POST OCCUPANCY EVALUATION REPORT

SUTTON BONINGTON SPORTS CENTRE

MAY 2010

Post Occupancy Evaluation: Sutton Bonington Sports Centre
For the University of Nottingham

1. Introduction

QTC Projects were appointed to carry out the Post Occupancy Evaluation following the submission of a proposal letter dated 18 May 2009 to the University of Nottingham Development Director.

2. Scope of the Review

Evaluation Technique

The evaluation was conducted at strategic review stage (2-3 years after handover).

Analysis

Analysis consisted of reviewing all written information received concerning the building project together with project files/reports and information collated from the questionnaires and workshop. Particular areas reviewed were:

Purpose and Scope of project
Some aspects of the building procurement process
Budget and cost management
Construction and project management
Building user feedback

Questionnaires

Questionnaires were developed to obtain information and feedback from five specific groups:

a. Client
   - Assistant Director, Sport & Physical Recreation
   - Sports Centre Supervisor

b. User
   - a representative sample of 45 users of the sports facilities which included students, staff and external members

c. Consultant Support
   - Project Manager/Quantity Surveyor
   - Services Engineer

d. Estates Office

e. Contractor

Samples of the client and user questionnaires are shown in Appendix 1.

Workshop

A half day workshop was held on 20 May 2010 (a list of attendees is shown in Appendix 2.)

The format for the workshop was a brief presentation by QTC Projects acting as facilitators which included feedback from the user satisfaction questionnaires. The workshop helped to highlight the key issues that had been raised in the questionnaires and interviews which were then discussed and debated.

The information from the workshop provided important comment which has been incorporated into this report.

3. Building Data

Name	Sutton Bonington Sports Centre
Size	1,614m²
No of Storeys	2
Types of Space	Entrance and Reception 4 Court Sports Hall Squash Courts Fitness Room Dance Studio/Practice Room Changing Facilities
Start on site	16 April 2007
Date Completed	21 December 2007
Date Opened	22 January 2008
Cost (including VAT)	£2.45m
Construction value	£2.0m (excluding VAT)
Funding	University
Consultant Support	
Project Manager	Wilson Large, Nottingham
Services Engineer	D H Squires, Nottingham
Contractor	Ocon Construction, Manchester
Contractor's Architect	Maber Architects, Nottingham
Building Contract	JCT Design and Build Contract (2005)

4. Project Background and Description

The building of the new School of Veterinary Medicine and Science on the Sutton Bonington Campus has resulted in the doubling of site based student numbers and a corresponding increase of staff. The existing facilities were outdated and inadequate for the number of potential users now on campus. Measured against Sport England criteria and other competing University sports facilities, the existing accommodation did not meet appropriate operational standards.

Following the development of the Jubilee Campus and associated amenities including sport, the provision of adequate facilities at the Sutton Bonington campus became a priority.

A business case was prepared by the Department of Sport and Recreation and approval given to construct a new Sports Centre on a site identified to the east of the main campus adjacent the existing sports pitches.

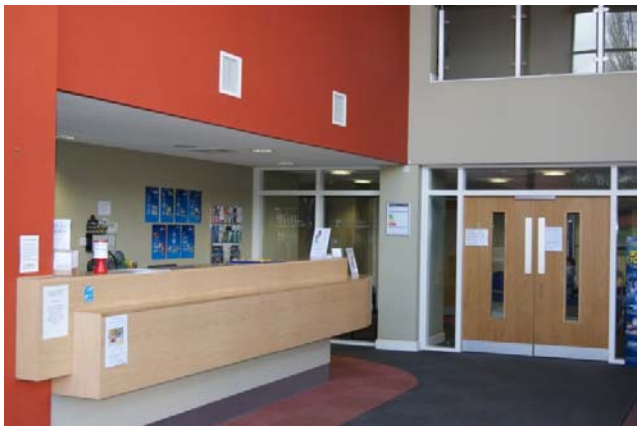
The project for the new sports centre was constructed through a Design & Build contract. Work on site commenced on 16 April 2007 and was completed by 21 December 2007. The Sports Centre officially opened for business on 22 January 2008 following use of the centre for University examinations over the Christmas vacation.

The user client had detailed input into the design process and thus the ultimate design and layout are much improved compared to the Jubilee Campus Sports Centre.

The building follows a fairly standard spatial layout and footprint for the level of facilities provided. The full height sports hall and squash courts sit alongside the ground floor entrance/reception and changing facilities with the fitness room and dance studio above.

The entrance is spacious and attractive which gives a good first impression when approaching the reception desk. This theme is followed through into the circulation areas which are generous and there is a clear and logical layout of the facilities and their approach.

Entrance Foyer



Reception Desk

The sports hall with a Granwood Sprung Floor is sized for four badminton courts as the provision of an eight court hall could not be justified on the level of projected use. However the building has been designed to be extended if necessary. Two squash courts are provided which are of standard size. One court within the sports hall could have been increased in size to cater for handball competitions at National level, as requested by the user client, but budget restrictions prevented this.

Externally, the building is sited well back from the road and located adjacent to the railway line on the eastern boundary and the existing sports pitches to the north and west. An existing external floodlit all weather pitch is also located adjacent the building. Parking is provided for 33 cars.

The external appearance of the building emphasises the main entrance through use of extensive full height glazing beneath a projecting main roof canopy. Materials used for the other elevations are a mix of rendered and stained cedar timber panels, face blockwork and colour coated metal cladding. Mill finished aluminium is used for the curved roof.

The project was completed on time and within budget and the centre has proved attractive to both University and community users with the user client very pleased with the outcome.

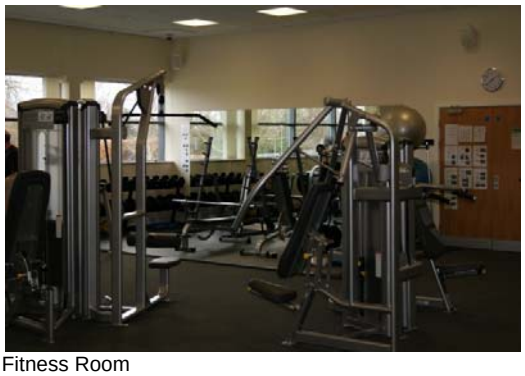
5. User Satisfaction

Building user satisfaction has been assessed from the responses to the questionnaires received and analysis of the comments made. Appendix 3 shows a range of bar charts covering the following areas:

- Satisfaction with specific room types, ie reception area, sports hall, fitness
- room, squash courts, changing facilities, dance studio and overall impact
- Security
- Accessibility
- Cleanliness
- Room Temperature

The responses from all three categories of user: student, staff and community have been very positive across all the areas assessed.

