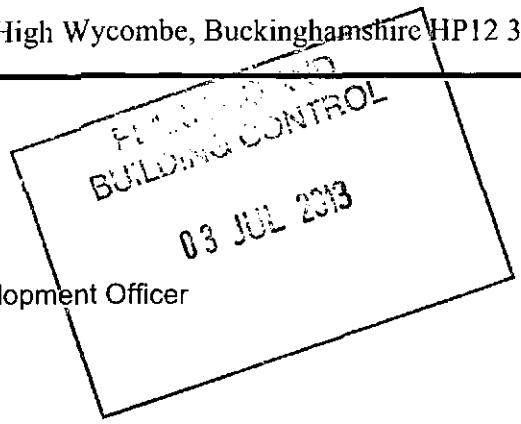
Ayrlect Associates
Consulting Engineers

Building Services Design & Management

77, Dashwood Avenue, High Wycombe, Buckinghamshire HP12 3DZ



11th July 2012

Our Ref: 1797

Mr D Ashton
Manchester Tennis Development Officer
Manchester City Council
Sports City Way
Manchester
M11 3FF

Dear Mr Ashton,

Ref: LTA Technical Services - Project Ref 2012/141

Wythenshaw Park - Outdoor Court Floodlighting

Following my meeting at the Park, please find attached our Post Visit Report, which includes indicative costs for the floodlighting element of your project.

To progress your project, you will need to address the issues raised at the meeting and the items contained in the report.

I look forward to developing this Project with you and your team.

Yours sincerely,

Tony Hill

Cc Mr C Donkin - LTA Facility Projects
Mr G Clarkson - LTA Project Manager
Phil Keely - Labosport

Tel: 01494 472575 Fax: 01494 472578
E-mail: ayrlect.assoc@btconnect.com

BRITISH TENNIS | LTA

POST VISIT REPORT

Wythenshaw Park - LTA – TS Ref: 2012/141

Date: 11th July 2012

1. Lighting Scheme Overview
2. Planning Issues
3. Power Supply
4. Budget Costs
5. Actions required

Appendices

Sketch layout drawing (To illustrate the design concepts developed to date)

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Lighting Scheme

This document is intended to provide an overview of your scheme only. It is not intended and MUST NOT be used to obtain quotations from Contractors or construed as a tender document.

The concept for this project is to illuminate the courts as set out below, to fully comply with LTA lighting standards. The overall scheme comprises the installation of the floodlighting and appropriate controls.

1. Scheme Overview

There are 3 courts numbered 4, 5 & 6 to be illuminated. There are no future floodlit courts planned.

The courts are arranged in 1 block and are to be individually switched.

The LTA Recommended performance standards are to be applied to this project. This is to be achieved using 4 No. x 10m high root mounted columns located inside the fence line in a corner lit configuration. It is intended to re-use four (4) columns ref C5 – C8 inc).

There will be 12 Metal Halide light fittings (luminaires) of a 'projector' type each rated at 2Kw running on a three phase supply. The model recommended is the Phillips MVP507.

The existing distribution/control panel is to be re-used by the floodlighting contractor. It is located in the switch room of the Tennis Building.

Power cables will be installed between the control panel and the columns. The existing control cable and control switches are to be re-used.

If MCC decide to replace the fittings on court nos 1,2 & 3 the existing fittings will need to be made safe, disconnected, removed and disposed of safely from site.

A partial cable ducting provision is envisaged as illustrated on the concept sketch.

With regard to control systems the following are to be included at this stage:

- 1 Master time clock (re-using existing time clock)
- 3 'Hours run' counters within the central control panel.
- 3 Sets of manual control per court (at existing location in the Tennis Building – re-use existing circuits and switches in the Tennis Building)
- 3 Egress lights – one on each court.
- 6 Power sockets located at the end and between the courts (four to replace existing serving courts 1, 2 & 3).
- 1 Power socket key switch - re-use existing circuit and re0locate the fishtail key switch within the Tennis Building.

2. Planning Process

To date the Council have not obtained planning approval which will be required for the floodlighting scheme. In order to support this process, please provide the data detailed in the planning information sheet provided at our meeting.

Once the site and location plans have been received to the standards defined we hold instructions from the LTA to obtain a Lighting Data Pack on behalf of the Club to support your planning application. We intend to approach Messrs LTL Contracts to assist as discussed.

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3. Power

Power Supply

There is an existing 415Volts TP&N power supply to the site.

It is rated at 70 Kva.

It is located within the Tennis Building.

Under this topic we refer you to the guidance contained in the floodlighting Action List attached.

