

BURWOOD EAST RESERVE

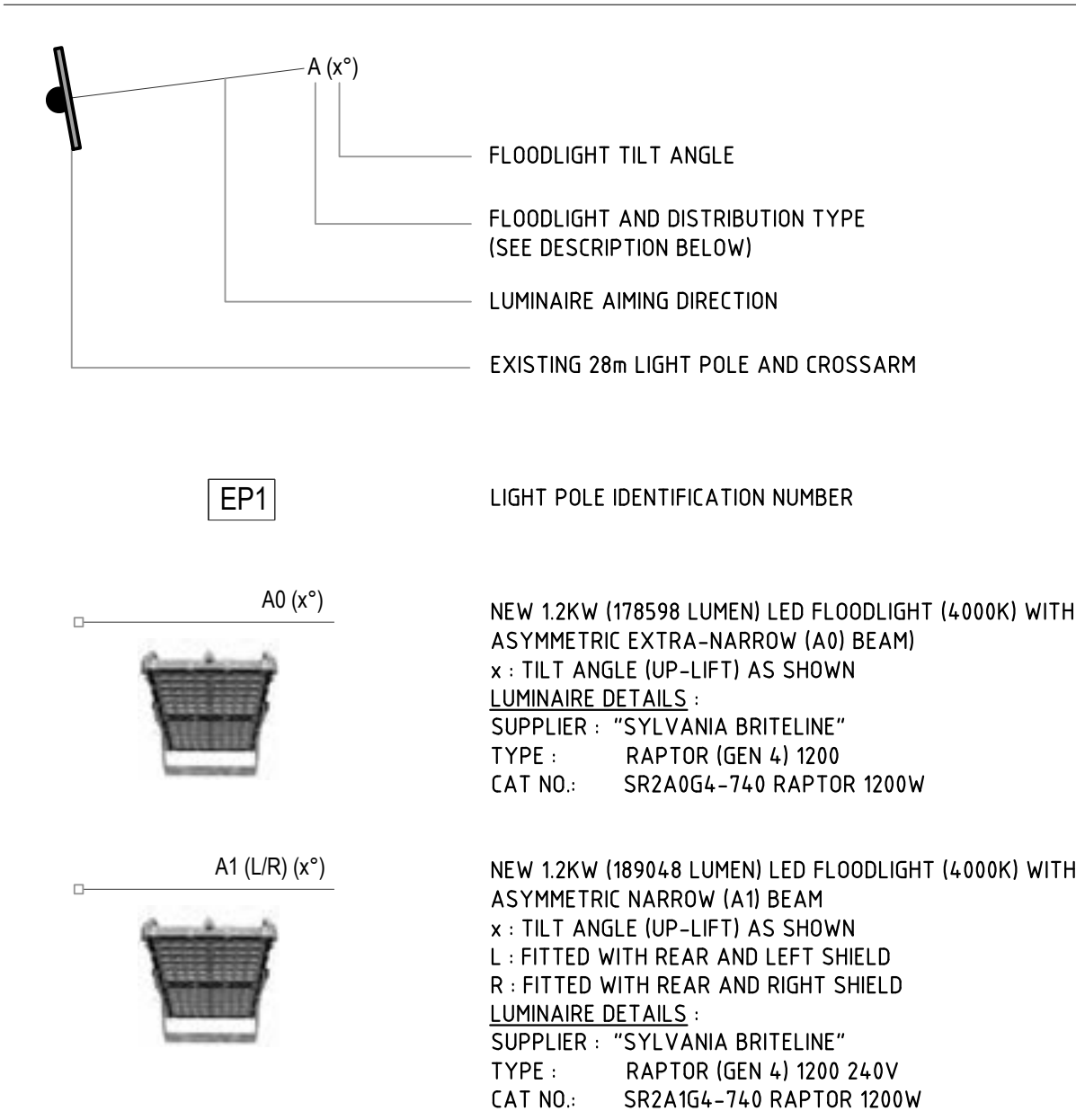
SPORTS LIGHTING UPGRADE

DRAFT ONLY

Drawing Schedule

T017A - ES-100	BURWOOD EAST RESERVE - ELECTRICAL PLAN
T017A - LC-100	BURWOOD EAST RESERVE - LIGHTING CALCULATIONS - 100LUX
T017A - LC-101	BURWOOD EAST RESERVE - LIGHTING CALCULATIONS - 150LUX

