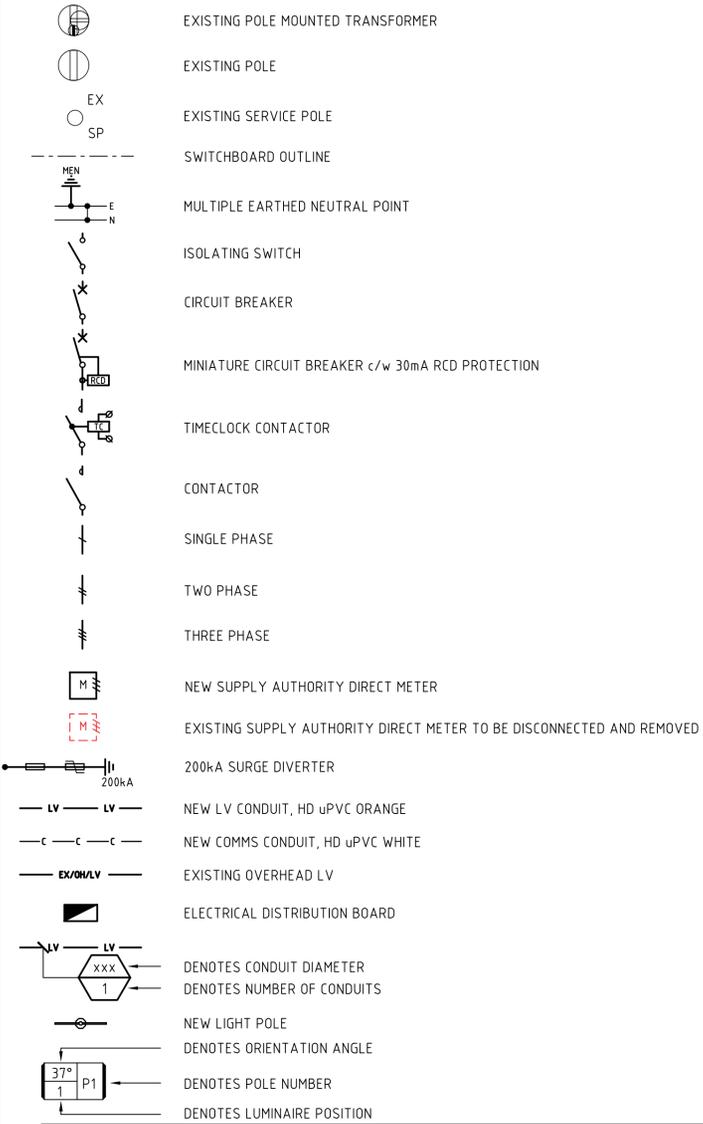




KEY PLAN

SCALE NTS

LEGEND OF SYMBOLS

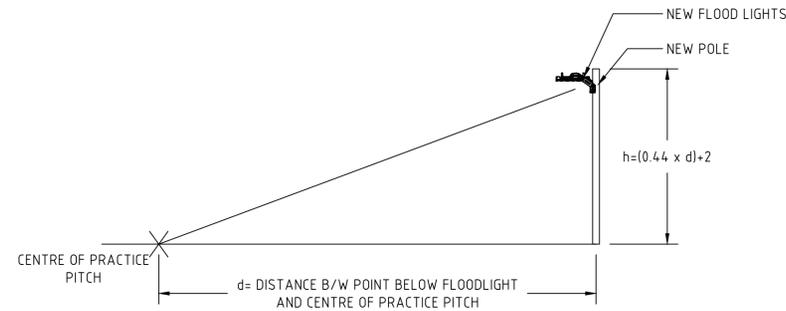


AREA OF WORKS

SCALE NTS

GENERAL NOTES

- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE STRUCTURAL AND SURVEY DRAWINGS INCLUDING DEMOLITION PLANS. REFER ANY CONFLICTING INFORMATION, OMISSIONS OR ERRORS TO THE PROJECT SUPERINTENDENT FOR RESOLUTION
- COORDINATE WITH ALL OTHER TRADES ON SITE
- DO NOT SETOUT OR SCALE FROM THESE DRAWINGS. CONFIRM ALL MEASUREMENTS ON SITE
- ALL WORKS ARE TO COMPLY WITH THE RELEVANT CODES AND STANDARDS INCLUDING BUT NOT LIMITED TO AUSTRALIAN STANDARDS (AS), THE BUILDING CODE OF AUSTRALIA (BCA), ELECTRICITY SAFETY ACT, AS/NZS 3000 (WIRING RULES), AS/NZS3008, AS4282 (CONTROL OF OBTRUSIVE EFFECTS OF OUTDOOR LIGHTING), AS2560 (SPORTS LIGHTING), THE REQUIREMENTS OF LOCAL AUTHORITIES AND GENERAL BEST PRACTICE.
- UTILISE EXISTING SLAB OPENINGS AND CABLE DUCTS WHERE PRACTICAL, CONCEAL CABLING WHERE POSSIBLE, WHERE CABLING MUST BE VISIBLE INSTALL WITHIN HORIZONTAL AND VERTICAL RUNS OF SURFACE MOUNTED CONDUIT
