

**Northumberland Development  
Project  
Review of Current Public Realm Cost  
Plan-Funding Option A  
Final Report Revision B**

8 April 2016



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# Executive Summary

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## 1.0 EXECUTIVE SUMMARY

### 1.1 Brief

We have been instructed by London Borough of Haringey to review the "Current Public Realm Cost Plan – Funding A" Cost Plan of October 2015 produced by Arcadis.

This is in connection with the new Tottenham Hotspur stadium development and relates to the following:

- Public realm / pavement works to Levels 00 and 01 referred to as "Public" in their Cost Plan and this report and;
- Substructure Works referred to as "THFC" in their Cost Plan and this report.

This review therefore considers the following aspects:-

- Does the Cost Plan cover all the works required?
- Are the rates included appropriate, given the scale & nature of the works?
- Where there are allowances made, are these in appropriate relation to the works?
- Are the allowances for main contractor's preliminaries & overheads & profit and design fees appropriate?
- How is contingency/risk and inflation dealt with?

### 1.2 Summary of Arcadis Cost Plan

The details of the costs in the Arcadis Cost Plan are as follows and are split between Public only and THFC only. For the purpose of this report though, we have reviewed all the works.

	Area	Public Only £	THFC Only £	Total £
Worcester Avenue	4,670m <sup>2</sup>	3,485,202	0	3,485,202
Pavement	8,951m <sup>2</sup>	8,320,609	7,158	8,327,767
Raised Podium	14,068m <sup>2</sup>	21,159,658	9,314,794	30,474,452
Public Square	1,897m <sup>2</sup>	3,411,035	1,302,956	4,713,991
Other		1,372,791	0	1,372,791
	<b><u>29,586m<sup>2</sup></u></b>	<b><u>37,749,295</u></b>	<b><u>10,624,908</u></b>	<b><u>48,374,203</u></b>

These costs are subject to a series of assumptions & exclusions as described in detail in Section 3 of the Report, but the key points to note are:

- All costs are at October 2015 prices therefore exclude future inflation.
- They exclude VAT.
- They exclude any costs which are/will be included in Section 106/278 Agreements.
- That the works will be carried out as part of the Main Contract, on the basis of a single stage competitive tender.
- That no contamination, obstructions, soft spots or other anomalies/abnormals are present within the ground and that there will be no necessary underground or other services diversions.

### 1.3 Summary of Findings

We have reviewed in detail the Cost Plan provided, noting that this is based on various drawings and specifications that are available.

In carrying out this task, we have carried out a check of the overall extent of works envisaged including the areas on which the Cost Plan is based. We have also then reviewed the rates/allowances for each of the measured items and the separate allowances for main contractor's preliminaries and overheads and profit and design fees.

We published our first report which the following summaries

**Our report at this stage had totals of £21,604,587 for Public Works and £9,303,271 for THFC only Works and the details of this are summarised in the tables below. Further details are also shown in Section 4 of the Report.**

	Arcadis Cost Plan	AECOM Assessment	Difference
Public Works	37,749,295	21,604,587	16,144,708
THFC Works	10,624,909	9,303,271	1,321,638
<b>Total</b>	<b><u>48,374,204</u></b>	<b><u>30,907,858</u></b>	<b><u>17,466,346</u></b>

Since the publication of the March Report, Aecom and Arcadis met on a number of occasions to understand the differences and attempt to reconcile these differences. Over a number of very extensive and productive meetings, Arcadis provided the information required to reconcile the majority of the differences and the following changes were made which reduced the overall difference from £17,463,346 to £2,526,067.

	AECOM £	
Bollards	0.784m	35 additional bollards identified on drawings and adjustment of rate
Public artwork, signage & landscape features	0.932m	Previously the Arcadis allowances for the as yet to be designed public art and landscape features were adjusted downwards. We have reverted to the Arcadis allowances following further discussion on design aspiration to be achieved.
Landscaping	0.389m	Inclusion of lift pits to tree allowances; confirmed not covered elsewhere in structural costs
External lighting	1.021m	Initial uplift in the pricing of the specialist light fittings pending quotation from the lighting supplier
External lighting	6.538m	Revert to Arcadis budgets for specialist lighting pending further design development and Iguzzini budget pricing (see note in detailed section)
Preliminaries, OH&P and fees	3.890m	We had assumed procurement of landscape as a separate contract, independent of the stadium construction. We have reverted to the Arcadis allowances on confirmation that the landscape will be delivered in tandem with the completion of the stadium and podium during the last year of construction. Prelims and OHP allowances have subsequently been confirmed with Mace.
Concrete rates	0.600m	Additional information on pile cap costs received
Reconciliation of areas	0.926m	Area discrepancies to North & South Podiums
Reconciliation of areas	-0.140m	Reduction in areas
<b>Sub total</b>	<b>14.940m</b>	

1.4 Assessment of Overall Cost/m<sup>2</sup> and Benchmarks for Public Works

	Arcadis Cost Plan	AECOM Assessment	Difference
Public Works	37,616,435	35,515,015	2,101,420
THFC Works	10,617,750	10,193,003	424,747
<b>Total</b>	<b>48,234,185</b>	<b>45,708,118</b>	<b>2,526,067</b>

Please note that the following items are the differences between Arcadis Cost Plan and the AECOM assessment.

Residual differences between Arcadis and Aecom	£	
Bollards	0.516m	Difference in rates
Landscaping	0.385m	Difference in rates; mainly relating to the pricing of trees
concrete rates (including piling)	0.296m	Difference in rates
Areas	0.445m	Difference in rates
Others	0.123m	Miscellaneous items
<b>Sub total</b>	<b>1.765m</b>	
Pro-rata allowance for prelims, OH&P & design costs	0.761m	
	<b>2.526m</b>	

The residual difference between AECOM and Arcadis of £1.742m plus associated on-costs of £0.761m represents a normal difference that you would expect between two QS's reviewing their respective cost plans at this stage of a project.

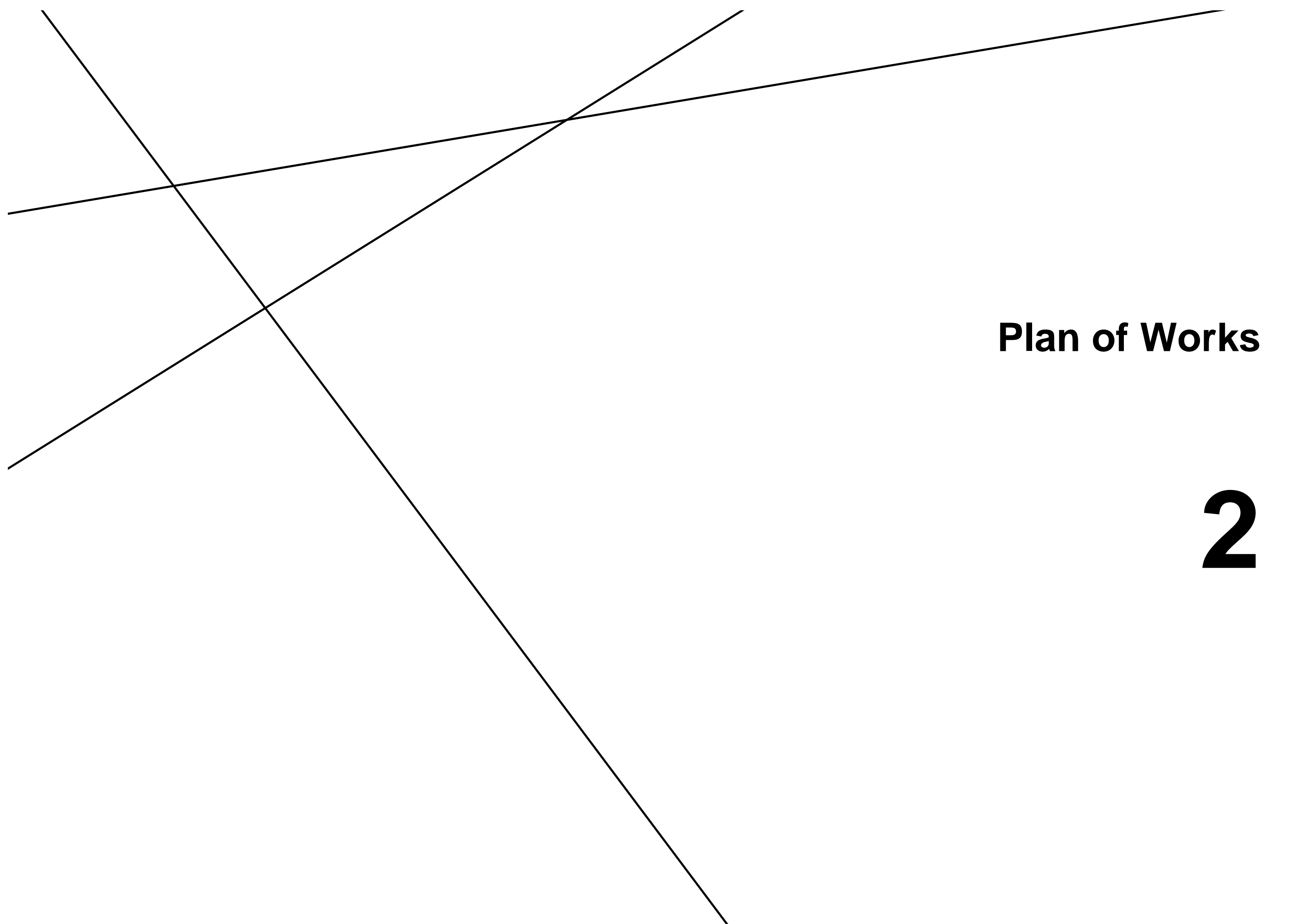
The Arcadis cost plan does not include any design reserve or construction contingency as they report figures net to THFC. For this exercise we have added a 5% allowance for these items.

