



Clarifications - Tender 179/2024/25

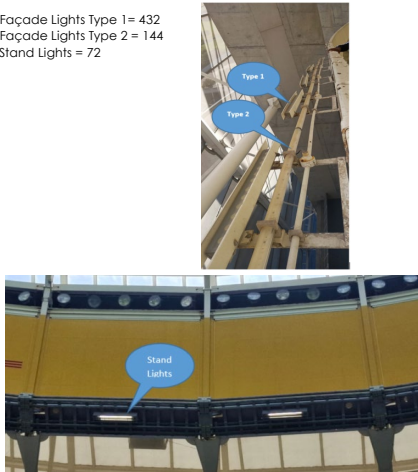
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Note - bold text added by CCT for clarity or to remove tenderers information not relevant to clarification question

	Date received	Question from Tenderer	Answer from CCT																		
1		Stirrup for luminaires – Is 3CR12 stainless steel required – this is covered on page 138, 2.5 (c) – the industry norm is galvanised steel. If you use a 3CR12 bracket and fix it against a galvanised steel member it may in time cause galvanic corrosion which will weaken the bracket and be counter productive to the intention of longer lifetime.	The specification requires 3CR12 stainless steel for the luminaire stirrups to enhance long-term durability and corrosion resistance, particularly in the challenging coastal environment. While galvanised steel is the industry norm, 3CR12 has been considered due to its improved resistance to corrosion-related degradation over time, and its relatively similar cost impact. To address concerns regarding galvanic corrosion when in contact with galvanised steel members, suitable isolation methods—such as neoprene washers, plastic spacers, or appropriate barrier coatings—should be implemented to prevent direct metal-to-metal contact and ensure longevity of the bracket system - and is considered sound engineering practice. It is important to note that even if the stirrups were galvanised steel, an appropriate washer or isolator would still be required to prevent movement between components from degrading the zinc layer, which could accelerate corrosion. This is why a structural engineer must perform the design, ensuring that the solution is adequate by considering: Wind loads and their effect on the brackets, - Bracing and movement allowances, - The correct selection and placement of washers and isolators, which are part of sound engineering practice to maintain structural integrity over time. This approach ensures both corrosion resistance and mechanical stability while maintaining the intended design lifespan of the lighting system.																		
2		The lumen efficacy as specified, i.e. 120 – 180lm/W - page 135, 2.2.7.b - is this applicable to the field lighting only or all lighting, including the colour changing Auxiliary lights	The specified luminous efficacy range of 120-180 lm/W is primarily intended for the field lighting (floodlights), as these are the most energy-intensive components of the lighting system. Given their significant contribution to overall power consumption, ensuring high efficiency is essential for energy savings and performance. For auxiliary lighting, the emphasis remains on achieving the highest practical efficacy while ensuring compliance with functional, aesthetic, and operational requirements. As auxiliary lighting has a comparatively lower energy demand, the same stringent efficacy requirement may not be as critical, provided that overall system efficiency and design intent are maintained.																		
3		The dimensions of the cavity fitted luminaires and their cavity size – is this indicated on the drawings or to be measured on-site inspection	This can be confirmed during the site inspection																		
4		Are the auxiliary colour changing luminaires required to be individually controlled or by group protocols? The field floodlights will be individually C 2.9 Lighting Control Systems a) A DMX enabled lighting control HMI must be installed in the stadium VOG. b) The control system must have seven pre-programmed modes for the floodlights, corresponding to the seven lighting levels defined in section 2.2.2. c) Control of the Façade lights, Upper Ring Projector Lights, Roof Glow Lights (A) and (B), Roof Lights and Stand Lights – must be programmed independent from the floodlights, with options to control them as a group.	The intent behind integrating the auxiliary lighting with the DMX panel is to enhance control flexibility, allowing for improved scene management and potential dynamic effects, while ensuring that the lighting remains functional for its intended purpose. We do not wish to prescribe a specific approach, but it is important that the tenderer clearly explains their chosen solution, including the capabilities of their proposed system. Since these solutions are not standard and would be proposed by the tender based on their specific technologies. The tenderer must outline how their proposed system will function, what level of control will be possible, and how it aligns with the overall lighting objectives and what capabilities it will have, include the compliance, and energy efficiency considerations.																		