- THE CONTRACTOR SHALL SUBMIT ALL NECESSARY SHOP DRAWINGS AND EQUIPMENT TECHNICAL DATA SHEETS FOR ALL EQUIPMENT FOR ASSESSMENT BY THE PROJECT SUPERINTENDENT PRIOR TO PROCUREMENT
- THE CONTRACTOR SHALL SUBMIT ALL NECESSARY DRAWINGS/NOTIFICATIONS OF INTENT TO THE LOCAL SUPPLY AUTHORITY AS REQUIRED
- ALL SERVICES SHALL BE FULLY LABELLED FOR EASE OF IDENTIFICATION
- THE CONTRACTOR SHALL ALLOW FOR INVESTIGATION OF CONCEALED SERVICES PRIOR TO COMMENCING WORK
- DEMONSTRATE TO THE PROJECT SUPERINTENDENT AT COMMISSIONING STAGE THAT ALL SYSTEMS OPERATE AS INTENDED AND IN ACCORDANCE WITH THE RELEVANT STANDARDS
- ALTERNATIVE EQUIPMENT CAN BE PROPOSED FOR CONSIDERATION BY THE PROJECT SUPERINTENDENT PROVIDED IT IS AT LEAST EQUIVALENT TO THE SPECIFIED EQUIPMENT. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PROVE THAT THE PROPOSED ALTERNATIVES PERFORM TO AT LEAST THE SPECIFIED EQUIPMENT'S PERFORMANCE LEVEL BY MEANS OF DETAILED CALCULATION OR OTHERWISE AS REQUESTED BY THE SUPERINTENDENT.
- REFER TO OTHER NOTES ON ELECTRICAL DRAWINGS