The reception area had the highest level of satisfaction with 73% of respondents rating this area as excellent. The Fitness Room also had a good level of satisfaction with the average score being good to excellent. Generally the lower scores for this room reflected some user comments relating to the lack of air conditioning within the room and no opening windows; 13% of respondents commented on this.


Fitness Room


Changing Rooms

The Squash Courts were rated as good with some negative comments concerning the poor visibility from the viewing gallery. The Sports Hall was rated on average good to excellent.

The area where least satisfaction occurred was in the changing rooms. The University has adopted a policy of no locker provision, even for valuables, but 37% of respondents made reference for the need for lockers within the changing rooms.

Despite these comments the average rating for overall impact of the rooms was between good and excellent. Equally, there was a very high level of satisfaction with security, accessibility and cleanliness. Some security comments related to the need to improve security in the changing rooms for storage of valuables.

Finally comments on room temperature show that, on average, users are fairly comfortable in Winter but in Summer the bar chart shows a greater level of dissatisfaction, mainly due to lack of air conditioning in the fitness room and dance studio.

Recommendations

Consider installation of lockers in the changing rooms at some future date

Consider installation of cooling at least to the fitness room at some future date

Improve visibility for viewing the main sports hall and squash courts at gallery level (This has now been implemented for the sports hall but still being considered for the squash courts).

6. Procurement

The building contract used was the JCT Design and Build Contract (2005) with the Contractor responsible for architectural, structural and mechanical and electrical services design.

The University separately employed the Project Manager who took on the Quantity Surveying duties, contract administration and CDM Co ordinator roles. A Services Engineer was appointed to prepare the mechanical and electrical performance specification, monitor the design development by the Contractor and quality on site. There was no novation. No tenders were invited for these consultant appointments, their selection being based on previous experience and project work done for the University and on fee quotations which reflected current local norms.

A detailed employer's requirement document was produced incorporating an outline design brief, performance specification and room data sheets. This was issued to the tendering contractors together with the site investigation report and pre tender Health & Safety plan.

Tender documents were issued to four contractors on 24 July 2006 who were invited to visit the site at Sutton Bonington and the Jubilee Campus Sports Centre.

The four contractors were each asked to present their design proposals to the University on 25 September, following which the sealed tenders were opened. The tenders of Ocon Construction and Thomas Fish were selected for a further presentation to the University on 10 November. Ocon Construction were subsequently appointed (by letter of intent) on 8 December 2006 based on a 36 week construction contract.

The Contractor was responsible for the appointment of his own design team and obtaining planning and building regulation approvals. Rushcliffe Borough Council had no issues with the project.

The Design and Build contract worked well for this type of building which was not highly serviced, had no innovative design content and used tried and tested building materials and components. This, together with effective project management, application of rigorous cost control and the appointment of a competent contractor with good site management, ensured a successful project in this instance.

This procurement route therefore achieved value for money for the University with a good design which may not have been achieved if an Architect had been employed directly by the client.

Recommendation

Projects of this nature lend themselves well to a basic Design and Build contract and this form of contract and procurement route should continue to be used on future projects where appropriate.

7. Budget and Cost Management

At the inception of the project, a preliminary budget was established which allowed for a construction cost of £1.65m (£2m gross). This was a very preliminary figure since at this stage no clear brief had been set and no drawings prepared. At pre tender stage the net construction cost was estimated at £1.75m.

Four tenders were received and following presentations and further assessments, the tender from Ocon Construction of £2,059,569 was accepted subject to further negotiations on agreed savings. Ocon Construction's tender was 12% lower than the next lowest and 21% lower than the highest tender received.

Agreed savings were made amounting to just under £65,000, the majority of which was achieved from a reduction in floor area of the proposed building (reduction in corridor width and size of changing rooms) which had no material impact on the quality of the building. Adjustment of provisional sums provided a further £10,000 saving.

The project manager followed well established change control procedures during the design development and construction stages and variations were kept under control.

Increase in car parking provision and the Section 278 Agreement works imposed by the Local Authority added to the overall costs but these were offset by savings made to the mechanical and electrical installations. Client variations added further costs but the majority of these changes improved the building and its facilities. Floodlighting to the existing all weather pitch was amended and HV cabling works undertaken to upgrade the supply for future developments.

Table 1 shows a summary analysis of the contract sums from tender stage through to the Final Account.

Table 1

CONTRACT SUM ANALYSIS

TENDER	**2,059,569**
Less agreed savings	**64,916**
	1,994,653
Adjustment of Provisional Sums	**- 10,038**
	1,984,615
Variations- net figure (offset by £25k M&E savings)	**33,694**
	2,018,579
Less savings (to be agreed)	**5,676**
CONTRACT SUM	**2,012,903**
Further Variations	**42,360**
- **HV Cabling Works (£16k)**	
- **Floodlighting (£12k)**	
- **Misc Client Requests (£14k)**	
	2,055,263
Post Completion	**5,851**
FINAL ACCOUNT	**2,061,114**

It can be seen that the Final Account figure is very close to the original tender sum. This is a very good outcome achieved through proactive cost management and the close working relationship between the project manager and the University's Estate Office.

Recommendation

Effective cost management has been applied to this project with both the project manager and Estate Office actively seeking value for money for the University. This should continue and be applied to future capital projects.

8. Programme

The programme agreed for the project once the contractor was appointed at the beginning of December 2006 was 18 weeks for design development and 36 weeks for construction. The design development period was adequate for the size and complexity of the project and there were no planning issues that might have delayed the project.

Construction work started on site on 16 April 2007. Work was closely monitored on site through monthly progress meetings with further interim meetings held coming up to the practical completion date. Delays of between 1 and 3 weeks were reported as work progressed on site but the contractor was able to pull back lost time and achieved completion by the contract date of 21 December 2007.

