New Park Road Stadium

PROJECT BRIEF

Birmingham United FC

Private & Confidential

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CONTENTS

APPOINTMENT LETTER

FROM: Peter Dillon, Project Director, Birmingham United FC

TO: Pat Monro, Project Manager

DATE: Week –6

Dear Pat,

I'm really glad you are able to work with us on the new stadium project. This is obviously a once-in-a-lifetime type investment for our club and we've recognised the need to bring in professional project management skills if it is to be an overall success. As you would expect, we are very sensitive to the final cost and schedule outcomes. However, it is the longer term business outcomes of this project that will really decide the club's fate.

With the feasibility and planning phases basically done now, we have put together a brief and have recently chosen a design team. It is now your responsibility to manage the project until the completion of construction.

In our initial discussions you mentioned that you should be able to help us refine the brief. Also we are looking for you to help us decide on the procurement and contract strategies and then also oversee the construction phases right through to the stadium being fully operational.

Please find attached some further information about our club, our existing business model, the current brief, some of the stakeholders, etc.

I expect that we will be in regular contact over the coming months.

Best regards

Peter

Peter Dillon
Project Director
Birmingham United FC
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BACKGROUND: BIRMINGHAM UTD & PARK ROAD

Birmingham United FC was established in 1898.

Birmingham United is a Limited Company. The Chairman, Andrew Hill-Norton, has a 45% shareholding. Eddie King, another board member, owns an 8% stake. The rest of the shares are owned primarily by small shareholders, including some of the supporters.

Park Road Stadium was originally built in 1937, and the main stands were re-developed in 1992 after the (1989) Taylor Report that required all-seater stadia.

The current capacity of Park Road is 25,350. In the last 10 seasons an average of 62% of these seats has been taken by season ticket holders. Birmingham United fans are some of the most loyal supporters in the top two divisions, with an average of 74% of season ticket holders attending all the home games. Last season there was an average gate of 22,723 – just under 90% of capacity.

During the feasibility phase, two other sites were considered for the new stadium, but after a detailed analysis of the site selection criteria (accessibility, physical characteristics, planning policy, etc.) it was decided that the existing Park Road site should be used, obviously requiring the demolition of the old stadium. An outline technical brief has been put together, along with an initial budget cost plan. After a market appraisal, the plans have been financially tested and funding (primarily from a single commercial bank) has been agreed in principle. The planning application was submitted and has been approved subject to some minor conditions.

The cost plan of the existing brief is indicating a required budget of close to £47m. There has been an indication from Antonia Boyd at EF Bank that the maximum debt facility they will consider is £50m.

During the period of 'de-constructing' the old stadium and constructing the new one, Birmingham United have agreed a ground share with nearby Coventry City, whose stadium has a capacity of 32,500. The club estimates that if there is a delay beyond the planned opening date, the business will incur a net loss of £600,000 per month whilst continuing the ground share.

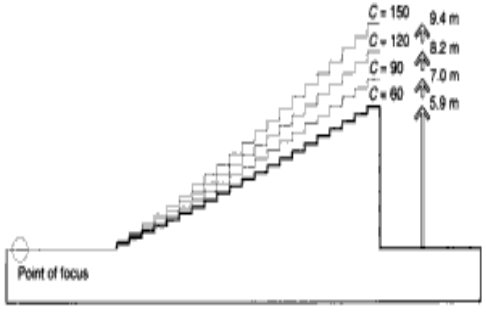
NEW STADIUM SCOPE OPTIONS

Many aspects of the brief and overall scope are fixed; for example, Birmingham United have stipulated that the pitch size must be within football league regulations, the distance between the pitch and first row of seating must be between 5 and 8 metres, 4 separate stands all with red tip-up seats, the scope must include dressing, media and security rooms, a shop, etc. However, some aspects of the scope are not finalised, including:

- **Number of ordinary (general admission) seats**: Clearly a key decision in any stadium design, there might be arguments for stretching budgets in order to maximise overall capacity. However, this capacity should be based on realistic expected attendances and clubs should be wary of the reduced atmosphere that can be caused by empty seats. The marginal cost of extra seating does not always diminish; once the lower seating capacity has been reached, the extra (higher) seating might cost marginally more to build than the lower seating. Birmingham United's brief stipulated a target capacity of 36,000 ordinary seats but this is not necessarily the final answer.