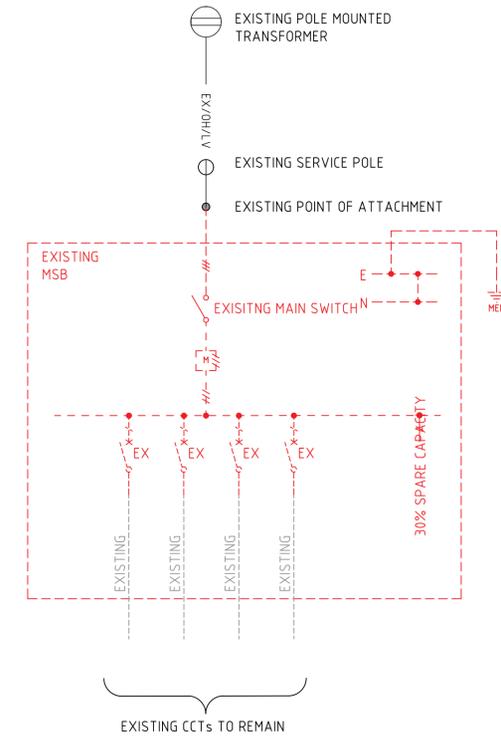


TYPICAL POLE HEIGHT DETAILS

SCALE NTS

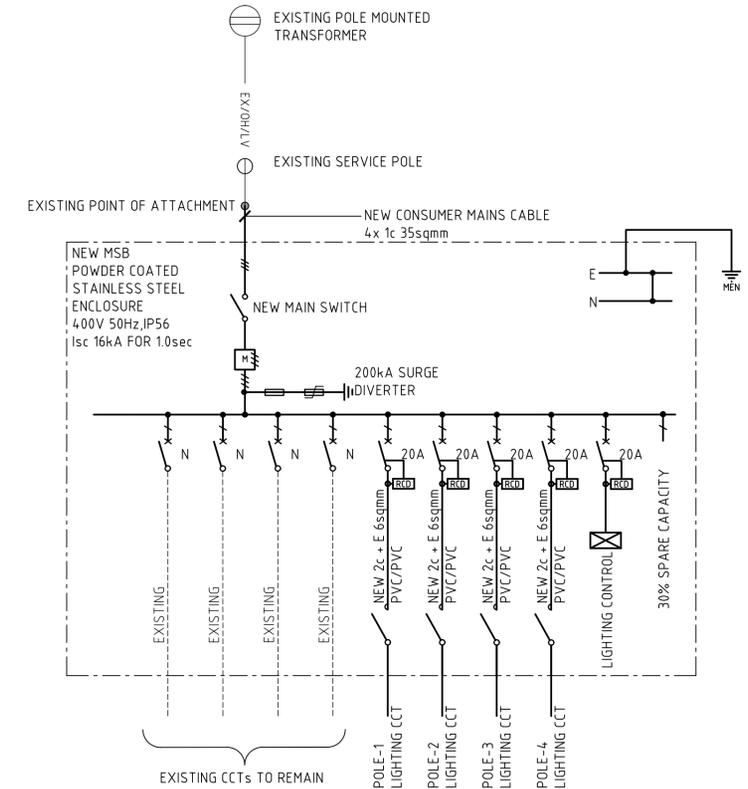
LUMINAIRE SCHEDULE

REF	MOUNTING DETAILS	SIZE (mm)	SOURCE	IP RATING	IK RATING	LUMEN OUTPUT	POWER INPUT	COLOUR TEMP.	CRI	SELECTION	NOTES
LP1	POLE MOUNTED	780x722x116	LED	IP66	IK08	53,823LUMENS	312WATT	4000K	Ra>70	THORN AREA FLOOD PRO2 AFP2 2L216L50-740 A4 CL1 GY	C/W BACK AND FRONT LOUVRE, POLE HEIGHT = 12m



EXISTING MAIN SWITCHBOARD (MSB)

SINGLE LINE DIAGRAM



PROPOSED MAIN SWITCHBOARD (MSB)

SINGLE LINE DIAGRAM



ACN 169 951 571 | ABN 74 169 951 517
 Tenancy 2 Level 1 Highway Arcade 47 Stuart Highway, Stuart Park NT 0820
 G.P.O. BOX 35838, Winnieville NT 0820 Tel: 08 8981 9888
 Email: admin@ntbsconsulting.com | Web: www.ntbsconsulting.com

Disclaimer

REV	DESCRIPTION	DATE	REV	DESCRIPTION	DATE
0	ISSUE FOR TENDER	25.09.25			

Sheet Title
 KEY PLAN, LOCATION OF WORKS, LEGEND OF SYMBOLS, GENERAL NOTES AND LUMINAIRE SCHEDULE

CAD File No: D1378
 Design Date: AUGUST 2025

Project
 KAHLIN OVAL TRAINING NETS LIGHTING UPGRADE

Client
 GRC PROPERTIES

FOR TENDER

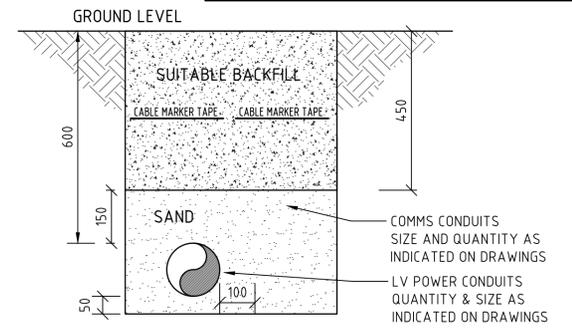
ELECTRICAL SERVICES

North	Drawing No.	Revision
	D1378/E01	0
Eng	Draft	Chk
WP	JJ	WP
	Scale	Scale
	NTS	A1