9. Building Performance

The design brief for the project stipulated that specific sports standards had to be achieved. The sports hall has been built to Sport England specification and for some sports, the standards set by the ruling bodies have been exceeded. However the lighting to the squash courts is not sufficient for playing at national level. (This was not a requirement in the design brief).

The squash courts are heated by stand alone heating units located at high level. Comments have been made that the courts are cold in winter. Different wall temperatures are not ideal for 'top end' players but the courts were never designed for this level of player. The heating controls cannot be controlled by building users nor by the Estate Offices Building Management system thus requiring the attendance of an electrician to make adjustments to settings. The users consider that the ability to control the heating at a local level by the Sports Centre supervisor might improve responses to changes in temperature.

Improvements have been made to the doors to the Sports Hall. Unlike the Jubilee Campus Sports Hall, all door furniture is flush fitting and the external fire escape doors are reinforced.

Mechanical ventilation is provided to the Fitness Room and Dance Studio but no cooling. As a result, portable fans are used to improve environmental conditions at certain times of the year.

The paint finish to the internal walls is a standard emulsion which cannot withstand any washing or cleaning down. A more durable eggshell paint finish would have been more appropriate in some areas particularly the changing rooms.

The user client has commented that drain smells have been detected in the changing rooms. It has been confirmed that there are no problems with the drainage installation and the cause is probably due to some of the drainage traps drying out. Regular checks need to be made to ensure the traps are full and location of floor drains should be carefully considered on future projects.

On sustainability, the building has been designed to achieve a BREEAM 'very good' standard and has achieved the highest energy rating. Rain water harvesting has been incorporated into the design and feeds the toilet sanitary fittings.

Excess rain water run-off from the new hard surfaces is directed through swales and therefore no surface water enters the existing drainage system.

Recommendations

Consider improving the lighting level to the squash courts if national level playing standards need to be achieved.

Consider improvements to the controls to the squash court heating units

Consider installing cooling to the fitness room and dance studio at some future date.

Ensure internal wall finishes are carefully selected and can be cleaned and washed down where appropriate.

Location of floor drains should be designed to eliminate drying out of traps to gullys where possible.

10. Construction Issues

The main issue relating to construction which is still outstanding is the Granwood flooring to the Sports Hall. Due to excessive movement in the floor, cracks have opened and although this does not affect use of the floor for sports, the problem needs to be resolved.

The University was keen to revert to the more traditional timber sprung floor following the poor performance of the Desso floor used in the University Park Sports Centre which was due to the variety of uses the floor has had to sustain.

However, from occupation there have been problems with the Granwood floor due to extensive movement. Remedial work has been undertaken, at the main contractor's expense, to properly seal the damp proof membrane against the external wall DPC but further movement has still occurred.

Discussions are ongoing between the main contractor and Granwood Floors and further remedial work is planned. The performance of Granwood Floors as a company in seeking to resolve the problem as part of the post completion service has not been good according to the comments made at the workshop and certainly the contractor would be reluctant to install Granwood flooring in the future.

Another construction issue relates to rainwater penetration in the foyer area which appears to be coming from a concealed rainwater pipe. The contractor is currently monitoring this for further water ingress.

Soon after handover there were two issues relating to the electrical substation and LV supplies. The construction of the substation floor slab did not allow for an earthing network to be installed and the circuit breakers were not set at the correct level resulting in a number of power failures in the new building. Some adjustment of the circuit breakers has now been made and the user client is not experiencing any power failures. However the issue of the substation floor needs to be checked as to whether this has now been rectified.

Generally the contractor has performed well on this project. Ocon Construction have demonstrated through their architects a good rapport with the user client at the design stage and effectve site management has achieved a good level of quality bearing in mind the constraints of the budget. Their 'post build care' has continued up to the present date.

Recommendations

Resolve the problem with the Granwood floor

Continue to monitor the main entrance foyer for further water ingress and take remedial action if this re occurs.

Check the earthing to the substation floor.

11. Operation and Facilities Issues

Comments made at the workshop indicate that from a maintenance point of view there had been no major issues. Apart from the problems referred to in the earlier section of this report it appeared to be a trouble free building.

It was confirmed that during the course of the project, particularly the early stages, meetings had taken place with members of maintenance staff and the former University senior engineer was also involved.

Security issues raised at the workshop related to the date for handover (21 December) which was the last day before the University closed for Christmas. Temporary locks had to be put on doors and no key schedule was provided. This was due to ordering keys far too late in the programme.

Recommendations

Involve the security manager more with the design development of the project.

Continue to ensure that discussions take place with maintenance staff at the design stage and various stages of construction.

Keys and locks should be ordered well in advance of completion and key schedules prepared.

12. Success Factors

The key success factors for this project can be summarised as follows:

a. Lessons have been learnt from the Jubilee Campus design and layout

b. Early involvement and dialogue with the user client has ensured a Sports Centre design of a high standard.

c. Good client direction both from the Estate office and the Department of Sport and Recreation with very few compromises

d. Good interpretation of the brief by the design team

e. The Design and Build contract worked well on this project

f. Rigorous cost control delivered a project on budget

g. Effective project management

h. Good communication between all participants and stakeholders

i. Realistic programme with adequate time allowed for both design development and construction

j. The construction site team demonstrated effective site management and overall the contractor had a good relationship with the client and project manager.

13. Summary of Recommendations

User satisfaction

Consider installation of lockers in the changing rooms at some future date

Consider installation of cooling at least to the fitness room at some future date

Improve visibility for viewing the main sports hall and squash courts at gallery level (This has now been implemented for the sports hall but still being considered for the squash courts).

Procurement

Projects of this nature lend themselves well to a basic Design and Build contract and this form of contract and procurement route should continue to be used on future projects where appropriate.

Budget and Cost Management

Effective cost management has been applied to this project with both the project manager and Estate Office actively seeking value for money for the University. This should continue and be applied to future capital projects.

Building Performance

Consider improving the lighting level to the squash courts if national level playing standards need to be achieved.

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Continue to ensure that discussions take place with maintenance staff at the design stage and various stages of construction.

Keys and locks should be ordered well in advance of completion and key schedules prepared.