5		Stand Lights as mentioned in BOQ pg. 93 – Stand Lights Integration – are the installed luminaires DMX ready ? 3d Auxiliary Lighting Upgrade The scope includes replacing the façade lights, upper ring projector lights, roof glow lights (Type A and B), ring of fan lights, and integrating recently approved LED lights into the control system. All auxiliary lights will feature dynamic colour-changing capabilities controlled via a centralised remote-control interface (DMX). <table><tr><td>Type of light</td><td>LED</td></tr><tr><td>Mounting</td><td>LED</td></tr><tr><td>Mounting Colour</td><td>LED</td></tr><tr><td>Product Code</td><td>LED</td></tr><tr><td>Light Source</td><td>LED</td></tr><tr><td>DMX</td><td>LED</td></tr><tr><td>Lamps per fitting</td><td>LED</td></tr><tr><td>Lumen per fitting</td><td>LED</td></tr><tr><td>Quantity of fitting</td><td>LED</td></tr></table> *Where mentioned below information is available at the time of tender, tenderers must include these lights as part of the integration package. NOT to be replaced. Table 7: Existing Stand Lights Specification	Type of light	LED	Mounting	LED	Mounting Colour	LED	Product Code	LED	Light Source	LED	DMX	LED	Lamps per fitting	LED	Lumen per fitting	LED	Quantity of fitting	LED	The existing stand lights have already been replaced with LED fixtures, which consume less energy and improve efficiency. These lights are not DMX-ready and are currently controlled via a relay from the Intelibus system. To avoid unnecessary expenditure on replacing recently installed lights, the tenderer shall propose a solution to integrate these lights with the control system. Solutions such as DMX relay switches or other suitable interface devices may be considered to enable compatibility, provided they meet the operational and functional requirements of the system.
Type of light	LED																				
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6		There is contradiction between the glare evaluation height of 1.75m and the horizontal & vertical illuminance testing height of 1m - 2.2.6 Glare Glare is the visual sensation resulting from excessive luminance levels within the field of vision. When the luminance is significantly higher than what the eyes are accustomed to, it can lead to feelings of annoyance, discomfort, and diminished visibility. a) The lighting design must ensure the new floodlight system does not create an undue amount of glare for players, spectators, or officials. This applies equally to camera positions within the stadium to prevent lens flare, which should be minimized and in accordance with section 2.2.2. b) The methodology for assessing the glare effects of a light source or a group of lights should adhere to the guidelines outlined in CIE 112. c) The lighting system's design must incorporate a glare assessment based on CIE 112. d) The evaluations need to be conducted at 15° intervals, covering a full 360°. Observer positions must be situated at a height of 1.75 meters above the pitch surface. e) Both the maximum glare rating and the corresponding direction for each observer position must be defined and documented as part of the design and tested during commissioning. 2.10.5 Floodlight Testing a) The floodlight testing procedure must provide assurance that all the technical requirements related to the floodlights, as specified in this specification has been met. b) The illuminance tests must adhere to the standards outlined in EN 12193. c) The chosen grid size for testing will be based on the dimensions of a soccer pitch, specifically 68m x 105m. d) To facilitate comprehensive testing, a grid comprising of 68 points will be utilized. e) At each of these designated points, illuminance tests will be conducted. These tests will encompass measurements of both horizontal and vertical illuminance, considering four distinct angles namely 0°, 90°, 180°, and 270°. f) In total, the testing procedure will necessitate the execution of 450 illuminance tests. g) For the horizontal illuminance measurements, the meter will be positioned at a height of 1m in an upward direction. h) For the vertical illuminance tests, the meter must be positioned perpendicular to the pitch, 1m above the surface. It will then be rotated to four angles: 0°, 90°, 180°, and 270°. i) The meter employed in these tests must be calibrated, with the calibration certificate not exceeding one month in age. j) The testing procedure must include measurements for the Maximum Flicker Factor, to evaluate the potential for rapid illuminance fluctuations. k) To evaluate the Maximum Flicker Factor, a specialized 12-point flicker factor test must be conducted. This entails taking readings at specific points (predefined and agreed with the Employer) distributed throughout the stadium. These readings must be captured at a height of 1m along the 90° and 270° planes, in accordance with industry standards. - The test must also include readings of: - Average Flicker Factor - Glare rating - Colour Rendering - Colour Temperature	The specified heights for glare evaluation (1.75m) and illuminance testing (1m) serve distinct purposes and should not be seen as contradictory, these requirements are from the various reference requirements as listed in the tender. Section 2.2.6(d) – Glare Evaluation Height (1.75m): This height is chosen to simulate the typical eye level of spectators and players, ensuring that glare assessments accurately reflect real-world viewing conditions. Section 2.10.5(g) & (h) – Horizontal & Vertical Illuminance Testing (1m): These measurements are taken at 1m above the ground as this is the standard height for assessing lighting uniformity and performance on the playing surface as per industry norms. Since glare and illuminance measurements have different evaluation criteria, the use of different heights is intentional and appropriate for their respective purposes. The tenderer should ensure that both tests are conducted as specified to maintain compliance with the performance requirements.																		