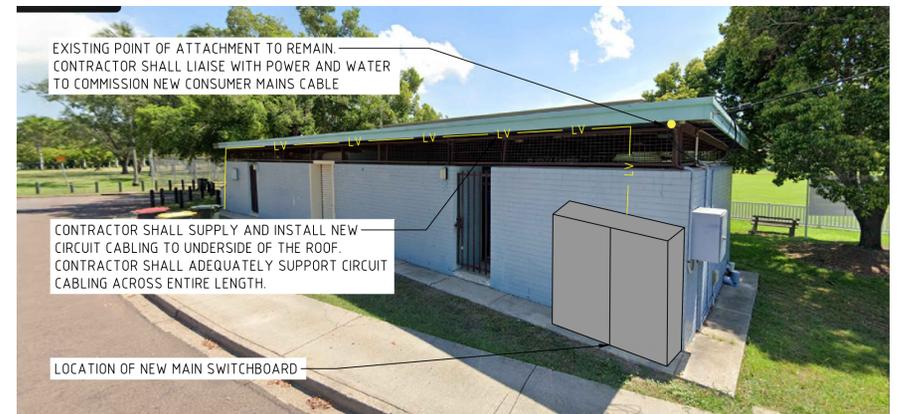


SITE LAYOUT
SCALE 1:200@A1

NOTE
① CONTRACTOR SHALL ENSURE ALL ELECTRICAL EQUIPMENT, CONDUITS AND POLES ARE NOT INSTALLED OR PASS THROUGH THE EXISTING TREE ROOTS.



TYPICAL TRENCH DETAIL
BACKFILL SHALL BE IN ACCORDANCE WITH COUNCIL STANDARDS



PHOTOGRAPH A
SITE PHOTO-1



PHOTOGRAPH B
SITE PHOTO-2



WARNING
THE LOCATION OF SERVICES SHOWN ON THIS PLAN ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE CONFIRMED ON SITE BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.

Disclaimer

REV	DESCRIPTION	DATE	REV	DESCRIPTION	DATE
0	ISSUE FOR TENDER	25.09.25			

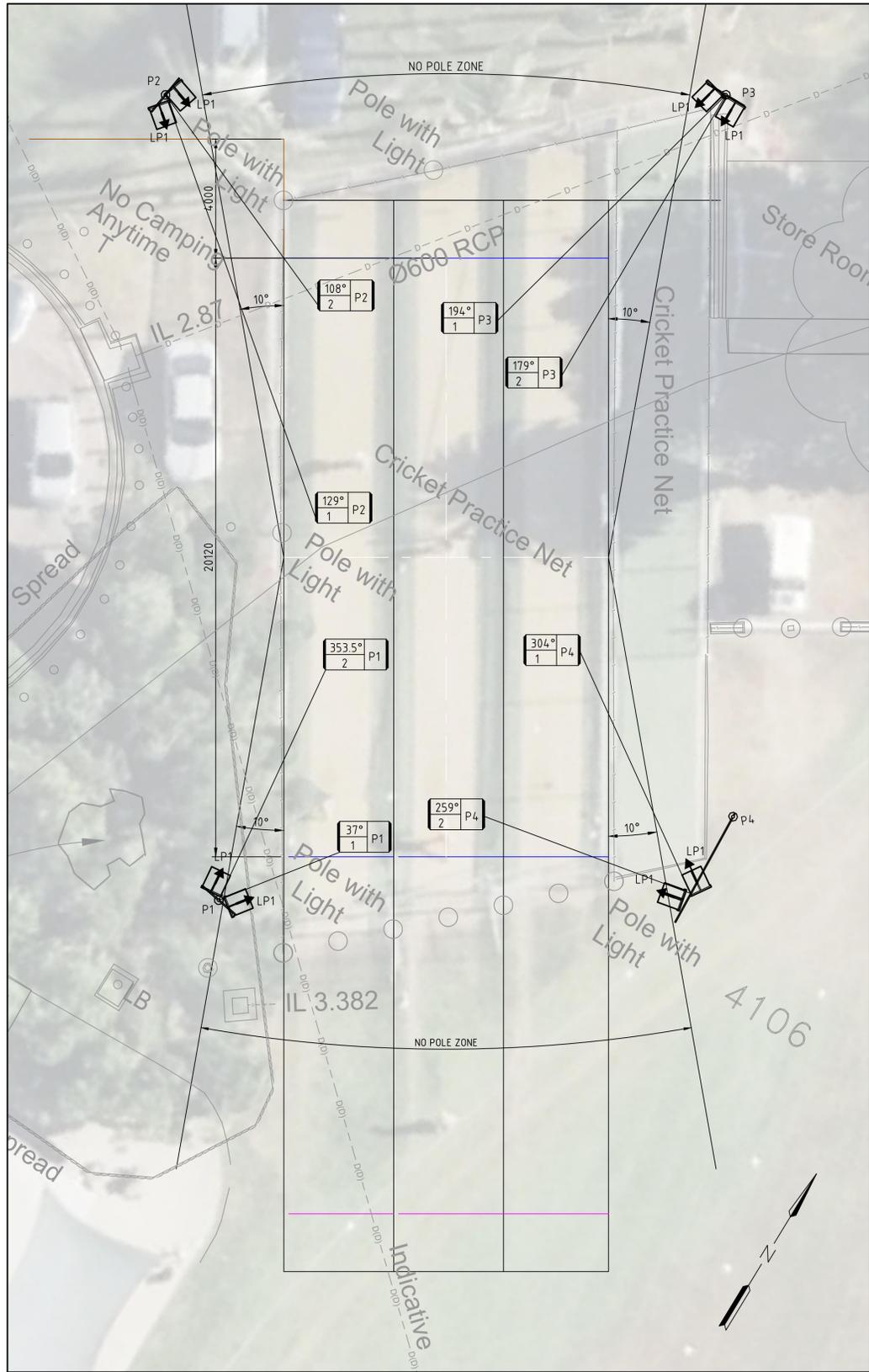
Sheet Title
SITE LAYOUT AND TYPICAL DETAILS