Legend of Symbols



General Note

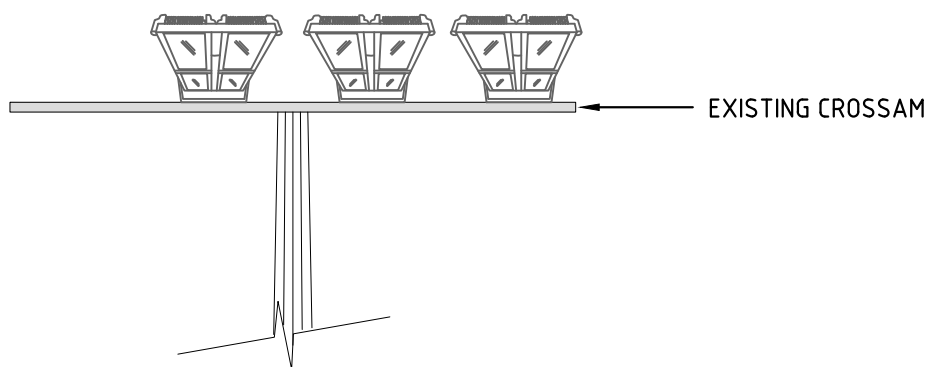
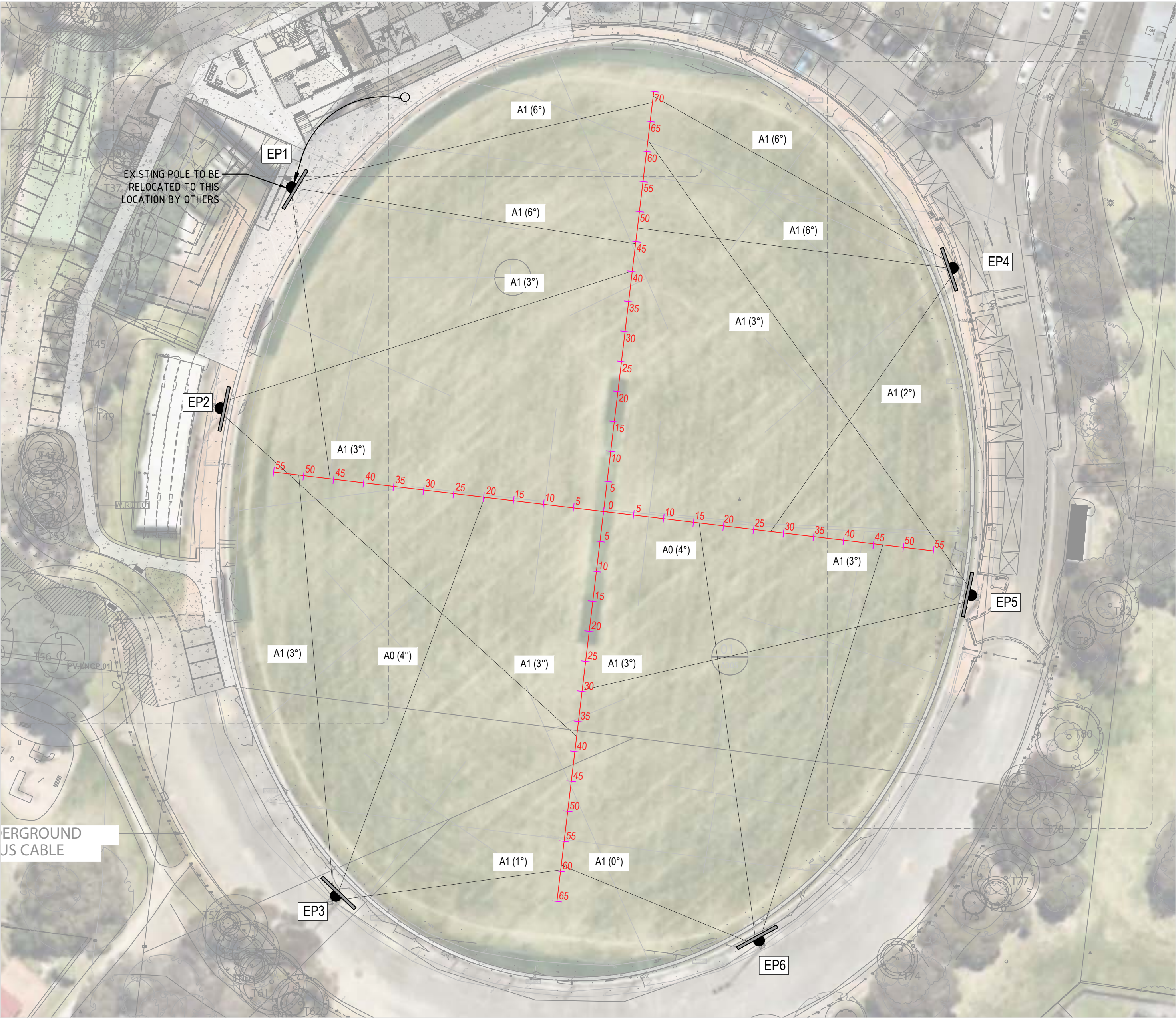
THE NEW LIGHTING SYSTEM SHOWN ON THIS DRAWING WILL ACHIEVE MAINTAINED ILLUMINANCE LEVELS OF 100 LUX.