- **Foundations for 2nd tier**: In the Park Road development, any capacity above 38,000 would require an extra seating tier. The extra tier, whether it is installed now or at any point in the future, would also require extra foundations that would be much more costly to install after the stadium is built. There is likely to be some tension between whether to spend the club's limited resources on design features that have a more immediate return, or whether to give the club a much more affordable opportunity to expand the facility in the future.

- **Main stands seating gradient** and **Main stands row depth**: The seating gradient, or "rake", combined with the row depth is the key determinant of the spectator sightlines and therefore the viewing quality. This viewing quality is usually referred to as the "C" value, which indicates the extent to which the people sitting in front of them obstruct the spectators' view of the playing area. Seating in most modern football stadia typically has a "C" value of between 90 and 120mm: 120mm being a very high standard where spectators are hardly obstructed at all (the average "C" value in the old stadium is 75mm). Below 28° the seating gradient will be too shallow for good sightlines, but above 34° and spectators will start to experience vertigo. Steeper gradients also have a direct impact on the cost of construction. The row depth is another key factor in spectator comfort, determining the leg room. Increasing the row depth also has a significant impact on cost.



- **Number of corporate boxes**: This is another decision that has not yet been completely set in stone and on which there appear to be some mixed views within the club hierarchy. Increasing the number of corporate boxes reduces the average viewing quality, because the additional boxes have to be further from the half-way line. This, in turn, might have an impact on the average price at which they can be sold.

- **Pitch type**: The first option is to install a conventional 100% grass pitch (that can either be turfed or grown from seed). The second option is to install a part artificial "GrassPro4" system, which involves laying a grid of synthetic fibres that is overlaid with soil in which grass is then grown from seed. The synthetic fibres strengthen the natural grass and make the playing surface less susceptible to divots and muddy areas, thus reducing ongoing pitch maintenance costs and the need to re-lay the surface. Both options still require a sophisticated heating and irrigation system. This choice, along with the stadium roof type, determines the pitch quality.

- **Telescopic floodlighting**: Floodlights are an obvious requirement for any football stadium in the UK; the decision here is whether to install "telescopic" floodlights (that can be lowered when not in use). This innovative technology is being installed at a handful of stadia around the world, particularly in urban developments where there has been local opposition to having fixed extensions obstructing the horizon 365 days per year, whilst they might only actually be used for 15 or 20 events per season.

- **Stadium naming right:** The club is having talks with WebFly.com who are based primarily out of nearby Birmingham International Airport. In return for a 10 year sponsorship deal worth £3 million, Park Road would be re-named the "WebFly Arena". The £3million would be spread over 10 years meaning that £300,000 per year would be added to the operating income.

BUSINESS MODEL

(Birmingham United's financial year runs from 01 August to 31 July)

	Summary Income Statements*	Y/E 31.07.YY £m	Y/E 31.07.XX £m
1	Broadcasting	2.8	3.7
2	Total Matchday	18.9	18.4
3	Commercial	2.7	2.6
4	Other Non-Matchday	0.6	0.5
	Total Revenues	**25.0**	**25.2**
5	Admin expenses, incl. wages	18.7	18.4
6	Other costs, incl. maintenance	5.7	5.3
	Total Operating Costs	**24.4**	**23.7**
	Operating Profit (Loss)	**0.6**	**1.5**

** Excludes player trading: i.e. profit or loss on player transfers*

Notes:

1. Broadcasting (television) revenues come from all the club's league and cup games. Fluctuations are mainly due to how the club does in the two cup competitions.
2. Total Matchday revenues are made up of general admission ticket sales, corporate box fees, and the total spend on catering and match programmes.
3. Commercial revenues: this figure includes income from merchandising (e.g. shirt sales), sponsorship and advertising.
4. Other Non-Matchday revenue includes income from the conference facilities and the occasional use of the stadium for concerts and other events.
5. Administrative expenses and staff wages make up a large percentage of overall costs – player wages can make up as much as 60% of the total operating costs.
6. Other costs include fixed operating costs and maintenance costs, in particular for the stadium roof, the main stands and the pitch.

Total Matchday revenue is also converted into an average per match, by dividing it by the total number of competitive home games in a season: typically 27.

The average ticket price last season for ordinary seats was £25.

PROCUREMENT & CONTRACT OPTIONS

A key decision in any major construction project is how the client forms the "coalition" with the organisations that will do the work. The client also has to consider how to make sure that all parties are motivated appropriately.