CAD File No: D1378
Design Date: AUGUST 2025

Project
KAHLIN OVAL TRAINING NETS LIGHTING UPGRADE

Client
GRC PROPERTIES

FOR TENDER					
ELECTRICAL SERVICES					
North	Drawing No.	Revision			
	D1378/E02	0			
Eng	Draft	Chk	Scale		
WP	JJ	WP	NTS	A1	



LIGHTING LAYOUT & ORIENTATION ANGLE
SCALE 1:100@A1



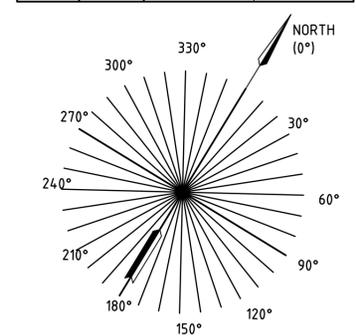
CALCULATED HORIZONTAL ILLUMINANCE
SCALE 1:100@A1

LIGHTING TECHNICAL PARAMETERS (CLASS IV)

LOCATION	CALCULATED	REQUIRED
PITCH-1 @ 0.88 M.F.		
MAX	353lx	
MIN	265lx	
AVERAGE HORIZONTAL ILLUMINANCE	314.56lx	300lx
MINIMUM HORIZONTAL UNIFORMITY	0.84	0.70
MINIMUM VERTICAL MAINTAINED ILLUMINANCE	105lx	100
RESULT	PASS	
PITCH-1 @ 0.88 M.F. (RUN-UP)		
MAX	291lx	
MIN	54lx	
AVERAGE HORIZONTAL ILLUMINANCE	153.33lx	90lx
MINIMUM HORIZONTAL UNIFORMITY	0.35	0.30
MINIMUM VERTICAL MAINTAINED ILLUMINANCE	N/A	N/A
RESULT	PASS	
PITCH-2 @ 0.88 M.F.		
MAX	352lx	
MIN	307lx	
AVERAGE HORIZONTAL ILLUMINANCE	338.72lx	300lx
MINIMUM HORIZONTAL UNIFORMITY	0.91	0.70
MINIMUM VERTICAL MAINTAINED ILLUMINANCE	109lx	100
RESULT	PASS	
PITCH-2 @ 0.88 M.F. (RUN-UP)		
MAX	292lx	
MIN	64lx	
AVERAGE HORIZONTAL ILLUMINANCE	169.67lx	90lx
MINIMUM HORIZONTAL UNIFORMITY	0.38	0.30
MINIMUM VERTICAL MAINTAINED ILLUMINANCE	N/A	N/A
RESULT	PASS	
PITCH-3 @ 0.88 M.F.		
MAX	342lx	
MIN	279lx	
AVERAGE HORIZONTAL ILLUMINANCE	312.06lx	300lx
MINIMUM HORIZONTAL UNIFORMITY	0.89	0.70
MINIMUM VERTICAL MAINTAINED ILLUMINANCE	108lx	100
RESULT	PASS	
PITCH-3 @ 0.88 M.F. (RUN-UP)		
MAX	290lx	
MIN	51lx	
AVERAGE HORIZONTAL ILLUMINANCE	157.25lx	90lx
MINIMUM HORIZONTAL UNIFORMITY	0.32	0.30
MINIMUM VERTICAL MAINTAINED ILLUMINANCE	N/A	N/A
RESULT	PASS	