APPENDIX 1

Sample Questionnaires

POST OCCUPANCY EVALUATION

BUILDING USER SATISFACTION QUESTIONNAIRE

BUILDING: SUTTON BONINGTON SPORTS CENTRE

User Type (Please tick most relevant or state in 'other')
Student
Staff
Other…….....

Date ……..

An evaluation of the Sports Centre building is being conducted to assess how well it performs for those who occupy and/or use it. This information will be used to assess areas that might need improvement and provide feedback that can be used for the benefit of similar future buildings.

Please complete the following questions relating to the above project by ticking the appropriate boxes and adding comments where requested. Completed questionnaires should be emailed to Tony@qtcprojects.co.uk

1 – Satisfaction with types of space in building

Please rate the overall quality of the following areas:
(Please tick)

A: Reception Area	Poor	1	2	3	4	5	Excellent
B: Changing Facilities	Poor	1	2	3	4	5	Excellent
C: Sports Hall	Poor	1	2	3	4	5	Excellent
D: Squash Courts	Poor	1	2	3	4	5	Excellent
E: Fitness Room	Poor	1	2	3	4	5	Excellent
F: Practice Room	Poor	1	2	3	4	5	Excellent
G: Overall Impact	Poor	1	2	3	4	5	Excellent

2 - Security

2.1 How safe do you feel in the building and its surroudings? (*Please tick)*

Unsafe Very safe

1	2	3	4	5	6	7	8	9	10

3 - Accessibility

3.1 How accessible is the building?

Not Accessible Very accessible

1	2	3	4	5	6	7	8	9	10

4 - Cleanliness

4.1 How clean is the building?

Dirty Clean

1	2	3	4	5	6	7	8	9	10

5 – Changing Rooms

5.1 Are you satisfied with the facilities within the changing rooms?

Not satisfied satisfied

1	2	3	4	5	6	7	8	9	10

6 - Temperature

6.1 Is the temperature in winter too cold or too hot?

Too cold Too hot

1	2	3	4	5	6	7	8	9	10

6.2 Is the temperature in summer too cold or too hot?

Too cold Too hot

1	2	3	4	5	6	7	8	9	10

10 - Comments

If you have any additional comments that you would like to make about any aspect of the building and your working environment please note them here. If relevant to a particular question please give the question number.

Thank you for completing the questionnaire.
Completed forms should be returned to Tony@qtcprojects.co.uk

POST OCCUPANCY EVALUATION

CLIENT SATISFACTION QUESTIONNAIRE

PROJECT: Sutton Bonington Sports Centre

Completed by ……..

Post/Position ……..

Date ……..

Please complete the following questions relating to the above project by ticking the appropriate boxes and adding comments where requested. Completed questionnaires should be emailed to Tony@qtcprojects.co.uk

SECTION 1 – CLIENT SATISFACTION – PRODUCT

1.1 How satisfied were you with the finished building?

Dissatisfied									Satisfied
1	2	3	4	5	6	7	8	9	10

1.2 How satisfied were you that the design of the project met your requirements?

Dissatisfied									Satisfied
1	2	3	4	5	6	7	8	9	10

1.3 How satisfied are you that the facilities meet your requirements?

Dissatisfied									Satisfied
1	2	3	4	5	6	7	8	9	10

SECTION 2 – CLIENT SATISFACTION – SERVICE

2.1 How satisfied were you with the service provided by Estates?

Dissatisfied									Satisfied
1	2	3	4	5	6	7	8	9	10

2.2 How helpful were Estates during initial planning of the project?

Unhelpful									Helpful
1	2	3	4	5	6	7	8	9	10

2.3 How well did Estates keep you informed during the project?

Poor communication									Good communication
1	2	3	4	5	6	7	8	9	10

2.4 Were any problems resolved to your satisfaction?

No									Yes
1	2	3	4	5	6	7	8	9	10

2.5 How satisfied were you with the services provided by the contractor's design team?

Dissatisfied									Satisfied
1	2	3	4	5	6	7	8	9	10

2.6 How satisfied were you with the main contractor during the construction phase?

Dissatisfied									Satisfied
1	2	3	4	5	6	7	8	9	10

SECTION 3 – DEFECTS

What was the condition of the building with respect to defects at the time of handover?

Totally defective	Major defects Major impact on client	Some defects with some impact on client	Some defects No significant impact on client	Defect free
1	2	3	4	5

SECTION 4 - CLIENT SATISFACTION – PROCESS

4.1 In the development of the design brief how well did the design team develop the concept to match client requirements?

Not very well — Very well

1	2	3	4	5	6	7	8	9	10

4.2 How well were costs controlled during the project?

Not very well — Very well

1	2	3	4	5	6	7	8	9	10

4.3 Were there any issues with procurement – the way in which the team was selected, contractual and technical processes undertaken including time and value aspects?

YES		NO	

If yes please give details

4.4 Were there any issues with occupation – the way in which the handover process was managed including the rectification of last minute snags and organisation of the allocation of space?

YES		NO	

If yes please give details

SECTION 5 - COMMENTS

5.1 Do you have any suggestions to improve the service provided by Estates/Consultants/Contractors?

5.2 Do you have any other comments in respect of the project?

Thank you for completing the questionnaire.
Please return this completed form to Tony@qtcprojects.co.uk

APPENDIX 2

POE Workshop Attendees

Post Occupancy Evaluation Workshop

Held on Thursday 20 May 2010

List of Attendees

Estate Office

Tim Brooksbank	Development Director
Lisa Haynes	Space Resource Manager
Richard Clayton	Electrical Engineer
Mike Foy	Security
Mark Bonsall	Senior Engineer

User Client

Nigel Mayglothling	Assistant Director, Sport & Physical Recreation
Mark Waters	Sports Centre Supervisor