From our initial site inspection we consider that your existing supply may be adequate, but this will need verification as described in the action list attached to this report.

The Local Authority is to have the spare capacity and/or condition of the existing electrical installation checked by a local NICEIC registered Contractor.

Power load

The existing floodlighting imposes a load of 33 Kva.

The load of the new lights will be 33 Kva.

N.B these figures exclude the power load of any club buildings.

4. Budget Costs

The estimated cost to be used for this project is £22, 040 plus VAT.

The following item is to be priced by others and is excluded from our budget costs to date;

- Alterations to existing switchgear at the intake point.

The following items are included in the overall budget costs;

- Contingency for "load shedding" controls for existing heating - £600.00 plus VAT.
- System protection, including alterations to the existing floodlighting DB - £750.00 plus VAT.
- Cable duct alterations - £ 600.00 plus VAT.
- System management control systems for 3 courts manually controlled from existing circuits - £525.00 plus VAT.
- Socket outlets, key controlled - £1,635.00 plus VAT.

The values given are intended as a guide and are based on recent tenders for similar works designed to meet appropriate LTA technical standards.

The following items are EXCLUDED from our budget cost:

- Any new power supply required to the site
- Attendance works on the Electricity Co.
- Professional fees for project management and supervision, (typically 8 to 10%)
- Planning Fees
- Statutory Authority charges
- Contingencies (typically 10%)

Sinking Fund / Life Cycle Costs should be accrued over 20 years and should be budgeted at £1,400 per annum based on 300 hours of usage per court per year. The life cycle cost per court is therefore approximately £2 per hour.

You will also need to take into account power costs and maintenance charges which are currently rated at £1 and £2 per hour respectively.

The above figures are of course also governed by the current economic climate and the time that may elapse between the cost plan preparation and the final appointment of the contractor.

5. Actions to be taken by the Council

At our meeting we provided the Ayrlect Associates Lighting Information Pack which should be used as guidance for the floodlighting element of your project. This provides useful notes on the planning process, power supply, control systems etc.

An Action List has been attached to define the key issues needed to be addressed by the Council in conjunction with us to progress the project.

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Ayrlect Associates (AA)

Floodlighting Project Action list for – Wythenshaw Park, Manchester, as at 29th June 2012

This checklist is to be used alongside the relevant Information sheets issued at our meeting which provide detailed guidance on the approach to be adopted.

Obtain Planning Approval

Obtain planning application forms
From the forms - Identify if a Topographical survey is required?
Produce a Location Plan, with all local screening, from trees and hedges detailed to enable the lighting design to illustrate the positive impact of these features on spillage control and light trespass.
Produce a Site Plan of the court block, fully detailed to the standards defined in the Information Sheet issued at our meeting
Confirm the type of light source to be applied viz. Metal Halide / Sodium and (if applicable) to match the existing lighting.
Identify the Court Nos on the site plan, for which an application to planning is to be made.
Provide the above drawing to AA ideally in electronic format (ideally in 'AutoCAD' DWG format) to enable a lighting Data Pack to be created to support the planning application.
Submit drawings and Data Pack to planning for approval
When making the submission to planning - Invite planning to include a 'condition' in any approval they may grant that will require you submit final details of the fitting selection prior to commencing work on site. This would enable you to make a final contractor selection from the 'design and build' tender process you will be using, based on best value without the need to seek a change of fitting via 'delegated powers' which may prove difficult or impossible for planning to utilize.

Send Planning Approval to AA

Other

Obtain copies of record drawings to identify all existing services on the site
- Gas, Electric, Water, Drainage, Communications.

Please explain that you are planning construction works and require the information for the Construction & Design Management Regulations (CDM). Normally they will send you a drawing showing all their supplies. Some may charge for providing this information.
These drawings are needed during the process of obtaining tenders / quotations from Contractors.

Condition Survey

As it is intended to re-use four of the existing columns (C5 to C8 inclusive) and double the weight of the fittings installed on them, we recommend that you commission a condition survey of all columns. As agreed, we note below the contact details for Messrs CMT Testing Ltd., who have successfully carried out this service for others of our Clients.

CMT(Testing) Limited
Prime Parkway
Prime Enterprise Park
Derby
DE1 3QB
Tel 01332 383333
Fax 01332 602607
www.cmt-ltd.co.uk

Power Supply

For information

We have established the total load [Kva rating] of the tennis development at 66 Kva for six (6) courts, thus doubling the existing power load for the court lighting on this site.
These values cover the total load of all facilities on each court and not just the lamp load. A 10% contingency is also included in accordance with good design practice.