POLE LUMINAIRE SCHEDULE

	REF	AIMING	
		ORIENT	TILT
LP1	1	37°	3°
	2	353.5°	3°
LP2	1	129°	5°
	2	108°	3°
LP3	1	194°	0°
	2	179°	3°
LP4	1	304°	3°
	2	259°	3°



ORIENTATION INDICATOR



Disclaimer

REV	DESCRIPTION	DATE
1	UPDATED ISSUE	30.10.25
0	ISSUE FOR TENDER	25.09.25

REV	DESCRIPTION	DATE

Sheet Title
LIGHTING LAYOUT AND CALCULATED LUX LEVEL AND ISOLINES LAYOUT

CAD File No: D1378
Design Date: AUGUST 2025

Project
KAHLIN OVAL TRAINING NETS LIGHTING UPGRADE

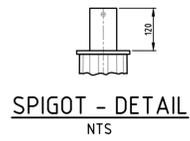
Client
GRC PROPERTIES

FOR TENDER

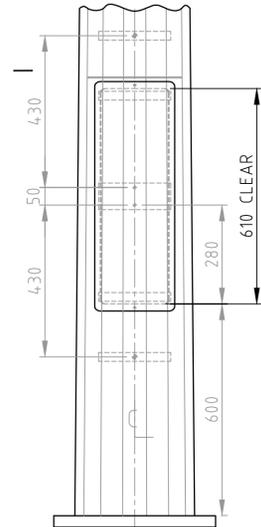
ELECTRICAL SERVICES

North	Drawing No.	Revision
	D1378/E03	1

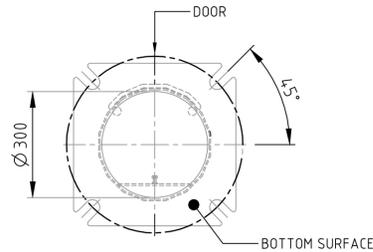
Eng	Draft	Chk	Scale
WP	JJ	WP	NTS A1



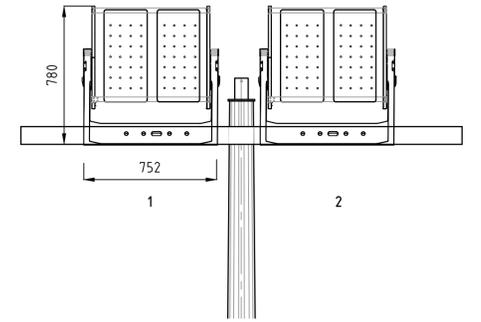
SPIGOT - DETAIL
NTS



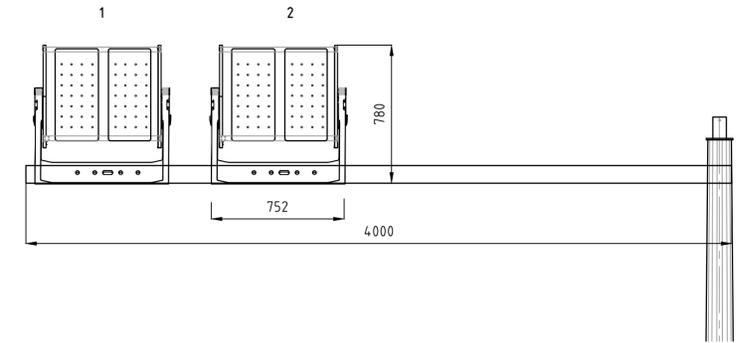
EQUIPMENT ACCESS - DETAIL
COVER REMOVED FOR CLARITY



BASE PLATE - DETAIL
NTS

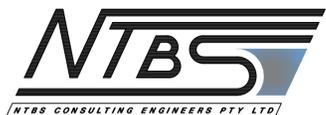


LUMINAIRE DETAILS-LP1, LP2, LP3
SCALE NTS



LUMINAIRE DETAILS-LP4
SCALE NTS

NOTE
 Ⓢ CONTRACTOR SHALL SUPPLY AND INSTALL NEW 12m LIGHT POLE.
 CONTRACTOR SHALL ALLOW TO ENGAGE A STRUCTURAL ENGINEER
 TO CERTIFY THE NEW POLE, CROSS ARM AND POLE FOUNDATION.