THE LIGHTING INFRASTRUCTURE HAS CAPACITY FOR FUTURE UPGRADE TO 150 LUX AVERAGE - WHICH CAN BE ACHIEVED BY INCREASING THE QUANTITY OF LUMINAIRES FROM SIXTEEN (16) TO EIGHTEEN (18).

Scope of Works

THE SCOPE OF WORKS FOR THIS PROJECT INCLUDES :

- REPLACEMENT OF EXISTING POLE MOUNTED MH SPORTS LIGHTING FLOODLIGHTS (AND ASSOCIATED EQUIPMENT) WITH NEW LED LUMINAIRES (AND ASSOCIATED ITEMS); TO BE MOUNTED ONE EXISTING LIGHT POLES (AS SHOWN ON THE DRAWINGS)
- REPLACEMENT OF EXISTING CROSSARMS WITH NEW CROSSARMS AT EXISTING POLES EP2 & EP4 (NEW CROSSARMS TO BE SUITABLE FOR MOUNTING FOUR (4) NEW LUMINAIRES AS SHOWN).
- AIMING OF NEW LUMINAIRES, INCLUDING INITIAL AIMING TO BE CARRIED OUT DURING DAY LIGHT HOURS AND FINAL AIMING TO BE CARRIED OUT AT NIGHT.
- LUMINAIRES ARE TO BE SUPPLIED WITH 'HYBRID' CONTROL GEAR (SUPPLIED BY 'SYLVANIA-SCHREDER'). THIS WILL ENABLE RE-USE OF EXISTING CABLES WITHIN POLES.
- REMOVAL AND DISPOSAL OF REDUNDANT EQUIPMENT
- OPTIONAL: PROVIDE SEPARATE (OPTIONAL) PRICE, TO ENGAGE A DRONE OPERATOR TO TAKE 'BEFORE' AND 'AFTER' DRONE FOOTAGE OF THE SPORTS LIGHTING OPERATING AT NIGHT. THIS SHALL INCLUDE BOTH STILL IMAGES AND VIDEO FOOTAGE FOR BOTH SCENARIOS. 'BEFORE' FOOTAGE SHALL BE TAKEN FOR EXISTING 'MH' SPORTS LIGHTING AND 'AFTER' FOOTAGE SHALL BE TAKEN FOR THE NEW LED LIGHTING SCHEME. ALL FOOTAGE SHALL BE PROVIDED TO THE COUNCIL IN ELECTRONIC FORMAT.
- CONNECTION OF NEW LIGHTING TO EXISTING CONTROLS
- TEST EXISTING CABLES (INSULATION RESISTANCE TEST) TO VERIFY AS/NZS 3000 COMPLIANCE AND SUITABILITY FOR RE-USE
- TESTING AND COMMISSIONING OF LIGHTING SYSTEM UPON COMPLETION OF WORKS, INCLUDING FINAL AIMING TO ACHIEVE REQUIRED ILLUMINANCE LEVELS AND UNIFORMITY.
- AS-BUILT DRAWINGS, OPERATION AND MAINTENANCE MANUALS.
- PROVIDE OPTIONAL UNIT RATE PRICING FOR REPLACEMENT OF EXISTING CROSSARMS WITH NEW CROSSARMS (IF REQUIRED DUE TO EXISTING CROSSARMS BEING UNSUITABLE FOR MOUNTING OF NEW LUMINAIRES).