With sports stadia in particular there are two commonly used procurement strategies: "Traditional" and "Design & Build". In the Traditional (or 'separated') route, the client employs designers to design and then a contractor to build. With Design & Build, the contractor is responsible for both design and construction. There are some trade-offs (see table on next page) between these routes and the decision over which is best is partly driven by the client's attitude to risk.

Having established the procurement route, the client then has to decide on the type of contract that will set out the relationship between client and builder. Standard construction project contracts, despite their common use, are criticised for engendering an adversarial relationship between the parties that often results in disputes when things do not go according to plan. In contrast, so-called "partnering" contracts can help to engender a more open and collaborative relationship between the parties. However, these contracts also have their critics, in particular for one-off projects. Partnering does not always work because clients, project managers, contractors and subcontractors can have difficulty adjusting their normal practices – practices that have often been developed after years of working with standard contracts.

A pricing decision also has to be made: there is likely to be a desire from some stakeholders (e.g. the bank) for price certainty and so they may push for a "fixed price" contract. However, under a fixed price contract the main contractor, in order to protect their margin, might not always act in the client's best long term interests. Alternatively, the client and builder can potentially agree a "pain/gain share" in relation to the target price, usually at 50/50 for any cost over or under-runs. Incentive contracts like this can provide important motivation for the contractor, but they potentially expose the client to a greater risk of cost over-run.

Another decision on the contract is whether the client puts in a "liquidated" damages clause that is related to any delay on completion. The amount stipulated is equivalent to the actual loss caused by the delay and it is therefore a compensation clause, not a penalty. Partly depending on the other terms of the contract, contractors might simply not agree to this sort of clause.

Birmingham United's Chief Executive, the Bankers and also the Main Contractor will all need to approve and sign the contract.

CONTRACT CHOICES: PROS & CONS

TOPIC	CHOICES	PROS	CONS
PROCUREMENT STRATEGY	TRADITIONAL	Client potentially retains more control over the design development Client likely to have more input into choice of sub-cons	Slower: because design and construction tasks have to be sequential Potentially less input from builder into the design
	DESIGN & BUILD	Faster: design and construction can partly coincide More input from contractor to the design and therefore improved 'buildability'	Contractor has less incentive to keep long term operating costs low Likely to be slightly more expensive for the client to introduce changes
CONTRACT TYPE	STANDARD	Contractors & sub-contractors will understand how to work under this commonly used contract type	Less likely to provide the right motivation for the contractors Client has less input into choice of sub-contractors, especially if fixed price too
	PARTNERING	Contractor likely to be more open about project progress and risks Client likely to have more input into choice of sub-cons	Contractor & sub-contractors might not understand how to work under this type of contract
PRICING OPTIONS	FIXED PRICE	In theory, client has more certainty over the final price certain stakeholders (e.g. the bank) are likely to approve of this option	Initial price and cost of scope changes will be higher Client might have less input into choice of sub-contractors
	50/50 PAIN/GAIN	Provides a shared incentive for the contractor and client Contractor likely to be more open about project progress and risks	Potentially exposes client to risk of cost over-run Certain stakeholders (e.g. the bank) might not approve of this option
LIQUIDATED DAMAGES	MONTHLY AMOUNT	Contractor is incentivised to complete on time and client receives compensation if project runs late	Contractor may not be prepared to accept this clause
	NONE	Contractor might be more willing to accept other contract terms	Client does not receive any compensation for delays