The rates and prices in the Arcadis cost plan are based on costs current in 3Q '15. We have included an allowance of 13% for tender price inflation from the base date to the start on site date to reflect the likely movement in prices over the next 3 years. This is in line with both Arcadis and AECOM current indices.

## Revised Summary

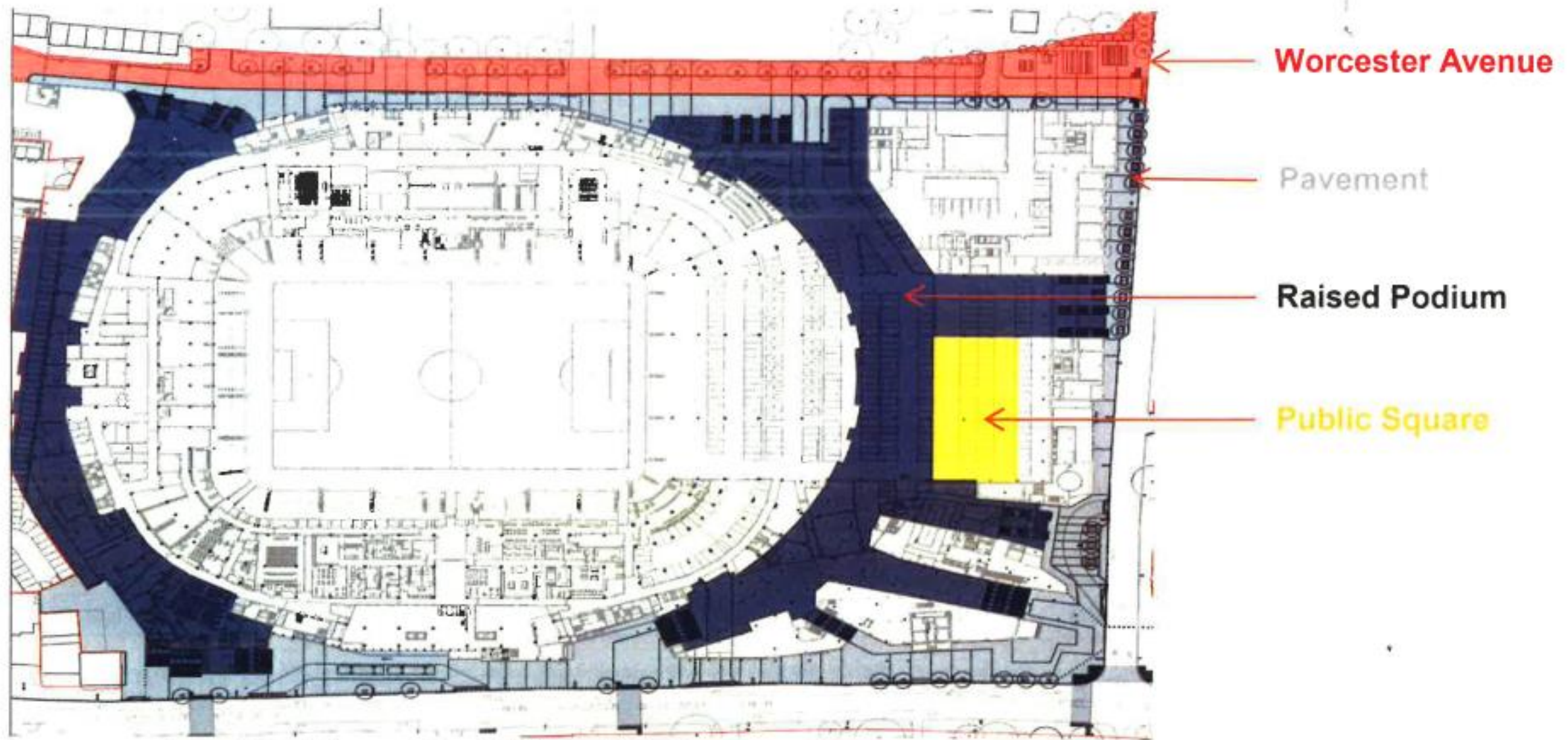
The final position can be summarised as follow:-

Public Realm	Arcadis £	AECOM £	Difference £
<b>Public Works</b>			
1.00 Worcester Avenue	3,485,203	3,287,511	197,692
1.02 Worcester Avenue	1,464,713	1,358,670	106,043
1.03 Park Lane	988,014	946,053	41,961
1.04 Plaza	2,306,937	2,204,694	102,243
1.05 High Road	3,568,104	2,852,979	715,125
2.00 Public North	7,027,425	6,583,460	443,965
2.01 Public South	13,992,213	13,645,940	346,965
2.02 App D Public Podium	3,411,035	3,262,917	148,118
Other Costs	1,372,791	1,372,791	0
<b>Public Works</b>	<b>37,616,435</b>	<b>35,515,015</b>	<b>2,101,420</b>
Recommended Contingency (5%)	1,881,133	1,782,617	98,516
Inflation based on start on site in 3Q '17 and completion by end 2018 (13%)	5,081,693	4,815,561	266,132
<b>Public Works incl Contingency and Inflation</b>	<b>44,579,261</b>	<b>42,113,193</b>	<b>2,466,068</b>
<b>THFC Works</b>			
2.21 C THFC Raised Podium Subs	9,314,794	9,129,002	185,792
App D THFC Public Square	1,302,956	1,064,101	238,855
<b>THFC Works</b>	<b>10,617,750</b>	<b>10,193,103</b>	<b>424,647</b>
Recommended Contingency (5%)	530,576	502,789	27,787
Inflation based on start on site in 3Q '17 and completion by end 2018 (13%)	1,502,273	1,423,597	78,676
<b>THFC Works incl Contingency and Inflation</b>	<b>12,650,599</b>	<b>12,119,489</b>	<b>531,110</b>
<b>Total</b>	<b>57,229,860</b>	<b>54,232,682</b>	<b>2,997,178</b>