Consultants

Dick Eite	Project Manager & QS – Wilson Large

Contractor

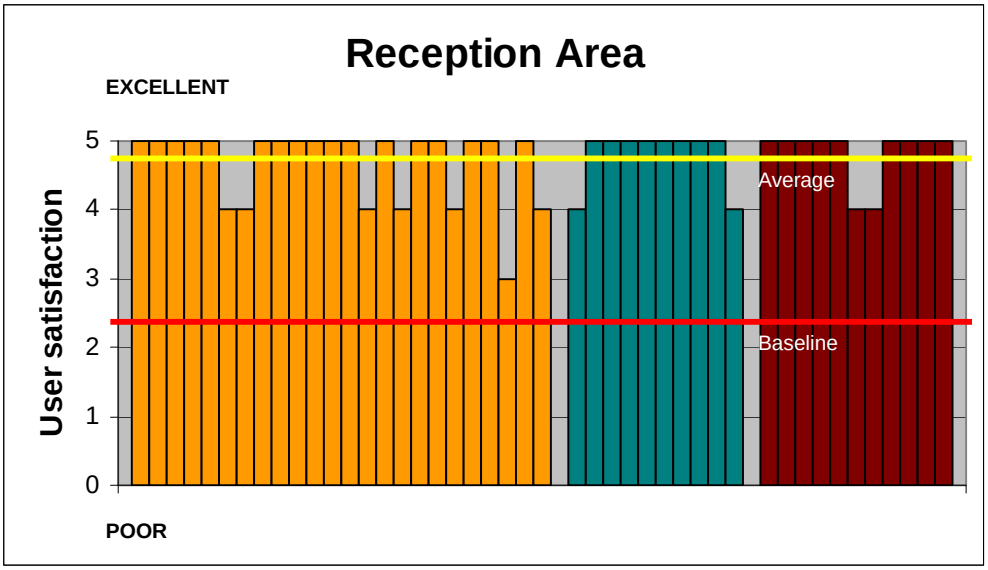
Dave Ledwidge	Construction Director – Ocon Construction