ACN 169 951 571 | ABN 74 169 951 517
 Tenancy 2 Level 1 Highway Arcade 47 Stuart Highway, Stuart Park NT 0820
 GPO BOX 35839, Winnellie NT 0820 | Tel: 08 8981 9888
 Email: admin@ntbsconsulting.com | Web: www.ntbsconsulting.com

Disclaimer

REV	DESCRIPTION	DATE	REV	DESCRIPTION	DATE
0	ISSUE FOR TENDER	25.09.25			

Sheet Title
 LIGHTING LAYOUT AND CALCULATED
 LUX LEVEL AND ISOLINES LAYOUT

CAD File No: D1378
 Design Date: AUGUST 2025

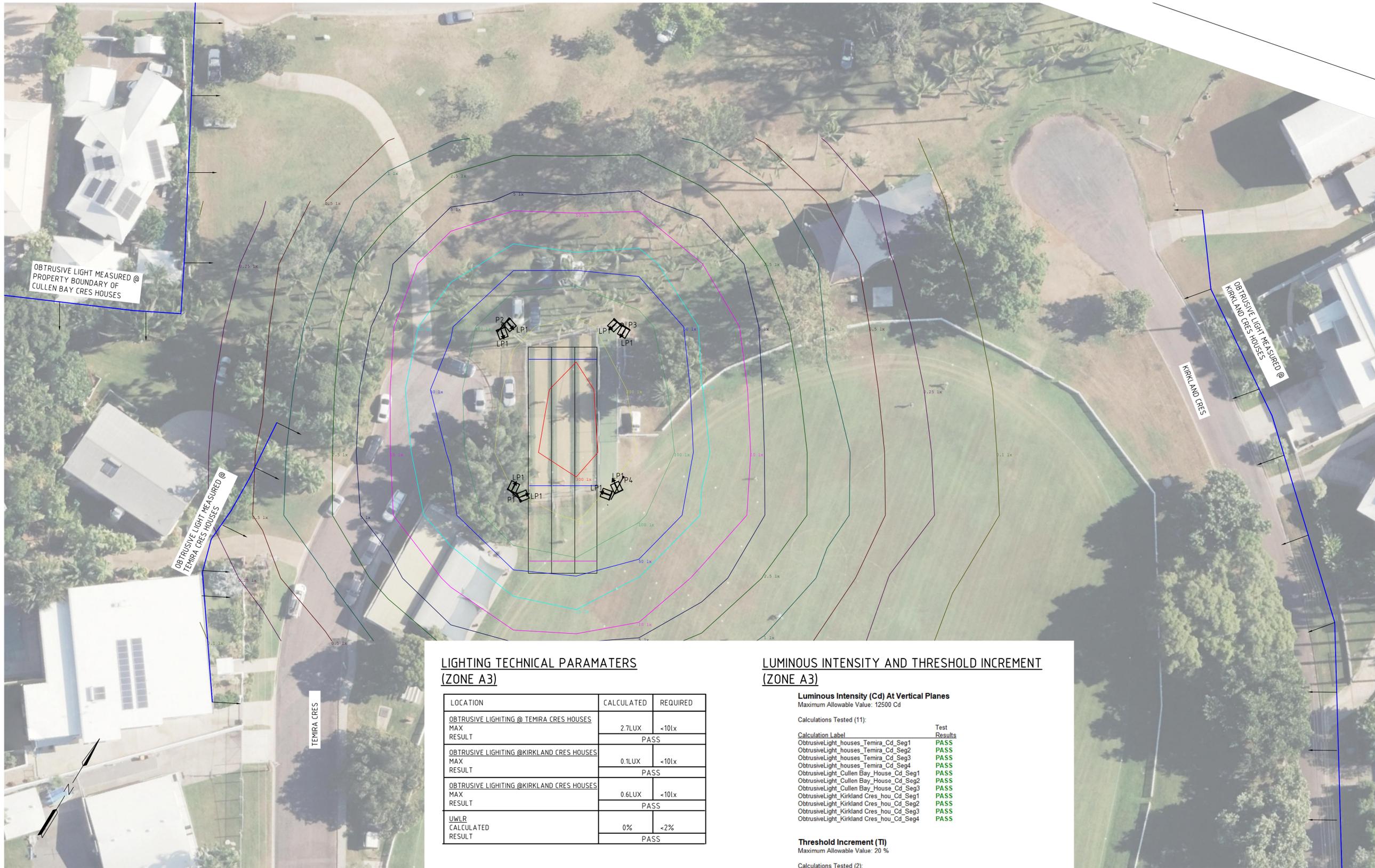
Project
 KAHLIN OVAL TRAINING NETS
 LIGHTING UPGRADE