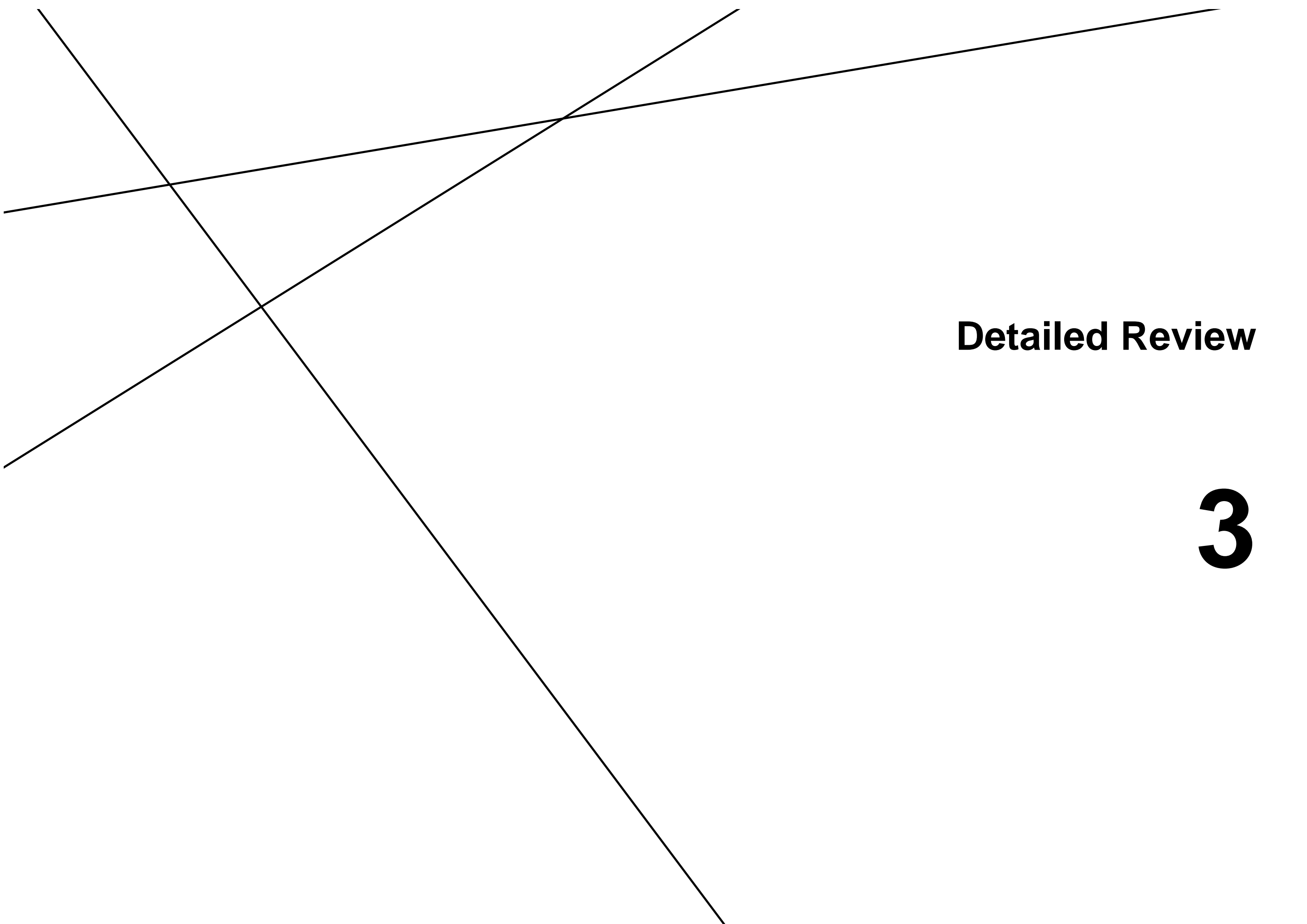


# Plan of Works

# 2



**Level 00 (Street Plan) & Level 01 (Podium Plan) Estimate**



**Detailed Review**

**3**



### 3.0 DETAILED REVIEW

#### 3.1 General

We have reviewed in detail the Cost Plan provided, noting that this is based on various drawings and specifications that are available.

In carrying out this task, we have carried out a check of the overall extent of works envisaged including the areas on which the Cost Plan is based. We have also then reviewed the rates/allowances for each of the measured items and the separate allowances for main contractor's preliminaries / overheads & profit and design fees.

Meetings with Arcadis in March and April further clarify on the scope and aspiration of the project and these changes are reflected in this current revision.

#### 3.2 Public Works

The details below summarise the observations within Section 4 of the Report and follow the main headings used by Arcadis:

3.2.1 Surface Treatments including Masonry & Hard Cladding – This covers various finishes including granite at £120/m<sup>2</sup>-£150/m<sup>2</sup>, lawn at £80/m<sup>2</sup>, resin based gravel at £90/m<sup>2</sup> and granite kerbs, together with sundry allowances.

These are generally considered to be reasonable albeit the costs for making up levels are considered to be high we have therefore made an adjustment for this.

During the clarification meetings with Arcadis, it became apparent that the Arcadis cost include for 1,098sq.m of area and cost for areas which are internal space within the stadium adjacent to the south podium. The cost for this area is circa £250k including prelims and fees and these areas need to be clarified and confirmed.

3.2.2 External Fittings & Furniture – This covers temporary security barriers, rubbish bins, signage, security bollards, artwork, planters & fountains. These are generally included as lump sum allowances with signage and artwork totalling £890,000 for the scheme. The security bollards are included at a total of £2,215,000 and there is currently a £515k difference between Arcadis and Aecom on the cost of these bollards.

3.2.3 Landscaping – This predominantly covers trees at £7,500 each.

It is considered that this is high and therefore we have included a reduced allowance based on market testing but Aecom have made an additional allowance for all tree pits in addition to the landscaping costs.

3.2.4 Drainage – This covers allowances for surface water drainage based on £35/m<sup>2</sup> of landscape area.

These are generally considered to be reasonable, albeit we have made some adjustments.

3.2.5 External Services – This covers power supplies, CCTV with a total of £480,000 and modifications to existing street lighting at £200,000. The CCTV and modifications to existing street lighting though are lump sum allowances.

The allowances for CCTV & modifications for existing street lighting are considered to be high and therefore we have included for a reduced allowance based on market testing.

3.2.6 External Lighting – This covers façade mounted, uplighting to tree canopies and root mounted lighting columns, together with associated lighting supplies.

The final specification of the external lighting needs to be developed and market testing needs to be concluded. Our current report includes for the Arcadis external lighting allowances but it has been agreed to get supplier quotations and adjust the prices in both estimates on receipt of these quotations.

3.2.7 Public WC Provision – This includes various installations with an equivalent cost of £2,000/m<sup>2</sup>.

It is considered that the costs are reasonable.

3.2.8 Tottenham Experience Accessible Roof – This includes additional costs for the substructure, frame, roof slab and surface treatment and making the roof accessible, with an equivalent cost of £1,014/m<sup>2</sup>.

It is considered that the costs are reasonable.

3.2.9 Main Contractor's Preliminaries – An allowance of 18% has been made on all costs whilst no build-up has been provided.

Arcadis clarified the procurement approach and advised the programme dates. We have reverted to the original Arcadis allowances on the basis that we have been advised that the percentages are reflective of the tenders and approach to procurement public realm as part of the stadium development.

3.2.10 Main Contractor's Overheads & Profit – An allowance of 5.5% has been included on all costs.

It is considered that this is reasonable for works of this nature.

3.2.11 Design Fees – An allowance of 15% has been included on all costs, whilst no build-up has been provided. We have reverted to the original Arcadis allowances on the basis that we have been advised that the percentages are reflective of the current profession fees.

#### 3.3 THFC Works

The details below summarise the observations within Section 4 of the Report and follow the main headings used by Arcadis.

3.3.1 Excavation – This is all excluded, as the allowance for bulk excavation is already included in the separate stadium Cost Plan.

3.3.2. Piling – This is included based on a combination of rates from the Skanska tender return for the bored piling and Arcadis' own assessment for other works.

It is considered that the Skanska tender represents a competitive tender and is reasonable for the works. It is considered that the allowances for other works are reasonable.

### 3.0 DETAILED REVIEW (CONTD)

#### 3.3 Substructure Works (contd)

3.3.3 Pile Caps / Ground Beams / Mass Concrete Pads – This covers various details for the foundations.

Whilst some of the costs are considered reasonable, particular adjustments have been made to reflect our own assessment of the costs.

3.3.4 Other Foundations – This covers lift pits.

It is considered that the costs are reasonable.

3.3.5 Podium Slab – This covers post-tensioned slabs, reinforced concrete slabs and composite slabs.

It is considered that the costs are generally reasonable, albeit we have made some minor adjustments.

3.3.6 Podium Steel Structure – This covers a mixture of pre-cast concrete and steel columns.

It is considered that the costs are reasonable.

3.3.7 Reinforced Concrete Beams – This covers reinforced concrete beams and a ground beam slab.

It is considered that the costs are reasonable.

3.3.8 Main Contractor Preliminaries – An allowance of 18% has been made on all costs, whilst no build-up has been provided.

3.3.9 Main Contractor Overheads & Profit – An allowance of 5.5% has been made on all costs.

It is considered that this is reasonable.

3.3.10 Design Fees – An allowance of 15% has been made on all costs, whilst no build-up has been provided.

#### 3.4 Review of Assumptions

The following assumptions in italics are noted in the Cost Plan, together with our commentary in normal typeface.

3.4.1 *The costs are based on a single stage competitive tender procurement route.* This is noted.

3.4.2 *The works are carried out in normal working hours with no provision for "out of hours" working included.* This is noted.

3.4.3 *No primary plant or services infrastructure is included for within this report and it is assumed that the cost for all necessary items is included within the Stadium Cost Plan.* This is noted.

3.4.4 *It has been assumed that all sub-bases on Level 00 (street level) can be reused with minor remedial works.* This is noted.

3.4.5 *No contamination, obstructions, soft spots or other anomalies/abnormals are present within the ground.* This is noted and as such represents an optimal position.

3.4.6 *It is assumed that there will be no necessary underground or other services diversions.* This is noted and has been subsequently advised that diversions are included in the enabling works.

3.4.7 *Works to pavements undertaken as part of S278 works are excluded from this cost plan.* This is noted.

3.4.8 *Allowances listed for items are sufficient for a job of this size and nature.* This is noted.

3.4.9 *Works are to be carried out as part of the main contract.* This is noted.