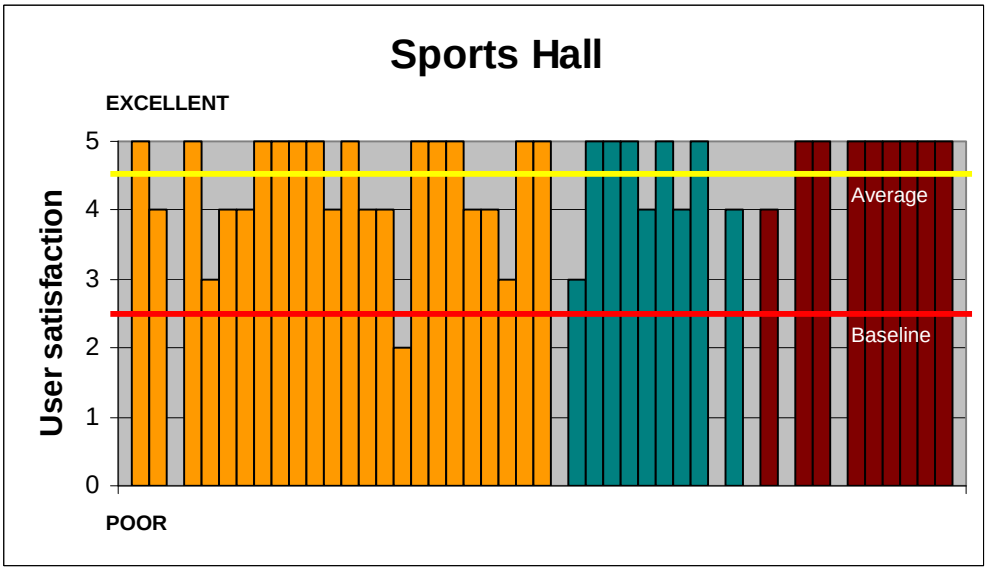
Facilitator

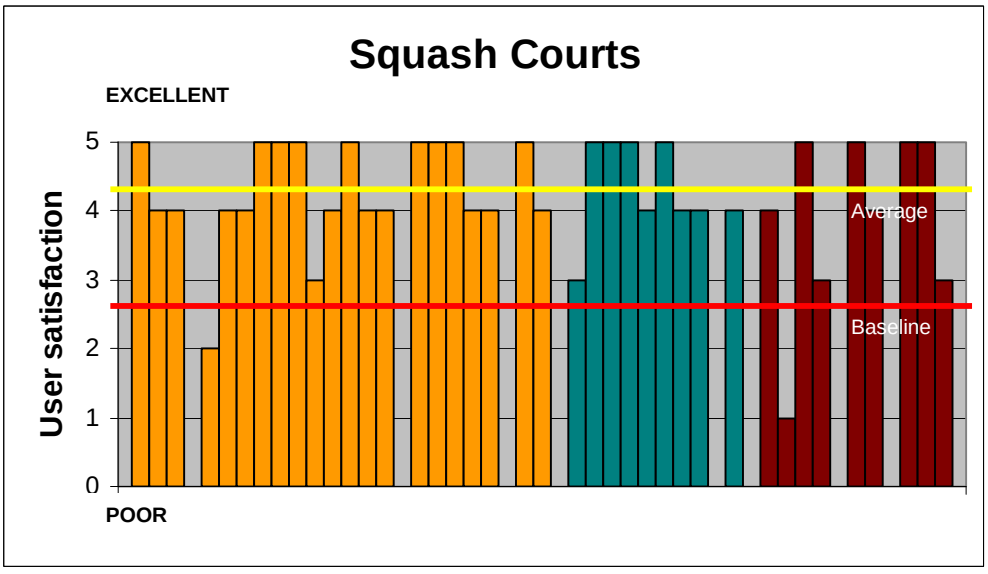
Tony Smith	Director – QTC Projects

APPENDIX 3

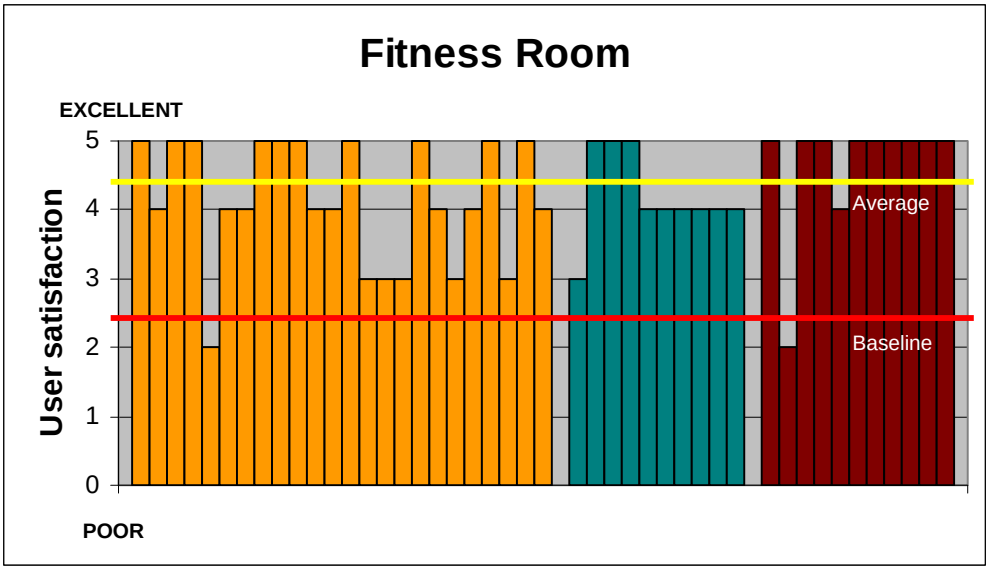
User Satisfaction Charts

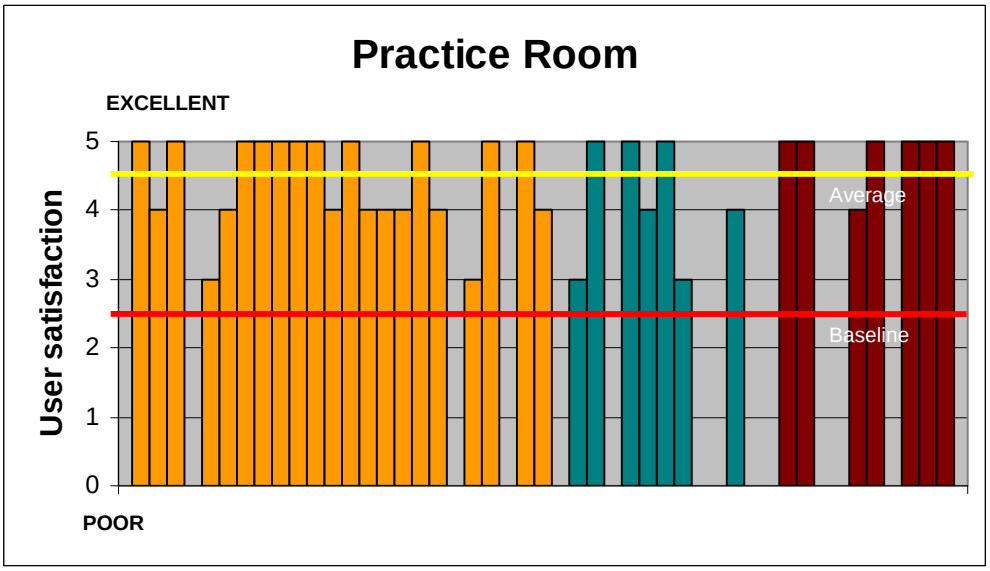


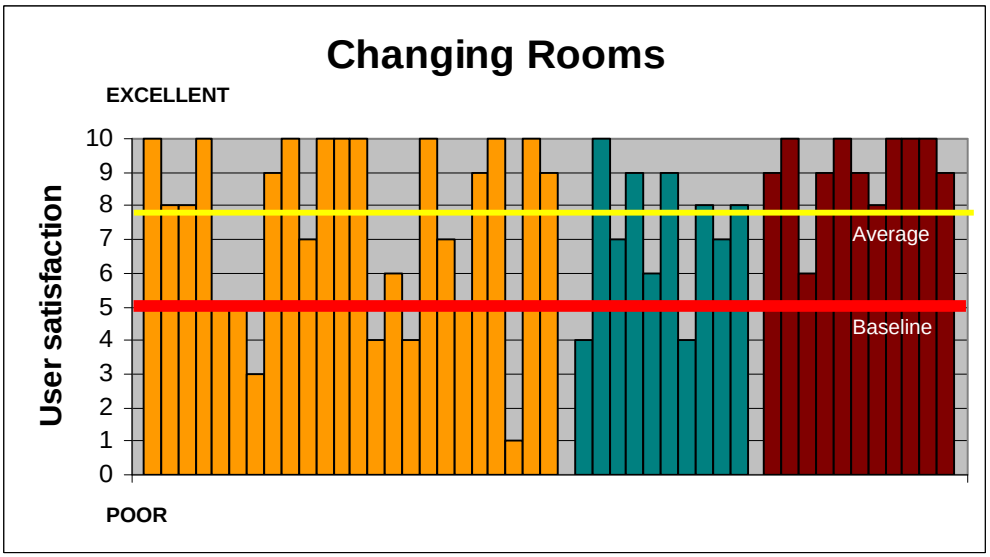




STUDENTS STAFF EXTERNAL







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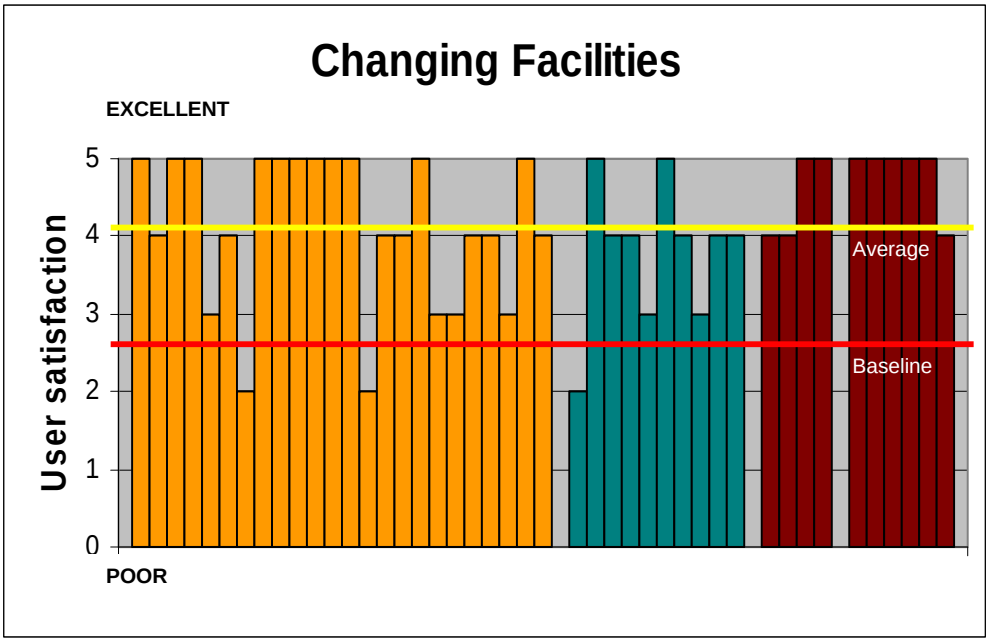