Action by the Council

Power capacity
You need to review the power loads of any other electrical equipment connected to the floodlighting distribution board to identify an overall Total Power load requirement.
From the foregoing decide the method by which the proposed lighting will be powered.
This is envisaged to be from the existing supply to the Site, rated at 70Kva.

To avoid the need for a new, or upgraded, power supply you may need to consider the concept of 'load shedding' the space heating within the Tennis Building, at times when the floodlighting is to be in operation. It is possible to develop a design to introduce 'load shedding' automatically, when the number of courts in operation exceeds the current three (3). This facility can be included by us, on request, within the Employers Requirements (ER) document; we are instructed to provide by the LTA.
This feature can then be priced by contractors during the Tender Process. To date we have included a contingency sum of £ 600.00 (plus v.a.t) in the Cost Plan.

Condition survey and local contractor briefing note

You will also need to have the condition checked of the existing installation, utilizing the services of a local NICEIC registered contractor as necessary.

Briefing for the local electrical contractor
Attend site to establish if the existing supply to the site has the required spare capacity for a load of 66Kva on the existing three phase supply at the times the court lighting is to be in operation. (15.00 hrs to curfew – 21.45hrs)

Periodic Inspection Report
The Council should hold a current Periodic Inspection Report on the condition of the existing electrical instillation. If not you should commission the provision of such a report.

If you have recently had a Periodic Inspection carried out on your existing electrical installation you should also review and put in place any remedial work arising from this Inspection.

We recommend that you utilize the services of a local NICEIC registered contractor in respect of both the forgoing items. .

We can offer fee proposals to provide further assistance on the power supply issues, on request, as work to develop the power supply provision is outside our basic instructions form the LTA.

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Tender Process, Review and Appointment of Contractor

Once you have achieved planning approval, resolved any power supply issues and have secured funding, at least in principle, you can progress your floodlighting project and hence we can complete our instructions from the LTA as follows,

Provide planning and power supply documentation to AA

Agree control features for the scheme from the Post Visit Report

Request Employers Requirements (ER) document from AA

Review and amend ER, via AA, if required

Send ER and invitation letter to contractors or instruct us to do this on your behalf, subject to agreement for the associated fees.

Send up to three [3] Tenders to AA for review and technical sign off

Allow 3 weeks for return of tenders and One week for tender review

Appoint Contractor

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Electrical installation and Testing to BS7671:2001

Content and application

For all new electrical installations a FULL certificate must be provided by an NICEIC or ECA registered Contractor responsible for the design, installation and testing of the installation. The certification includes a full test schedule as required under an 'Electrical Installation Certificate'.

It is not acceptable for works by one contractor to be 'signed off' by another as the overall responsibility for compliance with BS7671 must rest with one contractor.

This certificate is suitable for submission to the Client's insurance company, clarifying that the works have been carried out and assessed to the correct British Standard. It is recommended a copy is forwarded to them.

NICEIC / ECA

The design, installation and testing should be carried out by a member of the National Inspection Council for Electrical Installation Contracting (NICEIC) or the Electrical Contractors Association

Testing

Full electrical tests are to be carried out and recorded to BS7671:2001 (incorporating AMDS 1:2002 and 2:2002)

Electrical Design

An Electrical Installation Certificate is provided to certify the design of the electrical installation has been installed with care and skill and that to the best of its knowledge carried out to BS7671 Inc Amendments.

Electrical Construction

An Electrical Installation Certificate is provided to certify the construction of the electrical installation has been carried out with care and skill and that to the best of its knowledge carried out to BS7671 Inc Amendments.