POLE TOP ARRANGEMENT

BURWOOD EAST RESERVE

SPORTS LIGHTING UPGRADE

Legend of Symbols

- +

100
- Calculated Horizontal Illuminance (lux)
-
- Obtrusive calculation boundary line

Calculation Summary

Label	Average Horizontal Illuminance (lux)			U1		U2		Uniformity Gradient		Glare Rating	
	Required	Calculated									
		Initial	Maintained (@0.85 LLF)	Required	Calculated	Required	Calculated	Required	Calculated	Required	Calculated
Oval	100	159	135	0.5	0.60	0.3	0.45	2	1.48	50	43

Illuminance levels shown on calculation layout plan are "initial" levels.
Lighting design complies with AS 2560.2 (Amateur Competition) & AS 4282 (2023) A3 Environmental Zone A3 (Non-Curfew L1)

Obtrusive Light - Compliance Report

AS/NZS 4282:2023, A3 - Medium District Brightness, Non-Curfew L1

Illuminance
Maximum Allowable Value: 10 Lux

Calculations Tested (3):

Calculation Label	Test Max.	Max. Illum.
Residential Property Boundary (South)	PASS	2.2
Residential Property Boundary (West)	PASS	0
Residential Property Boundary (North)	PASS	0.5

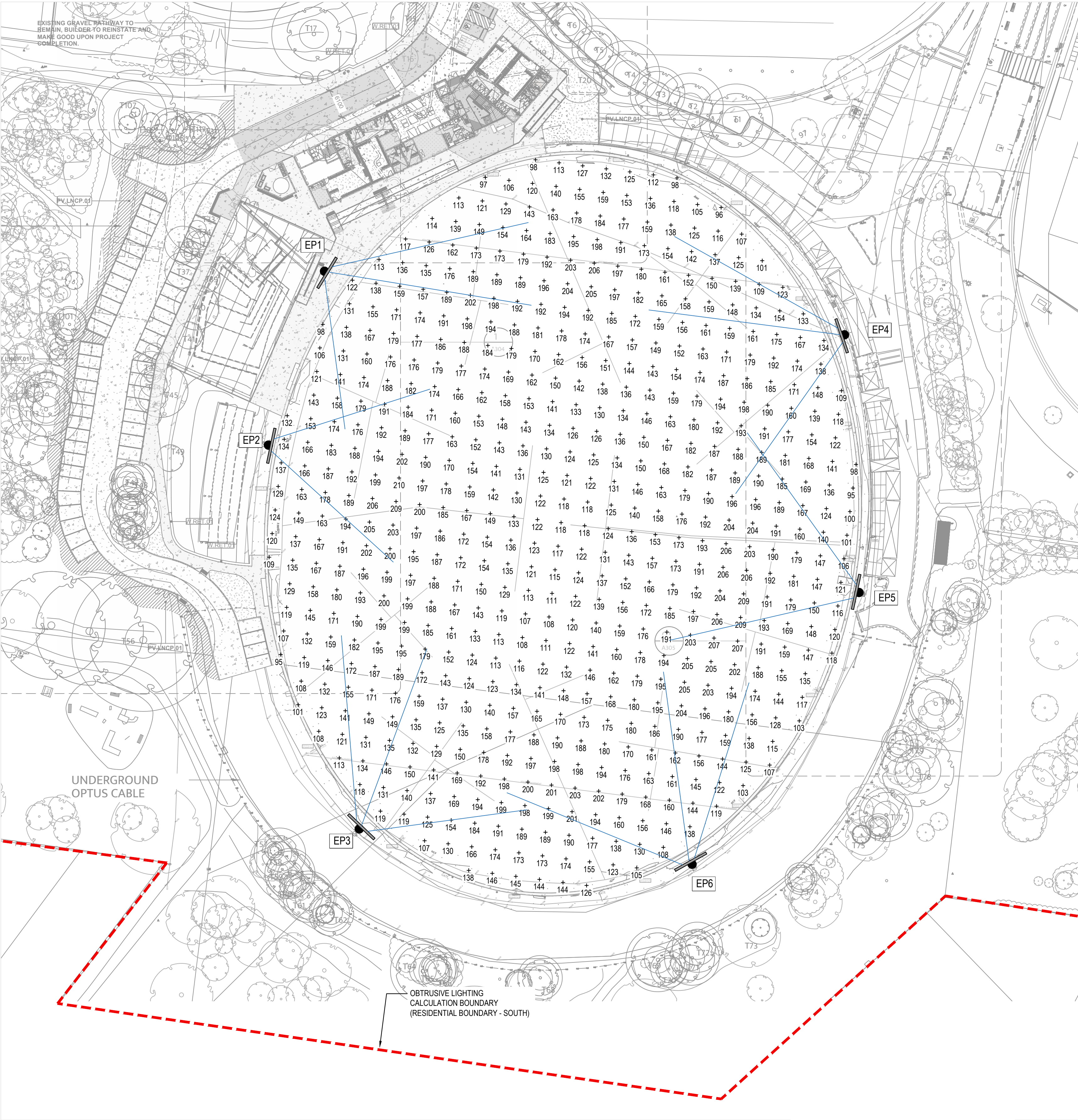
Luminous Intensity (Cd) At Vertical Planes
Maximum Allowable Value: 12500 Cd

Calculations Tested (3):

Calculation Label	Test Results
Residential Property Boundary (South)	PASS
Residential Property Boundary (West)	PASS
Residential Property Boundary (North)	PASS

Upward Waste Light Ratio (UWLR)
Maximum Allowable Value: 2.0 %