KEY STAKEHOLDERS

Name	Role		Profile (provided by Peter Dillon)
Andrew Hill-Norton	Chairman		Andrew has a 45% holding in Birmingham Utd. Andrew thinks the club has a position amongst the football elite and so wants the stadium to reflect this ambition.
Edward King	Board Member		Eddie played his whole career at United, he is a lifelong fan, a shareholder and a well-known figure in the local community: he likes to talk about football and admits that he does not always consider the commercial realities of running a football club.
Colin Entwistle	Chief Executive	(P) (C)	Colin has been with the club for 3 years and wants to make a mark. He does not hide the fact that he wants to move to a bigger club at some point, but this ambition rests on the success of the new stadium. Colin will be on the project steering committee.
Peter Dillon	Project Director	(P) (R)	I have been given responsibility for the new stadium project. There is a lot at stake here from a commercial point of view, but also from a personal one. I am on the project steering committee.
Rachel Connor	Finance Director	(P)	Rachel has kept a close eye on the business plan. She will monitor certain key indicators like the cost per seat. Rachel will also be on the project steering committee.
Brian Goldman	Operations Director		Brian is in charge of ticketing, catering, security and stewarding. He is quite keen to keep the capacity below 35,000.
Richard Morello	Main Contractor	(R) (C)	Richard's firm is likely to be the main contractor for the new stadium project, assuming we can agree a contract with them.
Hector Gonzalez	Team Manager		Hector has been with the club for 2 seasons. Hector is in charge of all football decisions, but apart from player transfers he is not often included in the executive decisions of the club.
Helen Archibald	Head of Design	(R)	We appointed Helen's firm to do the scheme design and Helen is heading up this team. She has conveyed some of her ideas about the design and we think she is on the same page as us.
Quentin Lamont	Local Residents		A few issues have arisen during the planning phase with some of our close neighbours. We are a community club and I really want to minimise any bad press that the development might attract.
Antonia Boyd	Banker	(C)	Antonia is our key contact at the bank. She is concerned about the type of contract we draw up with the builders.
Jim Foster	Supporters Association		As Chairman of the Supporters Association, Jim naturally has some strong views on the new stadium and is quite vociferous in the fanzine, and is therefore an important person to keep on our side.

(P) = project steering committee
(R) = risk committee
(C) = contract signatories

PROJECT TASKS & LOGICAL FLOW

The stadium project can be separated into 4 main phases:

0. Feasibility & Planning Process (complete)
1. Design
2. Construction Phase 1
3. Construction Phase 2

1. Design		
Task 1.1: Scheme Design	**Expected Duration:**	**Required to Start:**
The first task in the design phase is the development of the scheme design, or 'concept' design. Typically this task is performed by an architectural team and needs to take into consideration the key requirements specified by in the brief.	2 months	Appointment of design team
Task 1.2: Detailed Design	**Expected Duration:**	**Required to Start:**
The detailed design is developed by the architectural team, along with structural, mechanical & electrical services and fire engineers, who together make up the core design team.	3 months	1.1 complete
Task 1.3: Drawings & Specs	**Expected Duration:**	**Required to Start:**
Once the detailed design is approved, the working drawings are then prepared and the specification process gets going.	2 months	1.2 complete
2. Construction Phase 1		
Task 2.1: Demolition & Excavation	**Expected Duration:**	**Required to Start:**
The demolition and excavation task involves bringing down and dismantling the old stadium, clearing the site and excavating the ground, including digging the bore holes. As much as possible of the huge volume of material created in the demolition and excavation process will be sorted and re-cycled in order to minimise the amount sent to landfill.	3 months	(If D&B) 1.2 complete; (if Traditional) 1.3 complete
Task 2.2: Substructures	**Expected Duration:**	**Required to Start:**
The substructures task involves installing the piling and pile caps and concrete slabs that make up the foundations of a stadium. A large volume of concrete will be required for this.	2 months	2.1 started (+1 month); (if D&B) 1.3 complete
Task 2.3: Lower Superstructures	**Expected Duration:**	**Required to Start:**
This task involves installing the lower tier steel frameworks and the, mainly pre-cast, concrete seating decks.	4 months	2.1 & 2.2 complete
Task 2.4: Lower Seating	**Expected Duration:**	**Required to Start:**
The lower seating can start being installed once the lower superstructures task is underway.	3 months	2.3 started (+1 month)