3.4.10 *Costs have been allocated between the following headings.* This is noted, albeit the nature of the public realm works differs substantially from the Stadium Works. This is therefore, reflected in our assessment of the Main Contractor's Preliminaries.

- 1) *THFC only where the item of work is solely for THFC benefit and the full cost is THFC's.*
- 2) *Mixed use where the item of work is deemed to be of mutual benefit and therefore cost is split between THFC and Public. See below for calculation.*
- 3) *Public only – where item of work is deemed to be for Public benefit only and not necessary as part of the stadium works. Costs are therefore fully allocated to Public.*

3.4.11 **Option A** – *Cost allocation includes for the following scope of works between parties.* This is noted.

- *LBH – Worcester Avenue, Pavement Areas, Finishes of Raised Podium, Public Square, Other Costs & Substructure*
- *THFC – Items previously advised in current report, this consists of; Bill Nicholson Gates and Substructure Level 00 – car park reinforced concrete ground bearing slab*
- *Mixed, 50:50 split – not applicable.*

#### 3.5 Review of Exclusions

The following exclusions are noted on the Cost Plan:

3.5.1 *Legal costs / boundary costs.* This is noted.

3.5.2 *Finance Costs.* This is noted.

### 3.0 DETAILED REVIEW (CONTD)

#### 3.5 Review of Exclusions (contd)

3.5.3 *Cost of maintenance agreements or extended warranties.* This is noted, whilst it is also noted that there are no allowances for adoption fees or commuted sums. Please though see the details in Section 1.4 of the Report, as it is important that the ongoing responsibility for maintenance is clarified.

3.5.4 *Client staff costs.* This is noted.

3.5.5 *Artwork other than the allowances included.* The Cost Plan already includes a combined allowance of £890,000 for artwork and signage. Please though see our comments on this elsewhere in the Report.

3.5.6 *Statutory services costs.* This is noted.

3.5.7 *No unusual "out of hours" working.* This is noted.

3.5.8 *Section 106/278 agreements.* This is noted.

3.5.9 *VAT.* This is noted.

3.5.10 *Wi-Fi connectivity.* This is noted.

3.5.11 *Mobile phone boosters.* This is noted.

3.5.12 *Inflation allowances (costs are as per the date of the report).* This is noted and therefore all costs are reported at October 2015 rates. However, it is assumed that the rates from the Skanska tender return include inflation. Since the March report, it has been suggested that inflation is added to both Arcadis and Aecom reports.

#### 3.6 Contingency / Risk

It is noted there is no allowance for this in the Cost Plan. It is also recognised that Arcadis have made an assumption that no contamination, obstructions, soft spots or other anomalies/abnormals are present within the ground and that there will be no necessary underground or other service diversions. Since the March report, it has been suggested that risk is added to both Arcadis and Aecom reports.

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# Detailed Analysis of Costs

**4**

Tottenham Hotspurs ; Comparison of Aecom and Arcadis for Northumberland Development Project ; 8 April 2016

Appendix A - Level 00 (Podium Plan) Pavement Cost Plan Worcester Avenue - Public

Revised assessment

Public Realm	ARCADIS ASSESSMENT (A)				AECOM ASSESSMENT (B)				AECOM ASSESSMENT (C)				Comments
	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	
<b>Appendix A - Level 00 (Street Plan) Worcester Avenue Cost Plan</b>													
<b>Site Preparation</b>				<b>131,750</b>				<b>131,750</b>				<b>117,950</b>	
Allowance for drain/manhole cover relocations	1	Item	15,000	15,000	1	item	15,000	15,000	1	item	15,000	15,000	
Site preparation preparatory earth works	4,670	m²	25	116,750	4,118	m²	25	116,750	4,118	m²	25	102,950	
<b>Surface Treatments &amp; Masonry / Hard Cladding</b>				<b>792,700</b>				<b>770,470</b>				<b>718,540</b>	
Make up levels to suit finish	4,670	m²	25	116,750	4,118	m²	15	116,750	4,118	m²	25	102,950	
Granite Paving Stone; dark grey	2,014	m²	150	302,100	1,807	m²	150	302,100	2,014	m²	150	302,100	
Granite Paving Stone	2,055	m²	120	246,600	1,966	m²	120	246,600	1,759	m²	120	211,080	
Lawn	192	m²	80	15,360	201	m²	80	15,360	201	m²	80	16,080	
Resin Bound Gravel	178	m²	90	16,020	144	m²	90	16,020	144	m²	90	12,960	
Kerbs; granite, 300mm wide	378	m²	90	34,020	100	m²	90	34,020	378	m²	90	34,020	
Allowance to Treatment Wall	750	m²	75	56,250	450	m²	75	34,020	450	m²	75	33,750	
Line marking to Car parking spaces	1,120	m²	5	5,600	1,120	m²	5	5,600	1,120	m²	5	5,600	
<b>External Fittings &amp; Furniture</b>				<b>682,500</b>				<b>177,500</b>				<b>682,500</b>	
Temporary Security Barrier to close road at each end	2	nr	50,000	100,000	2	nr	50,000	100,000	2	nr	50,000	100,000	
Allowance for rubbish bins	1	Item	7,500	7,500	1	Item	7,500	7,500	1	Item	7,500	7,500	
Allowance for signage	1	Item	50,000	50,000	1	Item	25,000	50,000	1	Item	50,000	50,000	
Security Bollard; retractable stainless steel	22	No	20,000	440,000				-	22	No	15,000	440,000	AECOM were advised by ATG that the unit costs of a retractable bollard = 9.5k plus 5.5k for hand dig There is a commissioning charge ok 32k and a carriage of equipment to site charge of 10k. This therefore as an average cost equates to c11k per bollard
Security Bollard; stainless steel	13	No	5,000	65,000				-	13	No	3,500	65,000	
Artwork	1	Item	20,000	20,000	1	Item	10,000	20,000	1	Item	20,000	20,000	
<b>Landscaping</b>				<b>187,500</b>				<b>94,192</b>				<b>156,692</b>	
Trees; 3-4m high clear stem, metal grate	25	nr	7,500	187,500									
Trees; Sorbus Intermedia 'Brouwers'; 3-5m high					14	nr	4,066	56,924	14	nr	4,066	56,924	*AECOM rate market tested+
Trees; Tilia Cordata 'Greenspire'; 3-5m high					11	nr	3,388	37,268	11	nr	3,388	37,268	
									25	nr	2,500	62,500	*AECOM rate tree pits allowance
<b>Drainage</b>				<b>163,450</b>				<b>163,450</b>				<b>144,130</b>	
Allowance for surface water drainage	4,670	m²	35	163,450	4,118	m²	35	163,450	4,118	m²	35	144,130	
E/O for sustainable drainage system (say 2.00m wide)	60	m²	400	Assumed Not Req'd									
<b>External Services</b>				<b>141,700</b>				<b>141,700</b>				<b>106,180</b>	
Allowance for in ground power supplies	4,670	m²	10	46,700	4,118	m²	10	46,700	4,118	m²	10	41,180	
Allowance for CCTV	15	nr	4,000	60,000	15	nr	2,000	60,000	15	nr	2,000	30,000	*AECOM benchmark rate
Modifications to existing street lights	1	Item	35,000	35,000	1	Item	35,000	35,000	1	Item	35,000	35,000	
<b>External Lighting - As Indicated on Draw No. E8100</b>				<b>334,821</b>				<b>94,872</b>				<b>370,341</b>	
Add: EXL 16 Root mounted lighting columns to illuminate road	16	nr	18,000	288,000	16	nr	5,000	80,000	16	nr	5,000	80,000	
Light Installation	16	nr	60	960	16	nr	60	960	16	nr	60	960	
Wiring	16	nr	80	1,280	16	nr	80	1,280	16	nr	80	1,280	
Testing (3%)	3	%	290,240	8,710	3	%	82,240	2,467	3	%	82,240	2,467	
Sub-contractors prelims (12%)	12	%	298,950	35,871	12	%	84,707	10,165	12	%	84,707	10,165	
Lighting adjustment												275,469	refer to detailed report - lighting needs to be adjusted when marked prices are received
<b>Sub total</b>				<b>2,434,421</b>				<b>1,573,934</b>				<b>2,296,333</b>	
Preliminaries	18.0%			438,196	12.5	%	1,573,934	196,742	18	%	2,296,333	413,340	Arcadis advised rates are correct
OH&P	5.50%			157,994	5.5	%	1,770,676	97,387	5.5	%	2,709,673	149,032	Arcadis advised rates are correct
<b>Sub total Construction</b>				<b>3,030,611</b>				<b>1,868,063</b>				<b>2,858,705</b>	
Design fees	15.0%			454,592	10	%	1,868,063	186,806	15	%	2,858,705	428,806	Arcadis advised rates are correct
<b>SUMMARY OF PAVING COST</b>				<b>3,485,203</b>				<b>2,054,869</b>				<b>3,287,511</b>	