7		In the tender invitation, your office made it clear that bids would be evaluated based on functionality due to the technical nature of the required skills. Specifically, under item C.2.1.4.3 – NO 1.2, which addresses functionality, the evaluation criteria focus on previous experience related to floodlight replacement. The tender, in summation, stipulates that bidders who meet this requirement could be awarded up to 10 points for functionality: "Provide copies of Completion Certificates of all Floodlight Replacement and control system upgrade projects where the total implementation work undertaken each exceeded a value of R5m (Five million rand) per installation respectively, which were completed during the last 5 years." It is understood that the purpose of the functionality scoring is to procure contractors who possess the necessary skills, technical knowledge, and capabilities to deliver the goods and services required for the completion of the project. However, we have concerns regarding the criteria used to allocate functionality points, specifically the requirement that proof of relevant works must be related to works done within the last five years. We believe this criterion is not applicable to the scope of work required for this project.	The section will be amendment to read: 1.2) "Provide copies of Completion Certificates of all Floodlight Replacement and control system upgrade projects where the total implementation work undertaken each exceeded a value of R5m (Five million rand) per installation respectively".																		



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8	10/03/2025	Further to this morning's (clarification) meeting, we have some concerns that relate to the budget and probability that the project can be delivered for R50m including VAT: a) Grow Lights We have been in contact with the two most reliable suppliers of grow lights including SGL, the incumbent supplier at Green Point Stadium. The direct COST to deliver a like for like replacement, being 4-units, is R20m excluding VAT, import duties (TBD but could be as high as 20%), any works to unload, install, upgrade electrical supply and training the stadium grounds team. This is already over 50% of the proposed budget. A full pitch system (9 units) from SGL is R40m excluding the above which will take the cost over R50m. Given the technology and cost involved it makes sense to use a reputable supplier with a proven track record, so it is highly unlikely that the project will be delivered within the budget. While we are exploring other avenues, I thought it best to bring this to your attention. b) Light Levels In 2021 FIFA REDUCED the light levels requirements for high level broadcast to take into account the impact of LED and to fall in line with other global bodies such as UEFA. World Athletics have followed suit and World Rugby is very much aligned with FIFA standards. While we have designed to the requested light levels, it is not foreseeable that FIFA will increase light levels given that we are already designing stadiums for the 2030 and 2034 World Cups to the current specification. To meet the uplifted specification, an additional 35% MORE luminaires are required which will have a knock-on effect for equipment costs, installation costs, controls networking as well as electrical consumption & generator loads. The current light level status is further evidenced in FIFA's recently launched quality programme for Floodlights which is aligned with the current FIFA lighting guidelines. Finally, in the unlikely event that FIFA do increase the light levels this would only be enforced for a WC tournament, and c) With regards the pitch-side DMX controller, We assume you are looking for a temporary interface that could be used by the Stadium and/or a 3rd party lighting designer for concerts etc.	a) CCT Takes note of this b) CCT Takes note of this c) The interface point/box and connection will be a permanent installation. External parties or event organisers will integrate temporarily into the system as needed. The specification already addresses this under Section 2.3.4b, stating: "The system must have the ability to be controlled by external parties utilizing the stadium for shows or concerts. An integration point installed in the moat must be provided to enable this functionality."																																							