3. Construction Phase 2		
Task 3.1: Upper Superstructures	**Expected Duration:**	**Required to Start:**
Once the lower superstructures are complete, work on the upper superstructures can begin. This task will include erecting the upper tier seating decks and also the roof.	5 months	2.3 complete
Task 3.2: Cladding	**Expected Duration:**	**Required to Start:**
Once the upper superstructures are underway, work can begin on the cladding and facing of all the external walls, windows and doors. Aluminium sheet cladding will be used for most of the external walls.	3 months	3.1 started (+1 month)
Task 3.3: Mechanical & Electrical Services	**Expected Duration:**	**Required to Start:**
An increasingly complex and important part of any modern sports arena, the M & E services should commence soon after the upper superstructures task has begun. Numerous installations including: water supply and drainage, heating and air treatment, lighting, gas, lifts, IT, CCTV and communication systems, etc. will be carried out during this task. This is one of the more labour intensive tasks.	5 months	3.1 started (+1 month)
Task 3.4: Finishes & Fitting Out	**Expected Duration:**	**Required to Start:**
Once the upper superstructures task is complete, work will begin on the finishes and the fitting out. This will include the work done on all the accommodation and concourse areas. Walls, ceilings and floors will require rendering, tiling, plastering, painting, insulating, carpeting, etc., and this task will also involve the installation of sanitary fittings, turnstiles, furniture for the corporate hospitality and directors suite, etc.	3 months	3.1 complete
Task 3.5: External Works	**Expected Duration:**	**Required to Start:**
Work done on the car parking area and access routes will come under this task, along with the work on the pitch.	4 months	3.1 complete
Task 3.6: Special Installations	**Expected Duration:**	**Required to Start:**
The installation of the floodlights and the big HD screen for action replays can begin once the rest of the M & E services task is complete.	2 months	3.2 & 3.3 complete
Task 3.7: Commissioning	**Expected Duration:**	**Required to Start:**
Final commissioning can commence when all the previous tasks are complete. This task involves a thorough test of all the facilities, systems and safety aspects. It includes a test by a sample crowd of spectators.	1 Month	2.4, 3.4, 3.5 & 3.6 complete

RESOURCES: SUB-CONTRACTORS

*** Safety Rating** = an overall measure of safety performance

**** ESI Rating** = an overall measure of sustainability: Environmental & Social Impact;

Both ratings are based on an average assessment of the company's most recent projects:
1= below standard; 2=compliant; 3=good; 4=very good; 5=excellent

All possible sub-contractors have at least a level 2 (compliant) rating on both measures

Task	Possible Sub-Cons	Tender Price	* Safety Rating	** ESI Rating	Description of Possible Sub-Contractors
1.1 Scheme Design	Design Team	905,000	4	4	The chosen Design Team is experienced in the design of modern sports stadia and they have been appointed to do all the design tasks for the new stadium. The team includes Helen Archibald, Architect and Head of the Team and Steve Cheng, the Structural Engineer. The team also includes Services Engineers, Fire Engineers and a Quantity Surveyor.
1.2 Detailed Design	Design Team	1,265,000	4	4	Design Team
1.3 Drawings & Specs	Design Team	670,000	4	4	Design Team
2.1 Demolition, Excavation	DemolitionCo1	1,375,000	4	3	DemolitionCo1 is one of the UK's leading demolition and decommissioning companies; it has an international reputation and are likely to be the best choice even if they do not present the lowest tender price
	DemolitionCo2	1,390,000	2	3	DemolitionCo2 offers a wide range of services, including demolition by controlled use of explosives and asbestos removal. Their capabilities fit quite well with the work needed at Park Road.
	DemolitionCo3	1,160,000	3	2	DemolitionCo3 is a less well-known company in this field, but their tender price provides one reason to appoint them.
2.2 Sub-Structures	SubsCo1	1,600,000	3	3	SubsCo1 has a full range of piling techniques that includes rotary bored and precast driven. SubsCo1 worked at the new Leeds City stadium.
	SubsCo2	1,880,000	4	5	SubsCo2 are acknowledged experts in the creation of foundation solutions. They have a range of technical solutions and are known to use specialist piling equipment that minimises noise and vibration. Their higher tender price reflects this.
	SubsCo3	1,590,000	4	2	SubsCo3 has a good reputation for safety and their rates are usually very competitive. They have not indicated any ability to use the specialist piling equipment that SubsCo2 offer.