Calculated UWLR : 0.0 %
Test Results : PASS



BURWOOD EAST RESERVE

SPORTS LIGHTING UPGRADE

Legend of Symbols

- +

100
- Calculated Horizontal Illuminance (lux)

Obtrusive calculation boundary line

Calculation Summary

Label	Average Horizontal Illuminance (lux)			U1		U2		Uniformity Gradient		Glare Rating	
	Required	Calculated									
			Initial	Maintained (@0.85 LLF)	Required	Calculated	Required	Calculated	Required	Calculated	Required
Oval	150	177	151	0.6	0.60	0.4	0.44	2	1.40	50	44

Illuminance levels shown on calculation layout plan are "Initial" levels.
Lighting design complies with AS 2560.2 (Amateur Competition) & AS 4282 (2023) A3 Environmental Zone A3 (Non-Curfew L1)

Obtrusive Light - Compliance Report

AS/NZS 4282:2023, A3 - Medium District Brightness, Non-Curfew L1

Illuminance

Calculations Tested (3):

Calculation Label	Test Max.	Max. Illum.
Residential Property Boundary (South)	PASS	2.8
Residential Property Boundary (West)	PASS	0
Residential Property Boundary (North)	PASS	0.5

Luminous Intensity (Cd) At Vertical Planes
Maximum Allowable Value: 12500 Cd

Calculations Tested (3):

Calculation Label	Test Results
Residential Property Boundary (South)	PASS
Residential Property Boundary (West)	PASS
Residential Property Boundary (North)	PASS

Upward Waste Light Ratio (UWLR)
Maximum Allowable Value: 2.0 %

Calculated UWLR : 0.0 %
Test Results : PASS