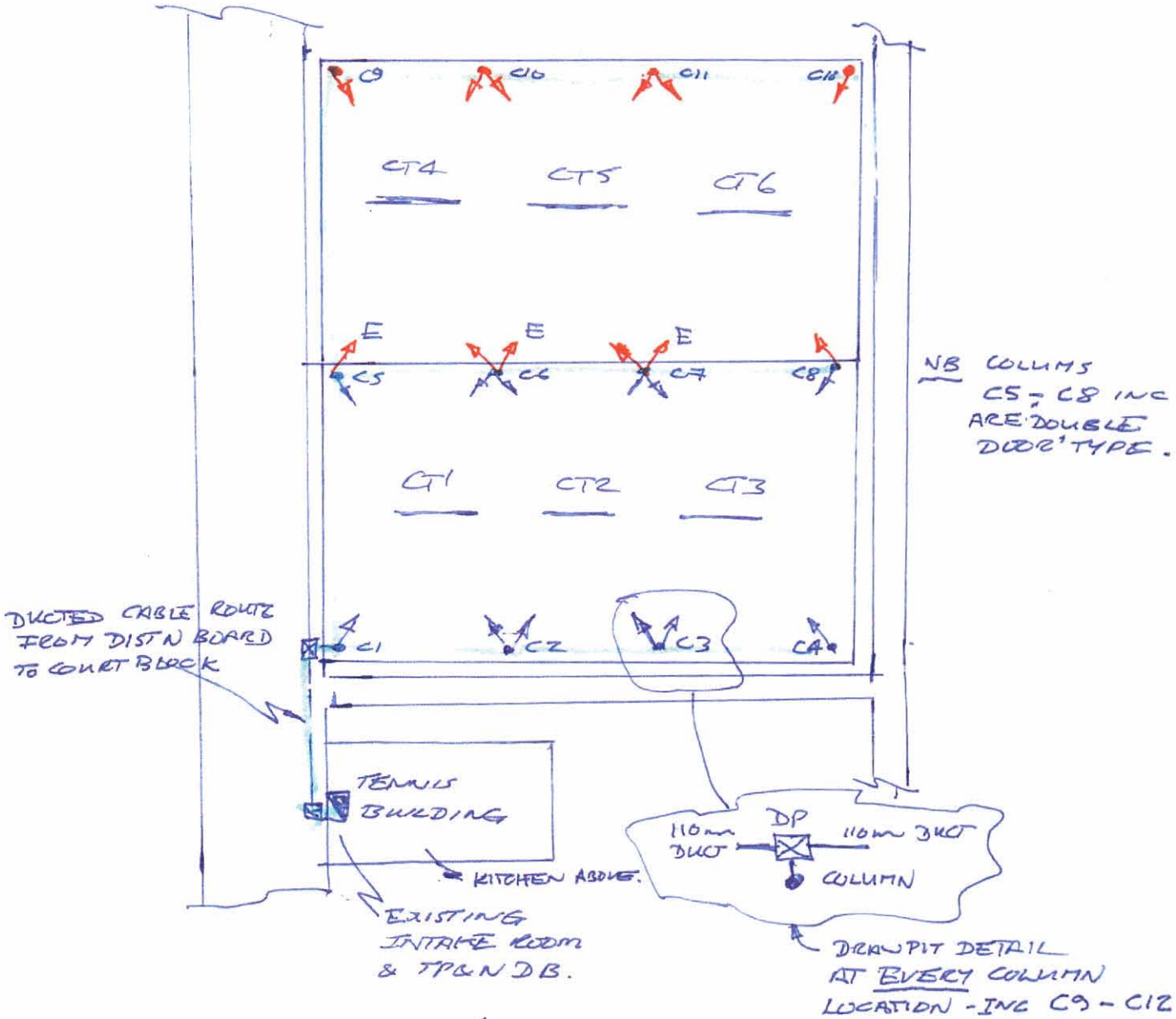
Electrical Inspection & Testing

An Electrical Installation Certificate is provided to certify the inspection & testing of the electrical installation has been carried out with care and skill and that to the best of its knowledge carried out to BS7671 Inc Amendments

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Appendices

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DUCTED CABLE ROUTE FROM DIST'N BOARD TO COURT BLOCK

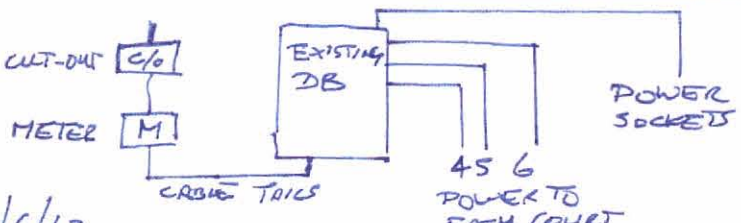
EXISTING INTAKE ROOM & TP&N DB.

DRAWPIT DETAIL AT EVERY COLUMN LOCATION - INC C9 - C12

NB COLUMNS C5 - C8 INC ARE DOUBLE DOOR TYPE.

- EXISTING 10m COLUMNS WITH 2kW 'PROJECTOR' TYPE FLOODLIGHTS
- NEW 10m COLUMNS
- 12 - ADDITIONAL 2kW PROJECTOR FITTINGS
- E = EGRESS L'TS, - 1 - FLOODLIGHT RETAINED TO PROVIDE EGRESS L'TS TO COURT
- = EXISTING 110m DIA CABLE DUCTS VIA DRAWPITS
- = DRAWPITS

SITE LAYOUT CONCEPTS



NB CONTROL CABLE TO KITCHEN AREA, IN TENNIS BUILDING, IS ALREADY INSTALLED.

POWER DIST'N CONCEPTS

20/6/12

WYTHENSHAW PARK

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