9	10/03/2025	Disposal of lights: The tender indicates that lights must be disposed of by the successful tenderer. What does this entail? Would CCT want to keep the lights?	CCT does not wish to keep the lights. All removed lights must be accounted for in the design, including their quantities. It is industry standard to dispose of old lights, especially those with potential environmental impacts, at a reputable institution. The successful tenderer must provide a disposal certificate as proof.																																							
10	10/03/2025	Lighting Count a) Existing lighting count for the Façade LED Strip Type 1 b) Existing lighting count for Façade LED Strip Type 2 c) Existing lighting count for Stand Lights	a) Façade Lights Type 1 = 432 b) Façade Lights Type 2 = 144 c) Stand Lights = 72 																																							
11	10/03/2025	DHL Pitch information for the Grow Lights	1. Pitch Sub-base = USGA Specs - 300mm sand, 150mm drainage stone 2. Drainage system = Herringbone with added laterals 3. Grass type = Rye 70% + Fescue 30% (Throughout the year) 4. Grass Reinforcement = Stitched Hybrid – Grass Maxx duo 5. Heating = None 6. Pitch Usage per month <table><tr><th>Month</th><th>Number of matches</th><th>Number of trainings</th></tr><tr><td>Jan</td><td>2</td><td>3</td></tr><tr><td>Feb</td><td>2</td><td>2</td></tr><tr><td>Mar</td><td>3</td><td>8</td></tr><tr><td>Apr</td><td>5</td><td>11</td></tr><tr><td>May</td><td>1</td><td>7</td></tr><tr><td>June</td><td>5</td><td>6</td></tr><tr><td>July</td><td>13</td><td>7</td></tr><tr><td>Aug</td><td>5</td><td>10</td></tr><tr><td>Sept</td><td>9</td><td>7</td></tr><tr><td>Oct</td><td>1</td><td>4</td></tr><tr><td>Nov</td><td>4</td><td>1</td></tr><tr><td>Dec</td><td>5</td><td>6</td></tr></table> 7. Average amount of playing hours per match = 140min (Match 80min + 60min warm-up) 8. Average amount of playing hours per training? =120min (Captains) + 120min (Weekday training) 9. Average hours per annum the pitch is covered by Terra plus = ±280 Hours (±3 concerts a year) 10. Months when concerts occur =January, February, April, November	Month	Number of matches	Number of trainings	Jan	2	3	Feb	2	2	Mar	3	8	Apr	5	11	May	1	7	June	5	6	July	13	7	Aug	5	10	Sept	9	7	Oct	1	4	Nov	4	1	Dec	5	6
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12	12/03/2025	1. Is this design to be considered with Televised / non televised? if televised require camera positions. 2. Can we get the DWG / CaD layout for the entire stadium? 3. Existing mast detail/ structure to mount products, how old is the existing installation, any refurbishments considered for structure corrections to mount the luminaire? 4. Existing control panels or fresh control panels to be used? 5. Any other critical guideline to be followed? 6. Duration of the project for completion? 7. Any light controls to be incorporated as per games played?	1. The technical specification and the lighting levels as specified in section "2.2.2 Floodlight Performance Levels" of the tender provides all the functional performance requirements, irrespective of location of cameras. 2. All drawings that is in the possession of DHL Stadium, will be shared with the successful tenderer. 3. The installation is from the original construction - handover to City on 14 December 2009. No detailed drawing on the floodlighting mounting brackets/structure is available to the team. The structure is inspected in the frequency prescribed by the maintenance basis. No parts of this installation has been identified to be replaced. 5. The existing panels will not be sufficient for re-use as it is not DALI/DMX enabled. Please refer to the tender. 6. Please refer to the tender as a whole 7. Please refer to the tender - Part 1: Contract Data completed by the Employer clause 1.1.3.2 and 8.2 8. Please refer to the tender - Scope of Works
13	12/03/2025	1. Drawings requirements 1.1 Please provide us with the current As built Drawings for all the distribution boards or kiosk feeding the following lights 1.1.1 Flood Lights 1.1.2 Rakina beam (inside) 1.1.3 Stand Lights 1.1.4 Upper ring Projector Lights 1.1.5 Façade Lights(on the raking beam) 2. Heights of the luminaires from the ground level on Access/standing Platforms 2.1 Please provide us with the as built heights for all the lights indicated Above 3. What the maximum limit in terms tonnage or weight for the Cherry picker or Crane on the outside or inside of the stadium 4. Can you please provide us with the link for the various video of aspects of the as discussed on the tender briefing. 