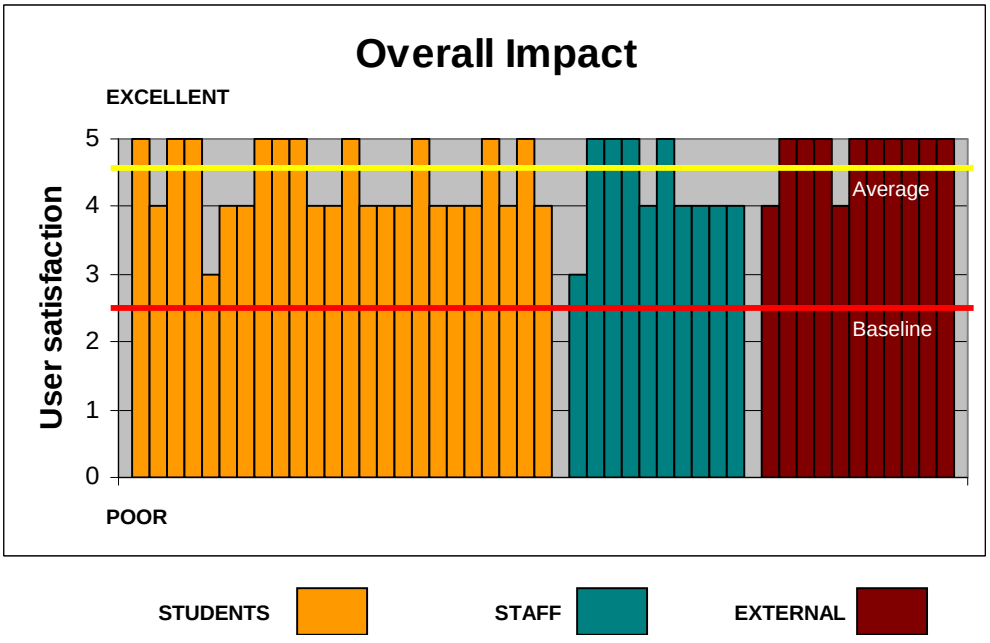

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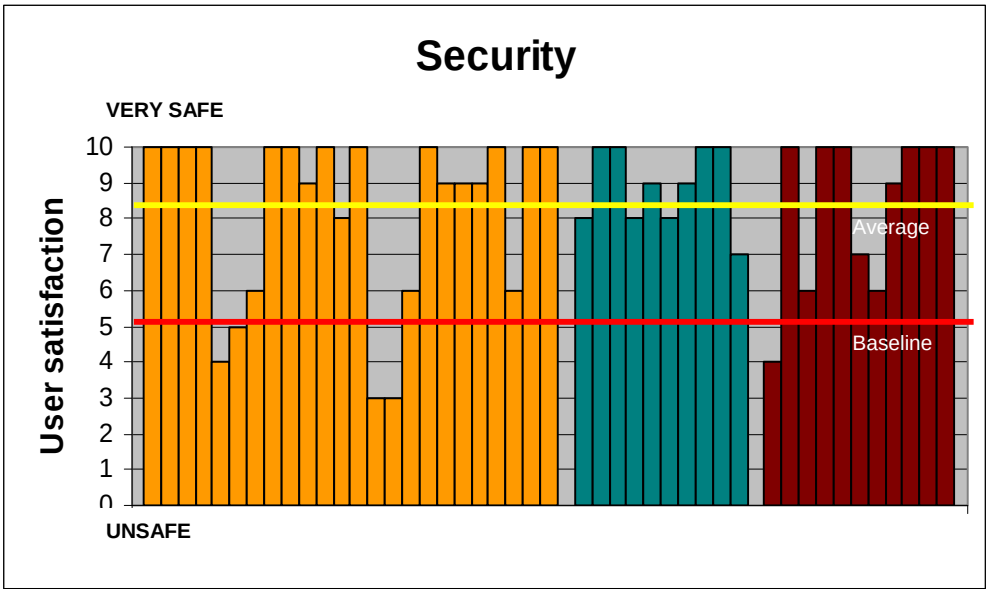