Tottenham Hotspurs ; Comparison of Aecom and Arcadis for Northumberland Development Project ; 8 April 2016

Appendix B - Level 00 (Podium Plan) Pavement Cost Plan Worcester Avenue - Public

Revised assessment

Public Realm	ARCADIS ASSESSMENT (A)				AECOM ASSESSMENT (B)				AECOM ASSESSMENT (B)				Comments
	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	
<b>Appendix B - Level 00 (Street Plan) Pavement Cost Plan</b>													
<b>Worcester Avenue</b>													
<b>Site Preparation</b>				<b>59,125</b>				<b>59,450</b>				<b>59,450</b>	
Allowance for drain/ manhole cover relocations	1	item	5,000	5,000	1	item	5,000	5,000	1	item	5,000	5,000	
Site preparation preparatory earthworks	2,165	m²	25	54,125	2,178	m²	25	54,450	2,178	m²	25	54,450	*AECOM undertook an independent area check
<b>Surface Treatments &amp; Masonry / Hard Cladding</b>				<b>572,105</b>				<b>544,290</b>				<b>566,070</b>	
Make up levels to suit finish	2,165	m²	25	54,125	2,178	m²	15	32,670	2,178	m²	25	54,450	
Dark Granite Paving Stone	911	m²	150	136,650	912	m²	150	136,800	912	m²	150	136,800	
Light Granite Paving Stone	1,254	m²	120	150,480	1,266	m²	120	151,920	1,266	m²	120	151,920	
Kerbs	390	m	90	35,100	300	m	90	27,000	300	m	90	27,000	
Masonry / hard cladding at Ground Level	653	m²	300	195,750	653	m²	300	195,900	653	m²	300	195,900	
<b>External Fittings and Furnishing</b>				<b>244,500</b>				<b>167,500</b>				<b>185,000</b>	
Rubbish bins	1	item	2,500	2,500	1	item	2,500	2,500	1	item	2,500	2,500	
Signage	1	item	25,000	25,000	1	item	12,500	12,500	1	item	25,000	25,000	
Seating	32	nr	1,000	32,000	32	nr	1,000	32,000	32	nr	1,000	32,000	
Artwork	1	item	10,000	10,000	1	item	5,000	5,000	1	item	10,000	10,000	
Security bollard; stainless steel	35	nr	5,000	175,000	33	nr	3,500	115,500	33	nr	3,500	115,500	*ATG advised AECOM the cost per Centurion shallow mount = £2,900 + e/o for installation
<b>Drainage</b>				<b>75,775</b>				<b>76,230</b>				<b>76,230</b>	
Allowance for surface water drainage	2,165	m²	35	75,775	2,178	m²	35	76,230	2,178	m²	35	76,230	
<b>External Services</b>				<b>56,650</b>				<b>46,780</b>				<b>46,780</b>	
Allowance for in ground power supplies	2,165	m²	10	21,650	2,178	m²	10	21,780	2,178	m²	10	21,780	
Allowance for CCTV	5	nr	4,000	20,000	5	nr	2,000	10,000	5	nr	2,000	10,000	
Modifications to existing street lights	1	item	15,000	15,000	1	item	15,000	15,000	1	item	15,000	15,000	
<b>External Lighting</b>				<b>14,950</b>				<b>15,504</b>				<b>15,504</b>	
EXL 12 Façade mounted lighting to stadium entrance	22	nr	500	11,000	21	nr	500	10,500	21	nr	500	10,500	*21 lights demonstrated on drawing no:E8100
Light installation	14	nr	60	840	21	nr	60	1,260	21	nr	60	1,260	*Wiring required to all new lights
Wiring	14	nr	80	1,120	21	nr	80	1,680	21	nr	80	1,680	
Testing (3%)	3.00	%	12,960	390	3.00	%	13,440	403	3.00	%	13,440	403	
Sub-contractor prelims	12	%	13,350	1,600	12	%	13,843	1,661	12	%	13,843	1,661	
Lighting adjustment													refer to detailed report - lighting needs to be adjusted when marked prices are received
<b>Sub total</b>				<b>1,023,105</b>				<b>909,754</b>				<b>949,034</b>	
Preliminaries	18	%		184,159	12.5	%	909,754	113,719	18	%	949,034	170,826	Arcadis advised rates are correct
OH&P	5.5	%		66,400	5.5	%	1,023,473	56,291	5.5	%	1,119,860	61,592	Arcadis advised rates are correct
<b>Sub Total construction</b>				<b>1,273,663</b>				<b>1,079,764</b>				<b>1,181,452</b>	
Design Fees	15	%		191,050	10	%	1,079,764	107,976	15	%	1,181,452	177,218	Arcadis advised rates are correct
<b>Total of Pavement to Worcester Avenue</b>				<b>1,464,713</b>				<b>1,187,740</b>				<b>1,358,670</b>	

Tottenham Hotspurs ; Comparison of Aecom and Arcadis for Northumberland Development Project ; 8 April 2016

Appendix B - Level 00 (Podium Plan) Pavement Cost Plan Park Lane - Public

Revised assessment

Public Realm	ARCADIS ASSESSMENT (A)				AECOM ASSESSMENT (B)				AECOM ASSESSMENT (C)				Comments
	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	
<b>Appendix B - Level 00 (Street Plan) Pavement Cost Plan</b>													
<b>Park Lane</b>													
<b>Site Preparation</b>				<b>45,350</b>				<b>45,975</b>				<b>45,975</b>	
Allowance for drain/ manhole cover relocations	1	item	20,000	20,000	1	item	20,000	20,000	1	item	20,000	20,000	
Site preparation preparatory earthworks	1,014	m <sup>2</sup>	25	25,350	1,039	m <sup>2</sup>	25	25,975	1,039	m <sup>2</sup>	25	25,975	
<b>Surface Treatments &amp; Masonry / Hard Cladding</b>				<b>167,580</b>				<b>164,595</b>				<b>174,985</b>	
Make up levels to suit finish	1,014	m <sup>2</sup>	25	25,350	1,039	m <sup>2</sup>	15	15,585	1,039	m <sup>2</sup>	25	25,975	
Dark Granite Paving Stone	451	m <sup>2</sup>	150	67,650	458	m <sup>2</sup>	150	68,700	458	m <sup>2</sup>	150	68,700	
Light Granite Paving Stone	470	m <sup>2</sup>	120	56,400	514	m <sup>2</sup>	120	61,680	514	m <sup>2</sup>	120	61,680	
Resin bound gravel	52	m <sup>2</sup>	90	4,680	67	m <sup>2</sup>	90	6,030	67	m <sup>2</sup>	90	6,030	
kerbs; granite, 300mm wide	150	m <sup>2</sup>	90	13,500	140	m <sup>2</sup>	90	12,600	140	m <sup>2</sup>	90	12,600	
<b>External Fittings and Furnishing</b>				<b>72,500</b>				<b>37,500</b>				<b>72,500</b>	
Rubbish bins	1	item	10,000	10,000	1	item	2,500	2,500	1	item	10,000	10,000	Same specification as bin allowed in Worcester Avenue
Signage	1	item	25,000	25,000	1	item	12,500	12,500	1	item	25,000	25,000	
Artwork	1	item	30,000	30,000	1	item	15,000	15,000	1	item	30,000	30,000	
cycle racks	5	nr	1,000	5,000	5	nr	1,000	5,000	5	nr	1,000	5,000	
timber bench	5	nr	500	2,500	5	nr	500	2,500	5	nr	500	2,500	
<b>Landscaping</b>				<b>97,500</b>				<b>46,535</b>				<b>79,035</b>	
Trees 3-4m high clear stem, metal grate	13	nr	7,500	97,500									
Acer Platanoides 'Goldsworth'					4	nr	3,446	13,784	4	nr	3,446	13,784	
Sorbus Aria 'Lutescens'					9	nr	3,639	32,751	9	nr	3,639	32,751	
					13	nr	2,500	32,500	13	nr	2,500	32,500	*AECOM rate tree pits allowance
<b>Drainage</b>				<b>35,490</b>				<b>36,365</b>				<b>36,365</b>	
Allowance for surface water drainage	1,014	m <sup>2</sup>	35	35,490	1,039	m <sup>2</sup>	35	36,365	1,039	m <sup>2</sup>	35	36,365	
<b>External Services</b>				<b>100,140</b>				<b>70,000</b>				<b>80,390</b>	
Allowance for in ground power supplies	1,014	m <sup>2</sup>	10	10,140	1,039	m <sup>2</sup>	-	-	1,039	m <sup>2</sup>	10	10,390	
Allowance for CCTV	10	nr	4,000	40,000	10	nr	2,000	20,000	10	nr	2,000	20,000	
Modifications to existing street lights	1	item	50,000	50,000	1	item	50,000	50,000	1	item	50,000	50,000	
<b>External Lighting - As indicated on Draw No. E8100</b>				<b>171,570</b>				<b>100,028</b>				<b>171,570</b>	
EXL 01 Up lighting to tree canopies	13	nr	550	7,150	13	nr	550	7,150	13	nr	550	7,150	
EXL 12 Façade mounted lighting to stadium entrance	1	nr	500	500	1	nr	500	500	1	nr	500	500	
EXL 15 Roof mounted lighting columns to illuminate road and footpaths	2	nr	18,000	36,000	2	nr	5,000	10,000	2	nr	5,000	10,000	
EXL 16 Roof mounted lighting columns to illuminate road	6	nr	17,000	102,000	13	nr	5,000	65,000	13	nr	5,000	65,000	
Light installation	22	nr	60	1,320	29	nr	60	1,740	29	nr	60	1,740	
Wiring	22	nr	80	1,760	29	nr	80	2,320	29	nr	80	2,320	
Testing	3	%	148,730	4,460	3	%	86,710	2,601	3	%	86,710	2,601	
Sub-contractors prelims	12	%	153,190	18,380	12	%	89,311	10,717	12	%	89,311	10,717	
Lighting adjustment												71,542	refer to detailed report - lighting needs to be adjusted when marked prices are received
<b>Sub total</b>				<b>518,560</b>				<b>500,998</b>				<b>660,820</b>	
Preliminaries	18	%		124,223	12.5	%	500,998	62,625	18	%	660,820	118,948	Arcadis advised rates are correct
OH&P	5.5	%		44,789	5.5	%	563,623	30,999	5.5	%	779,768	42,887	Arcadis advised rates are correct
<b>Sub total construction</b>				<b>859,143</b>				<b>594,622</b>				<b>822,655</b>	
Design Fees	15	%		128,871	10	%	594,622	59,462	15	%	822,655	123,398	Arcadis advised rates are correct
<b>Total of Pavement Works to Park Lane</b>				<b>988,014</b>				<b>654,084</b>				<b>946,053</b>	