5. Provide us with reticulation drawings that indicate the route between the rotary UPS and the various distribution boards. For the lights to be integrated into the backup system	1. The following drawing have been provided in .dwg format to the tenderers: 701-EL-LS-002_10 ROOF LIGHTING AND ELECTRICAL PLAN GENERAL ARRANGEMENT 701-EL-LS-003_06 EVENT FLOODLIGHTING ELECTRICAL SUPPLY + CONTROL SCHEMATIC DIAGRAM 701-EL-LS-007_05 EVENT FLOODLIGHTING AND ROOF CABLE ROUTES.LEVEL 5 PART PLAN A 701-EL-LS-008_06 EVENT FLOODLIGHTING AND ROOF CABLE ROUTES.LEVEL 5 PART PLAN C 701-EL-LS-009_07 EVENT FLOODLIGHTING; CABLE ROUTES SECTIONS (BETWEEN GRID 50 AND 60) 701-EL-LS-012_04 EVENT FLOODLIGHTING AND ROOF CABLE ROUTES.LEVEL 6 PART PLAN C 701-EL-LS-015_03 GREENPOINT STADIUM: ELECTRICAL DETAILS (CABLE TO ROOF) 701-EL-LS-017_02 EXTERNAL FAÇADE ELEVATION: LIGHTING 701-EL-LS-014_02 ROOF CONSTRUCTION DETAIL ELEVATION & SECTION ROOF LIGHTING:ELECTRICAL DETAILS. 2. The tenderer can assume 48m. As built are not available that gives this detail, however the successful tenderer will have access to all stadium drawings. 3. Load bearing guideline attached (FINAL DOCUMENT_CTS LOAD BEARING GUIDELINES GRAPHIC.pdf): Outside (Podium): a 44m super boom cherry picker can be used. In the North & South (lower side), the cherry picker reaches on the glass. On the West & East (higher sides) the cherry picker reaches to the upper edge beam lights. Inside (hardened surface around the pitch: it is suggested that a 120 ton (crane weight) can reach the floodlights as long as a "fly jib" extension is utilised. 4. Provided as individual attachments with notice 5. See drawings provided available to team: 701-E-40.pdf - Substation 1: MDB S31 Schematic 701-E-44.pdf - Substation 2: MDB S32 Schematic 701-E-48.pdf - Substation 3: MDB S33 Schematic 701-E-69.pdf - Stadium LV Single Line Diagram 701-E-73.pdf - Stadium LV Single Line Diagram 701-E-77.pdf - Stadium LV Single Line Diagram 701-E-91.pdf - Stadium MW Single Line Diagram 701-E-D3.pdf - Essential Supply Small Power and Lighting 701-E-D9.pdf - SDB MIS and SDB ESS Schematic 701-E-DF.pdf - SDB S31-S33 Schematic 701-E-BS-ST07.pdf: Bulk Electrical Topology Diagram 701-E-BS-ST09.pdf - MIS and ESS Control Cable SLD
14	14/03/2025	1. What is the pitch dimension? 2. Select a type of grass reinforcement listed below a) None. b) Stitched hybrid. c) Hybrid carpet. d) Fibre sand. e) Fibre elastic. f) Other (please specify). 3. Select a type of heating: a) Sub-air. b) Glycol. c) Other (please specify). 4. Is the grass species maintained throughout the year? 5. Is the grass species C3 or C4.	1. Total grass area = 10 600m2 2. Item "b) stitched hybrid" 3. N/A as there is no heating 4. Yes 5. C3
15	24/03/2025	1. Can the presentation from the tender clarification meeting be sent to us. 2. More information is still required on quantity, type etc of the stand lights and Façade lights (page 109) 3. We would need dimensions and detailed pictures of the grow light cart. 4. We would need images of the drivers inside the currently installed LED luminaires for the Façade lights, Roof glow lights (A and B) and Ring of fire lights to be able to ensure the DMX system will work with the lights, or to quote on replacement drivers for the DMX integration.	1. The presentation from the tender clarification meeting has been uploaded to the official tender website. All tenderers are advised to regularly check the site for updates, addenda, and clarifications. 2. The required information on the stand lights and Façade lights, including quantity and type, has been provided in Clarification question 10 above. Tenderers are reminded to refer to the latest version of the tender clarification document for all official responses. 3. The existing grow light cart is not intended to be used as a basis for the new grow light solution. Tenderers must base their proposals on the design performance requirements provided, which include details related to the grass species, sunlight needs, and usage context within the stadium as outlined in the tender document and response to Question 14. 4. The existing luminaires were not originally designed for DMX integration, and detailed internal specifications, such as driver images, are not available. Tenderers are advised to make reasonable assumptions based on standard industry practice and include provisions in their proposals for either DMX-compatible replacements or modifications as needed to meet the required functionality.
		Prepared by:	
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