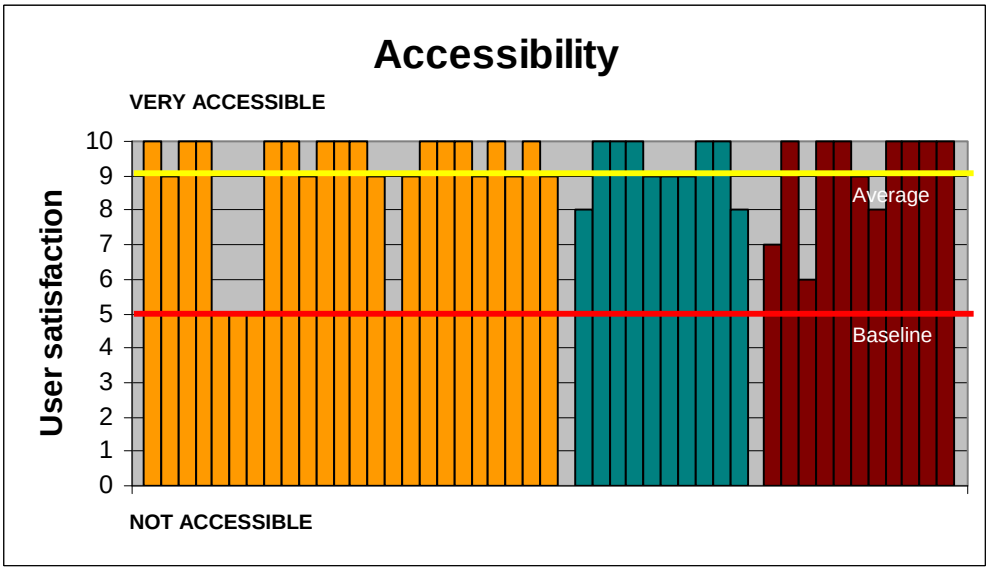

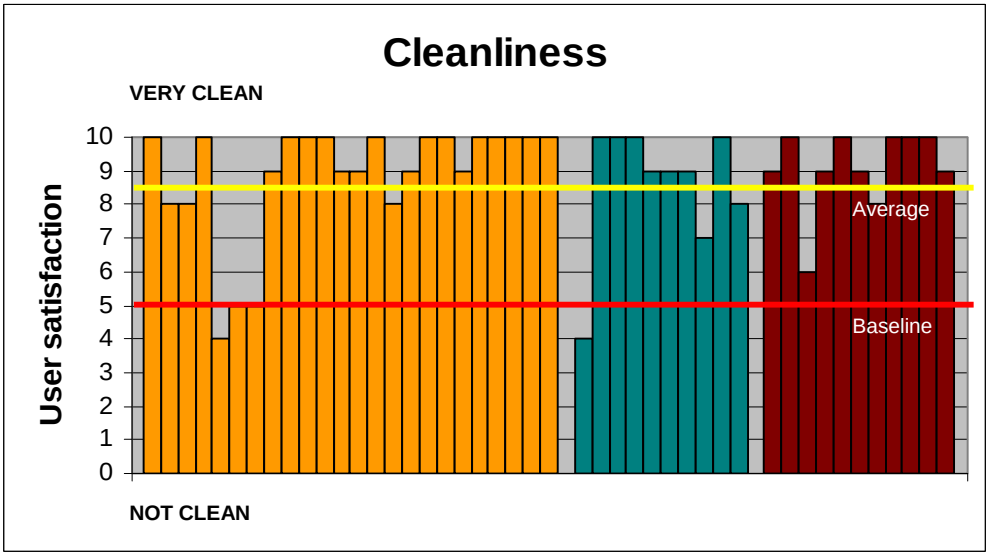

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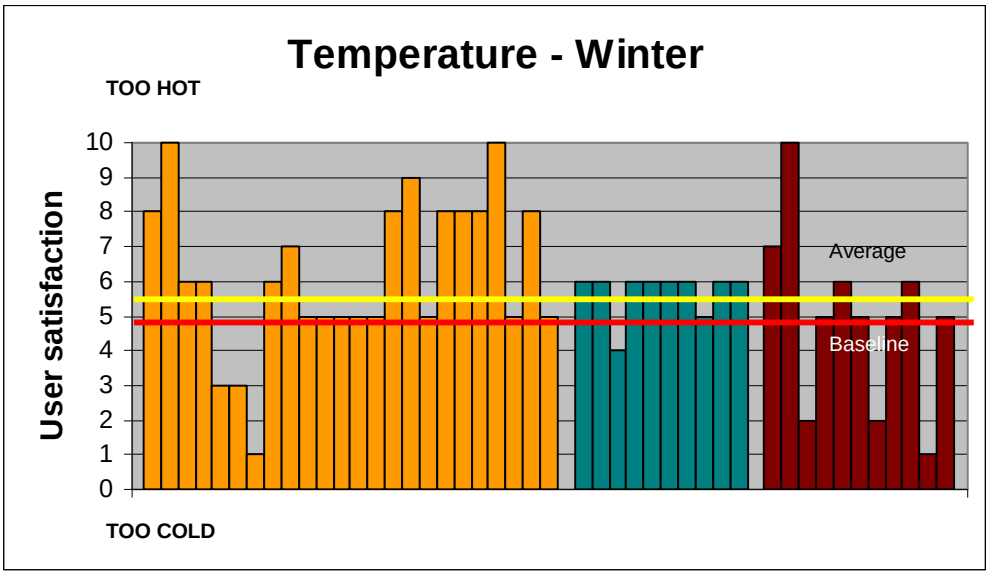

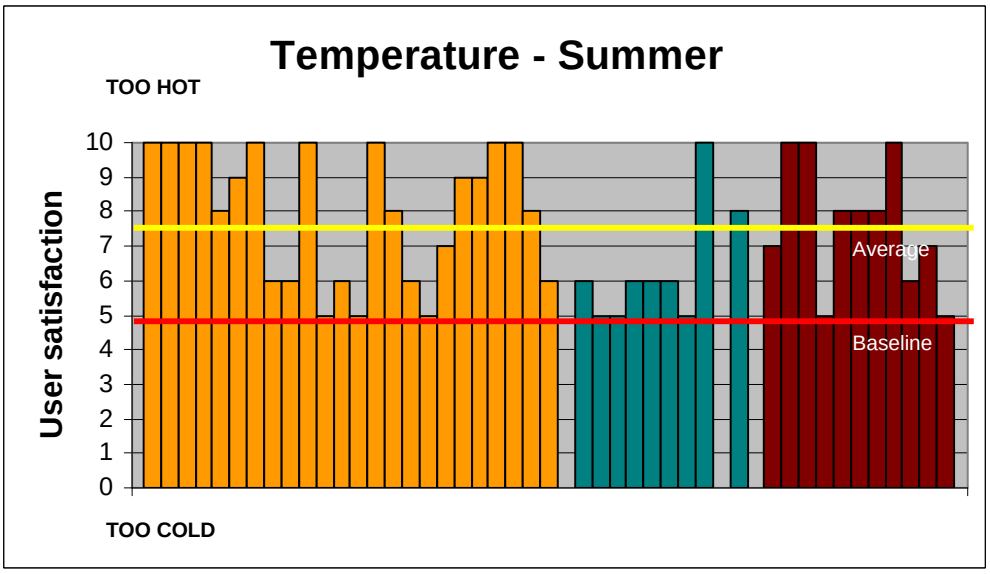

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