Client
 GRC PROPERTIES

FOR TENDER

ELECTRICAL SERVICES

North	Drawing No.	Revision
	D1378/E04	0
Eng	Draft	Chk
WP	JJ	WP
	Scale	Scale
	NTS	A1



**LIGHTING TECHNICAL PARAMETERS
(ZONE A3)**

LOCATION	CALCULATED	REQUIRED
OBTRUSIVE LIGHTING @ TEMIRA CRES HOUSES	2.7LUX	<10lx
MAX RESULT	PASS	
OBTRUSIVE LIGHTING @KIRKLAND CRES HOUSES	0.1LUX	<10lx
MAX RESULT	PASS	
OBTRUSIVE LIGHTING @KIRKLAND CRES HOUSES	0.6LUX	<10lx
MAX RESULT	PASS	
UWLR	0%	<2%
CALCULATED RESULT	PASS	

**LUMINOUS INTENSITY AND THRESHOLD INCREMENT
(ZONE A3)**

Luminous Intensity (Cd) At Vertical Planes

Maximum Allowable Value: 12500 Cd

Calculations Tested (11):

Calculation Label	Test Results
ObtrusiveLight_houses_Temira_Cd_Seg1	PASS
ObtrusiveLight_houses_Temira_Cd_Seg2	PASS
ObtrusiveLight_houses_Temira_Cd_Seg3	PASS
ObtrusiveLight_houses_Temira_Cd_Seg4	PASS
ObtrusiveLight_Cullen Bay_House_Cd_Seg1	PASS
ObtrusiveLight_Cullen Bay_House_Cd_Seg2	PASS
ObtrusiveLight_Cullen Bay_House_Cd_Seg3	PASS
ObtrusiveLight_Kirkland Cres_hou_Cd_Seg1	PASS
ObtrusiveLight_Kirkland Cres_hou_Cd_Seg2	PASS
ObtrusiveLight_Kirkland Cres_hou_Cd_Seg3	PASS
ObtrusiveLight_Kirkland Cres_hou_Cd_Seg4	PASS

Threshold Increment (TI)

Maximum Allowable Value: 20 %

Calculations Tested (2):

Calculation Label	Adaptation Test Luminance Results
ObtrusiveLight_TI_Temira Cres_2	1 PASS
ObtrusiveLight_TI_Temira Cres	1 PASS

CALCULATED LUX LEVEL LAYOUT AND ISOLINES

SCALE 1:200@A1



ACN 169 951 571 | ABN 74 169 951 517
Tenancy 2 Level 1 Highway Arcade 47 Stuart Highway, Stuart Park NT 0820
GPO BOX 35839 Winnellie NT 0820 Tel: 08 8981 9888
Email: admin@ntbsconsulting.com | Web: www.ntbsconsulting.com

Disclaimer

REV	DESCRIPTION	DATE	REV	DESCRIPTION	DATE
1	UPDATED ISSUE	30.10.25			
0	ISSUE FOR TENDER	25.09.25			

Sheet Title
LIGHTING LAYOUT AND CALCULATED
LUX LEVEL AND ISOLINES LAYOUT

CAD File No: D1378
Design Date: AUGUST 2025

Project
KAHLIN OVAL TRAINING NETS
LIGHTING UPGRADE

Client
GRC PROPERTIES

FOR TENDER
ELECTRICAL SERVICES

North	Drawing No.	Revision
	D1378/E05	1
Eng	Draft	Chk
WP	JJ	WP
		Scale
		NTS
		A1