Tottenham Hotspurs ; Comparison of Aecom and Arcadis for Northumberland Development Project ; 8 April 2016

Appendix B - Level 00 (Podium Plan) Pavement Cost Plan Plaza - Public

Revised assessment

Public Realm	ARCADIS ASSESSMENT (A)				AECOM ASSESSMENT (B)				AECOM ASSESSMENT (B)				Comments
	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	
<b>Appendix B - Level 00 (Street Plan) Pavement Cost Plan Plaza</b>													
<b>Site Preparation</b>				<b>75,775</b>				<b>59,120</b>					<b>85,200</b>
Allowance for drain/ manhole cover relocations	1	item	20,000	20,000	1	item	20,000	20,000	1	item	20,000	20,000	20,000
Site preparation preparatory earthworks	2,231	m²	25	55,775	2,608	m²	15	39,120	2,608	m²	25	65,200	65,200
<b>Surface Treatments &amp; Masonry / Hard Cladding</b>				<b>422,270</b>				<b>443,030</b>					<b>411,915</b>
Make up levels to suit finish	2,231	m²	25	55,780	2,608	m²	15	39,120	2,125	m²	25	53,125	53,125 *Arithmetical error Arcadis = 55,755
Dark Granite Paving Stone	1,724	m²	150	258,600	1,254	m²	150	188,100	1,677	m²	150	251,550	251,550
Light Granite Paving Stone	434	m²	120	52,080	1,340	m²	120	160,800	434	m²	120	52,080	52,080
Resin bound gravel	14	m²	90	1,260	14	m²	90	1,260	14	m²	90	1,260	1,260
Planter	6	m²	500	3,000	6	m²	500	3,000	6	m²	500	3,000	3,000
Kerbs; granite; 300mm wide	178	m	100	17,800	170	m²	100	17,000	170	m²	100	17,000	17,000
Masonry / Hard Cladding at Ground Level	113	m²	300	33,750	113	m²	300	33,750	113	m²	300	33,900	33,900 *Awaiting further design development
<b>External Fittings and Furnishing</b>				<b>681,000</b>				<b>508,500</b>					<b>646,000</b>
Rubbish bins	1	item	10,000	10,000	1	item	10,000	10,000	1	item	10,000	10,000	10,000
Signage	1	item	25,000	25,000	1	item	12,500	12,500	1	item	25,000	25,000	25,000
Security bollard; stainless steel	76	nr	5,000	380,000	100	nr	3,500	350,000	100	nr	3,500	350,000	350,000 *ATG advised AECOM the cost per Centurion shallow mount = £2,900 + e/o for installation
Artwork	1	item	250,000	250,000	1	item	125,000	125,000	1	item	250,000	250,000	250,000
Bus Shelter with seating	1	item	5,000	5,000	1	item	5,000	5,000	1	item	5,000	5,000	5,000
Cycle Rack	4	nr	1,000	4,000	4	nr	1,000	4,000	4	nr	1,000	4,000	4,000
Relocation of Bill Nicholson Gates	1	item	5,000	5,000									
Timber Bench	4	nr	500	2,000	4	nr	500	2,000	4	nr	500	2,000	2,000
<b>Landscaping</b>				<b>75,000</b>				<b>34,463</b>					<b>59,463</b>
Trees; 3-4m high clear stem, metal grate	10	nr	7,500	75,000									
Quercus Rubra					3	nr	3,580	10,740	3	nr	3,580	10,740	10,740 *Additional trees added further to drawing as agreed between populous and Arcadis
Platanus x Hispanica					7	nr	3,389	23,723	7	nr	3,389	23,723	23,723
									10	nr	2,500	25,000	25,000 *AECOM rate tree pits allowance
<b>Drainage</b>				<b>78,090</b>				<b>91,280</b>					<b>74,375</b>
Allowance for surface water drainage	2,231	m²	35	78,090	2,608	m²	35	91,280	2,125	m²	35	74,375	74,375
<b>External Services</b>				<b>112,310</b>				<b>96,080</b>					<b>96,080</b>
Allowance for in ground power supplies	2,231	m²	10	22,310	2,608	m²	10	26,080	2,608	m²	10	26,080	26,080
Allowance for CCTV	10	nr	4,000	40,000	10	nr	2,000	20,000	10	nr	2,000	20,000	20,000
Modifications to existing street lights	1	item	50,000	50,000	1	item	50,000	50,000	1	item	50,000	50,000	50,000
<b>External Lighting - As indicate on draw No. E8100</b>				<b>166,950</b>				<b>78,814</b>					<b>166,950</b>
EXL 01 Up lighting to tree canopies	14	nr	550	7,700	14	nr	550	7,700	14	nr	550	7,700	7,700
EXL 12 Façade mounted lighting to stadium entrance	1	nr	500	500	4	nr	500	2,000	4	nr	500	2,000	2,000
EXL 15 Roof mounted lighting columns to illuminate road and footpaths	6	nr	18,000	108,000	8	nr	5,000	40,000	8	nr	5,000	40,000	40,000
EXL 16					10				10				
EXL 17 Roof mounted lighting columns to illuminate steps	1	nr	15,000	15,000	1	nr	3,000	3,000	1	nr	3,000	3,000	3,000
EXL 18 Recessed lighting to VIP arch	36	m	150	5,400	36	m	150	5,400	36	m	150	5,400	5,400
Light installation	58	nr	60	3,480	73	nr	60	4,380	73	nr	60	4,380	4,380
Wiring	58	nr	80	4,640	73	nr	80	5,840	73	nr	80	5,840	5,840
Testing	3	%	144,720	4,340	3	%	68,320	2,050	3	%	68,320	2,050	2,050
Sub-contractors prelims	12	%	149,060	17,890	12	%	70,370	8,444	12	%	70,370	8,444	8,444
Lighting adjustment												88,136	88,136 refer to detailed report - lighting needs to be adjusted when marked prices are received
<b>Sub total</b>				<b>1,611,395</b>				<b>1,311,287</b>					<b>1,539,983</b>
Prelims	18	%		290,052	12.5	%	1,311,287	163,911	18	%	1,539,983	277,197	277,197 Arcadis advised rates are correct
OH&P	5.5	%		104,580	5.5	%	1,475,198	81,136	5.5	%	1,817,180	99,945	99,945 Arcadis advised rates are correct
<b>Sub total Construction</b>				<b>2,006,032</b>				<b>1,556,334</b>					<b>1,917,125</b>
Design fees	15	%		300,905	10	%	1,556,334	155,633	15	%	1,917,125	287,569	287,569 Arcadis advised rates are correct
<b>Total Works to Plaza</b>				<b>2,306,937</b>				<b>1,711,967</b>					<b>2,204,694</b>



Tottenham Hotspurs ; Comparison of Aecom and Arcadis for Northumberland Development Project ; 8 April 2016