Task	Possible Sub-Cons	Tender Price	Safety Rating	ESI Rating	Description of Possible Sub-Contractors
2.3 Lower Super-Structures	SupersCo1	7,010,000	3	4	SupersCo1 is an alliance of steel and concrete contractors that have specialist experience of working together on stadium projects.
	SupersCo2	7,070,000	3	5	SupersCo2 is a firm specialising in composite steel and concrete grandstand structures, with a reputation for working on innovative and ground-breaking design concepts.
	SupersCo3	8,210,000	4	3	SupersCo3, partly because of their specialist pre-fabricating capability, have indicated that they should complete the lower superstructures task in 3 months.
2.4 Lower Seating	SeatingCo1	1,760,000	3	3	SeatingCo1 is one of China's leading suppliers of permanent arena seating. Their low tender price partly reflects the smaller team they would use and the indication that it might take them 4 months to do the work.
	SeatingCo2	1,985,000	3	3	Based in Birmingham, SeatingCo2 has worked on several high profile football stadium projects; their team designs and installs bespoke arena seating for any size venue.
3.1 Upper Super-Structures	SupersCo1	7,850,000	3	4	SupersCo1 is an alliance of steel and concrete contractors with specialist experience of working together on stadium projects.
	SupersCo2	7,925,000	3	5	SupersCo2 is a firm specialising in composite steel and concrete grandstand structures, with a reputation for working on innovative and ground-breaking design concepts.
	SupersCo3	9,350,000	4	3	SupersCo3 has indicated that they could again reduce the timeframe of this task; they should do it in 4 months not 5. SupersCo3's tender price is, however, much higher than the competing bids.
3.2 Cladding	CladdingCo1	3,530,000	3	3	CladdingCo1 is probably the UK's best known cladding and insulation sub-contractor.
	CladdingCo2	3,620,000	3	4	CladdingCo2 has grown considerably in recent years. For major contracts, they are normally in a straight fight with CladdingCo1 and they do not usually compete on price.
3.3 M&E Services	M&EservicesCo1	5,055,000	3	4	M&EservicesCo1 is a consortium of some leading providers of building services, mechanical, electrical and engineering solutions. They were responsible for all the mechanical & electrical work at Leeds City FC's new stadium.
	M&EservicesCo2	5,130,000	4	4	M&EservicesCo2 describe themselves as the partner of choice for M&E services contracts, although they have less experience of stadium projects than the alternatives.
	M&EservicesCo3	5,830,000	4	3	M&EservicesCo3 have indicated that they should complete task 3.3 in 4 months not 5, which explains their higher tender price.

Task	Possible Sub-Cons	Tender Price	Safety Rating	ESI Rating	Description of Possible Sub-Contractors
3.4 Internal Finishes, Fitting Out	InternalsCo1	3,925,000	3	3	InternalsCo1 provides a full range of interior finishes and fittings services, with particular experience in retail outlets, hospitals and sports arenas.
	InternalsCo2	4,060,000	4	3	InternalsCo2 is a small consortium of fittings and internal finishes contractors. It has a reputation for delivering very high standards: they are perhaps a bit more reliable than InternalsCo1.
3.5 External Works	ExternalsCo1	2,650,000	3	4	ExternalsCo1 has worked on a variety of external works and landscaping contracts, ranging in value from £20k to £5m. Their services are in demand partly because of their experience of installing the GrassPro4 system.
	ExternalsCo2	2,770,000	4	3	ExternalsCo2 is an alliance of external works contractors, more expensive than Co1 but not necessarily better for this work.
3.6 Special Installations	M&EservicesCo1	1,880,000	3	4	M&EservicesCo1 is a consortium of some leading providers of building services, mechanical, electrical and engineering solutions. They were responsible for all the mechanical & electrical work at Leeds City FC's new stadium.
	M&EservicesCo2	1,910,000	4	3	M&EservicesCo2 describe themselves as the partner of choice for M & E services contracts, although they have less experience of stadium projects than the alternatives.
	M&EservicesCo3	2,190,000	4	3	M&EservicesCo3 have quoted a higher tender price, but this does not mean they would necessarily do a better job.
3.7 Commissioning	CommissionCo1	160,000	4	N/A	CommissionCo1 will be contracted to assist with the commissioning task.

APPENDIX A: INITIAL DESIGN BRIEF (SUMMARY)

Stands

- Each of the four main stands should achieve a minimum "C" value of 115mm
- All spectators to have an unobstructed view of whole playing area
- All stands to comply with the *Guide to Safety at Sports Grounds*
- Vomitories/exits to ensure evacuation time period for all spectators meets regulation
- Areas for the disabled to be provided in accordance with FSADC guide
- Design to provide a total capacity of 36,000 ordinary seats
- Design to allow possibility of affordable expansion in the future

Roof

- A cantilever roof should extend to cover all the seating areas
- Roof lines should allow all spectators a minimum view of 15m above the centre line

Pitch & Floodlights

- Size of the pitch to be within dimensions recommended by the Football League Regulation 33: as close to 105m x 68m as possible
- Pitch should be made of natural grass with effective drainage and heating systems
- 4 floodlight towers in accordance with Football League Regulation 37

Player Facilities

- Home dressing room to have 50% more floorspace than the visitors
- Two separate dugouts, one for each team, in front of the west stand