Appendix B - Level 00 (Podium Plan) Pavement Cost Plan High Road- Public

Revised assessment

Public Realm	ARCADIS ASSESSMENT (A)				AECOM ASSESSMENT (B)				AECOM ASSESSMENT (B)				Comments	
	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)		
<b>Appendix B - Level 00 (Street Plan) Pavement Cost Plan</b>														
<b>High Road</b>														
<b>Site Preparation</b>				<b>108,525</b>				<b>92,100</b>				<b>92,100</b>		
Allowance for drain/ manhole cover relocations	1	item	20,000	20,000	1	item	20,000	20,000	1	item	20,000	20,000	20,000	Allowance made as limited design information
Site preparation preparatory earthworks	3,541	m2	25	88,525	2,884	m2	25	72,100	2,884	m2	25	72,100	72,100	AECOM undertook and independent measure of area
<b>Surface Treatments &amp; Masonry Hard Cladding</b>				<b>638,070</b>				<b>472,890</b>				<b>592,245</b>		
Make up levels to suit finish	3,541	m2	25	88,525	2,884	m2	15	43,260	3,381	m2	25	84,525	84,525	
Dark Granite Paving Stone	2,360	m2	150	354,000	983	m2	150	147,450	1,575	m2	150	236,250	236,250	
Light Granite Paving Stone	1,073	m2	120	128,760	1,872	m2	120	224,640	1,795	m2	120	215,400	215,400	
Lawn	16	m2	80	1,280			80	-			80	-	-	
Resin bound gravel	12	m2	90	1,035	29	m2	90	2,610	11	m2	90	990	990	
Kerbs; granite; 300mm wide	268	m	90	24,120	162	m	90	14,580	162	m	90	14,580	14,580	
Masonry / Hard Cladding at Ground Level	135	m2	300	40,350	135	m2	300	40,350	135	m2	300	40,500	40,500	
<b>External Fittings and Furnishing</b>				<b>1,120,000</b>				<b>574,500</b>				<b>698,000</b>		
Rubbish bins	1	item	10,000	10,000	1	item	10,000	10,000	1	item	10,000	10,000	10,000	
Signage	1	item	25,000	25,000	1	item	12,500	12,500	1	item	25,000	25,000	25,000	
Artwork	1	item	30,000	30,000	1	item	15,000	15,000	1	item	30,000	30,000	30,000	
Security bollard; stainless steel; retractable	24	nr	20,000	480,000	24	nr	11,000	264,000	24	nr	15,000	360,000	360,000	AECOM were advised by ATG that the unit costs of a retractable bollard = 9.5k plus 5.5k for hand dig There is a commissioning charge of 32k and a carriage of equipment to site charge of 10k. This therefore as an average cost equates to c11k per bollard
Security bollard; stainless steel ; security bollard	115	nr	5,000	575,000	78	nr	3,500	273,000	78	nr	3,500	273,000	273,000	*ATG advised AECOM the cost per Centurion shallow mount = £2,900 + e/o for installation
<b>Soft Landscaping</b>				<b>45,000</b>				<b>20,334</b>				<b>35,334</b>		
Trees; 3-4m high clear stem, metal grade	6	nr	7,500	45,000										Additional trees included as per populous meeting
Platanus x Hispanica					6	nr	3,389	20,334	6	nr	3,389	20,334	20,334	
									6	nr	2,500	15,000	15,000	*AECOM rate tree pits allowance
<b>Drainage</b>				<b>123,935</b>				<b>100,940</b>				<b>118,335</b>		
Allowance for surface water drainage	3,541	m2	35	123,935	2,884	m2	35	100,940	3,381	m2	35	118,335	118,335	
<b>External Services</b>				<b>165,410</b>				<b>118,840</b>				<b>123,810</b>		
Allowance for in ground power supplies	3,541	m2	10	35,410	2,884	m2	10	28,840	3,381	m2	10	33,810	33,810	
Allowance for CCTV	20	nr	4,000	80,000	20	nr	2,000	40,000	20	nr	2,000	40,000	40,000	
Modifications to existing street lights	1	item	50,000	50,000	1	item	50,000	50,000	1	item	50,000	50,000	50,000	
<b>External Lighting - As indicated on Draw No. E8100</b>				<b>291,388</b>				<b>146,934</b>				<b>332,988</b>		
EXL 01 up lighting to tree canopies	12	nr	550	6,600	12	nr	550	6,600	12	nr	550	6,600	6,600	
EXL 12 Façade mounted lighting to stadium entrance	11	nr	500	5,500	8	nr	500	4,000	8	nr	500	4,000	4,000	*AECOM remeasure
EXL 15 Roof mounted lighting columns to illuminate road and	13	nr	18,000	234,000	11	nr	5,000	55,000	11	nr	5,000	55,000	55,000	*AECOM remeasure
EXL 16					11	nr	5,000	55,000	11	nr	5,000	55,000	55,000	*Additional lights shown
EXL 18 Recessed lighting to VIP arch	5	m	150	750	5	m	150	750	5	m	150	750	750	
Light installation	41	nr	60	2,460	43	nr	60	2,580	43	nr	60	2,580	2,580	*Additional lights shown
Wiring	41	nr	80	3,280	43	nr	80	3,440	43	nr	80	3,440	3,440	*Additional lights shown
Testing	3	%	252,590	7,578	3	%	127,370	3,821	3	%	127,370	3,821	3,821	
Sub-contractor prelims	12	%	260,168	31,220	12	%	131,191	15,743	12	%	131,191	15,743	15,743	
Lighting adjustment												186,054	186,054	refer to detailed report - lighting needs to be adjusted when marked prices are received
<b>Sub-total</b>				<b>2,492,328</b>				<b>1,526,538</b>				<b>1,992,812</b>		
Preliminaries	18	%		448,619	12.5	%	1,526,538	190,817	18	%	1,992,812	358,706	358,706	Arcadis advised rates are correct
OH&P	5.5	%		161,752	5.5	%	1,717,355	94,455	5.5	%	2,351,518	129,333	129,333	Arcadis advised rates are correct
<b>Sub-total Construction</b>				<b>3,102,699</b>				<b>1,811,810</b>				<b>2,480,851</b>		
Design Fees	15	%		465,405	10	%	1,811,810	181,181	15	%	2,480,851	372,128	372,128	Arcadis advised rates are correct
<b>Total of pavement works to High Road</b>				<b>3,568,104</b>				<b>1,992,991</b>				<b>2,852,979</b>		

Tottenham Hotspurs ; Comparison of Aecom and Arcadis for Northumberland Development Project ; 8 April 2016

Appendix C - Level 01 (Podium Plan) Raised Podium North Finishes Cost Plan - Public