Corporate Hospitality & Conference Facilities

- 35 corporate hospitality boxes with an even split between 10, 12 and 18 seaters
- Director's suite to include a board room and lounge
- Separate conferencing suite adjacent to East Stand to include 6 meeting and banqueting rooms for use on non-match days

Accommodation/ Concourses

- The number of WCs in each stand should be in the ratio of 1 per 70 seats, with a total of approx. 550. The ratio of male to female toilets should be 3:1
- Access to and capacity of concourse facilities to allow spectators time to use refreshment *and* toilet facilities during the half-time interval
- A shop of 150m^2 of floor space to be situated on the ground floor of West Stand

Aesthetics: function over form

- United is not specifying that the new stadium should make an architectural statement. The club has a reputation for its loyal, long-suffering, and no-nonsense fans. Cost-effectiveness is the primary logic for the key design decisions

APPENDIX B: FOOTBALL STADIA INFORMATION

	Football Club	Stadium	Capacity	Highest	Average	%
1	Manchester United	Old Trafford	76,100	75,415	75,345	99.01%
2	Arsenal	Emirates Stadium	60,432	60,084	59,951	99.20%
3	Manchester City	Etihad Stadium	55,097	54,523	53,897	97.82%
4	Newcastle United	St James' Park	52,401	51,682	49,257	94.00%
5	Sunderland	Stadium of Light	49,000	47,653	42,492	86.72%
6	Liverpool	Anfield	45,362	44,403	44,047	97.10%
7	Aston Villa	Villa Park	42,785	42,200	34,975	81.75%
8	Chelsea	Stamford Bridge	41,850	41,642	41,515	99.20%
9	Everton	Goodison Park	40,563	39,598	38,343	94.53%
10	Leeds United	Elland Road	40,200	27,672	23,427	58.28%
11	Sheffield Wed.	Hillsborough	39,812	28,523	21,613	54.29%
12	Tottenham Hotspur	White Hart Lane	36,274	36,170	35,744	98.54%
13	West Ham United	Boleyn Ground	35,100	35,000	34,740	98.97%
14	Middlesbrough	Riverside Stadium	35,100	32,870	23,416	66.71%
15	Derby County	Pride Park Stadium	33,597	32,895	29,598	88.10%
16	Cardiff City	Cardiff City Stadium	33,280	16,591	15,578	46.81%
17	Sheffield United	Bramall Lane	32,702	24,548	20,172	61.68%
18	Southampton	St Mary's Stadium	32,689	27,212	20,342	62.23%
19	Coventry City	Ricoh Arena	32,500	17,457	12,884	39.64%
20	Leicester City	King Power Stadium	32,500	32,242	32,003	98.47%
21	Wolverhampton W.	Molineux	31,400	24,355	20,261	64.53%
22	Blackburn Rovers	Ewood Park	31,367	20,431	15,274	48.69%
23	Nottingham Forest	City Ground	30,576	28,016	20,268	66.29%
24	Milton Keynes Dons	Stadium:MK	30,500	20,017	14,749	48.36%
25	Ipswich Town	Portman Road	30,300	23,229	20,459	67.52%
26	Brighton & H. Albion	Amex Stadium	30,250	27,606	24,929	82.41%
27	Birmingham City	St Andrew's	30,016	20,114	17,588	58.60%
28	Bolton Wanderers	Reebok Stadium	28,723	19,523	16,541	57.59%
29	Stoke City	Britannia Stadium	27,900	27,742	27,460	98.42%
30	Norwich City	Carrow Road	27,200	27,100	27,020	99.34%
31	Charlton Athletic	The Valley	27,110	19,469	15,299	56.43%
32	West Brom. Albion	The Hawthorns	26,768	26,313	24,539	91.67%
33	Crystal Palace	Selhurst Park	26,309	25,295	24,703	93.90%
34	Fulham	Craven Cottage	25,678	20,253	17,733	69.06%
35	Hull City	KC Stadium	25,404	22,552	18,153	71.46%
36	Birmingham United	Park Road	25,350	24,990	22,723	89.64%
37	Bradford City	Valley Parade	25,136	19,109	14,223	56.58%
38	Huddersfield Town	Galpharm Stadium	24,500	18,103	13,123	53.56%
39	Reading	Madejski Stadium	24,200	21,603	18,727	76.44%
40	Preston North End	Deepdale	23,408	19,223	13,844	57.21%