Revised assessment

Public Realm	ARCADIS ASSESSMENT (A)				AECOM ASSESSMENT (B)				AECOM ASSESSMENT (B)				Comments
	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	
<b>Appendix C - Level 01 (Podium Plan) Raised Podium North Finishes Cost Plan</b>													
<b>Raised Podium North Finishes</b>													
<b>Site Preparation</b>				<b>21,380</b>				<b>5,000</b>				<b>5,000</b>	
Remove existing finish to North end of podium adjacent to ramp	1,069	m <sup>2</sup>	20	21,380	250	m <sup>2</sup>	20	5,000	250	m <sup>2</sup>	20	5,000	*AECOM remeasure
<b>Surface Treatments &amp; Masonry / Hard Cladding</b>				<b>1,112,870</b>				<b>926,435</b>				<b>1,040,070</b>	
Make up levels to suit finish	4,860	m <sup>2</sup>	25	121,500	3,861	m <sup>2</sup>	15	57,915	4,734	m <sup>2</sup>	25	118,350	
Granite paving stone ; dark finish	1,917	m <sup>2</sup>	175	335,475	1,494	m <sup>2</sup>	175	261,450	1,494	m <sup>2</sup>	175	261,450	
Granite paving stone; light finish	2,583	m <sup>2</sup>	140	361,620	2,238	m <sup>2</sup>	140	313,320	2,618	m <sup>2</sup>	140	366,520	
Granite paving stone ; to ramp	253	m <sup>2</sup>	175	44,275	250	m <sup>2</sup>	175	43,750	250	m <sup>2</sup>	175	43,750	
Modifications to existing ramp	1	item	250,000	250,000	1	item	250,000	250,000	1	item	250,000	250,000	* Allowance made by Arcadis - Further design required
<b>External Fittings and Furnishing</b>				<b>1,558,800</b>				<b>1,418,900</b>				<b>1,493,900</b>	
Balustrade to ramp	94	m	3,000	282,000	94	m	3,000	282,000	94	m	3,000	282,000	
Balustrade to podium edge	179	m	1,000	179,000	179	m	1,000	179,000	179	m	1,000	179,000	
Seating concrete (bespoke precast, coloured or patterned)	22	nr	1,000	22,000	22	nr	1,000	22,000	22	nr	1,000	22,000	
Allowance for rubbish bins	1	item	20,000	20,000	1	item	20,000	20,000	1	item	20,000	20,000	* Allowance - Number of bins required. However this cost appears high.
Artwork and signage	1	item	150,000	150,000	1	item	75,000	75,000	1	item	150,000	150,000	
Stairs; changing levels on podium	1	item	10,000	10,000	1	item	10,000	10,000	1	item	10,000	10,000	*Allowance - However cost seems reasonable
Step Ramp	125	m	1,000	125,000	60	m	1,000	60,000	60	m	1,000	60,000	
Podium lifts; 33 passenger	2	nr	100,000	200,000	2	nr	100,000	200,000	2	nr	100,000	200,000	
Stairs to North podium	1	item	560,400	560,400	1	item	560,400	560,400	1	item	560,400	560,400	
Concrete crowd flow upstands	21	m <sup>3</sup>	500	10,400	21	m <sup>3</sup>	500	10,500	21	m <sup>3</sup>	500	10,500	
<b>Landscaping</b>				<b>391,440</b>				<b>140,240</b>				<b>239,820</b>	
Planting and beds; dense mature shrubs	107	m <sup>2</sup>	500	53,500	40	m <sup>2</sup>	500	20,000	40	m <sup>2</sup>	500	20,000	*AECOM remeasure and found smaller area
Trees; 3-4m high clear stem. Metal grate	35	nr	9,500	332,500									
Prunus Spinosa Crataegus Monogyna					35	nr	3,280	114,800	35	nr	3,280	114,800	
Allowance for soft landscaping finish in-between podium stairs including drainage layer etc.	68	m <sup>2</sup>	80	5,440	68	m <sup>2</sup>	80	5,440	219	m <sup>2</sup>	80	17,520	*AECOM rate tree pits allowance
<b>Drainage</b>				<b>220,100</b>				<b>185,135</b>				<b>215,690</b>	
Allowance for surface water drainage	4,860	m <sup>2</sup>	35	170,100	3,861	m <sup>2</sup>	35	135,135	4,734	m <sup>2</sup>	35	165,690	*AECOM remeasure and found smaller area
Allowance for irrigation	1	m <sup>2</sup>	50,000	50,000	1	item	50,000	50,000	1	item	50,000	50,000	
<b>External Services</b>				<b>177,200</b>				<b>117,220</b>				<b>134,680</b>	
Allowance for in ground power supplies	4,860	m <sup>2</sup>	20	97,200	3,861	m <sup>2</sup>	20	77,220	4,734	m <sup>2</sup>	20	94,680	
Allowance for CCTV	20	nr	4,000	80,000	20	nr	2,000	40,000	20	nr	2,000	40,000	
<b>External lighting - As indicated on Draw no. E8101</b>				<b>1,426,880</b>				<b>225,356</b>				<b>1,469,400</b>	
EXL 01; recessed up lighting to tree canopies	21	nr	550	11,550	21	nr	550	11,550	21	nr	550	11,550	
EXL 02; Root mounted lighting column providing light to steps	12	nr	85,000	1,020,000	12	nr	10,000	120,000	12	nr	25,000	300,000	
EXL 04; Surface mounted general illumination to podium levels from columns lighting	24	nr	500	12,000	24	nr	500	12,000	24	nr	500	12,000	
EXL 06; Root mounted lighting to ramp	7	nr	25,000	175,000	7	nr	3,000	21,000	7	nr	3,000	21,000	
EXL 12; façade mounted lighting to stadium entrance	2	nr	500	1,000	2	nr	500	1,000	2	nr	500	1,000	
EXL 20; Low level planar lighting	1	nr	8,000	8,000	4	nr	5,000	20,000	4	nr	5,000	20,000	
Light installations	67	nr	60	4,010	70	nr	60	4,200	70	nr	60	4,200	
Wiring	67	nr	80	5,350	70	nr	80	5,600	70	nr	80	5,600	
Testing	3	%	1,236,900	37,110	3	%	195,350	5,861	3	%	375,350	11,261	
Sub-contractor preliminaries	12	%	1,274,010	152,860	12	%	201,211	24,145	12	%	386,611	46,393	
Lighting adjustment												1,036,396	refer to detailed report - lighting needs to be adjusted when marked prices are received
<b>Sub-total</b>				<b>4,908,670</b>				<b>3,018,286</b>				<b>4,598,560</b>	
Preliminaries	18	%		883,561	12.5	%	3,018,286	377,286	18	%	4,598,560	827,741	Arcadis advised rates are correct
OH&P	5.5	%		318,573	5.5	%	3,395,572	186,756	5.5	%	5,426,301	298,447	Arcadis advised rates are correct
<b>Sub-total construction</b>				<b>6,110,804</b>				<b>3,582,328</b>				<b>5,724,748</b>	
Design Fees	15	%		916,621	10	%	3,582,328	358,233	15	%	5,724,748	858,712	Arcadis advised rates are correct
<b>Total cost of Raised Podium North Finishes</b>				<b>7,027,425</b>				<b>3,940,561</b>				<b>6,583,460</b>	

Tottenham Hotspurs ; Comparison of Aecom and Arcadis for Northumberland Development Project ; 8 April 2016

Appendix C - Level 01 (Podium Plan) Raised Podium South Finishes Cost Plan - Public

Revised assessment

Public Realm	ARCADIS ASSESSMENT (A)				AECOM ASSESSMENT (B)				AECOM ASSESSMENT (B)				Comments
	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	
<b>Appendix C - Level 01 (Podium Plan) Raised Podium Cost Plan</b>													
<b>Surface Treatments</b>				<b>1,683,670</b>				<b>1,318,495</b>				<b>1,735,015</b>	
Make up levels to suit finish	8,793	m <sup>2</sup>	25	219,825	6,725	m <sup>2</sup>	15	100,875	7,806	m <sup>2</sup>	25	195,150	
Granite paving stone ; dark finish	2,671	m <sup>2</sup>	175	467,425	2,760	m <sup>2</sup>	175	483,000	2,678	m <sup>2</sup>	175	468,650	
Granite paving stone; light finish	4,548	m <sup>2</sup>	140	636,720	2,678	m <sup>2</sup>	140	374,920	3,787	m <sup>2</sup>	140	530,180	*AECOM remeasure
									1,099	m <sup>2</sup>	165	181,335	Internal areas advised by Arcadis to be part of the scheme and to be confirmed by client ; rate included make up levels
Lawn	362	m <sup>2</sup>	100	36,200	362	m <sup>2</sup>	100	36,200	362	m <sup>2</sup>	100	36,200	*AECOM remeasure
Allowance for raised artificial mounds; finish in either artificial grass, grass or concrete, <6m high	211	m <sup>2</sup>	1,500	316,500	211	m <sup>2</sup>	1,500	316,500	211	m <sup>2</sup>	1,500	316,500	
Playground area	1	item	7,000	7,000	1	item	7,000	7,000	1	item	7,000	7,000	
<b>External Fittings and Furniture</b>				<b>2,434,000</b>				<b>2,331,400</b>				<b>2,433,900</b>	
Balustrade to podium edge; 1.1m high; glazed	376	m	1,000	376,000	376	m	1,000	376,000	376	m	1,000	376,000	
Seating concrete (bespoke precast, coloured or patterned 450mm high, 450-1000mm wide)	14	m	1,000	14,000	14	m	1,000	14,000	14	m	1,000	14,000	
Concrete crowd flow upstands	27	m <sup>3</sup>	500	13,600	27	m <sup>3</sup>	500	13,500	27	m <sup>3</sup>	500	13,500	
Bench intake & exhaust planter	1	item	250,000	250,000	1	item	250,000	250,000	1	item	250,000	250,000	
Podium lifts; 33 passenger	4	nr	100,000	400,000	4	nr	100,000	400,000	4	nr	100,000	400,000	
Stairs to south podium	1	item	801,400	801,400	1	item	801,400	801,400	1	item	801,400	801,400	
e/o security handrails	88	m	1,000	88,000	88	m	1,000	88,000	88	m	1,000	88,000	*As discussed in Populus meeting 05.06.2015
Canopy	1	item	250,000	250,000	1	item	250,000	250,000	1	item	250,000	250,000	
Artwork and signage	1	item	205,000	205,000	1	item	102,500	102,500	1	item	205,000	205,000	
Allowance for rubbish bins	1	item	16,000	16,000	1	item	16,000	16,000	1	item	16,000	16,000	
Stairs ; changing levels on podium	2	nr	10,000	20,000	2	nr	10,000	20,000	2	nr	10,000	20,000	
<b>Landscaping</b>				<b>828,540</b>				<b>489,713</b>				<b>659,713</b>	
Planting beds; dense mature shrubs	618	m <sup>3</sup>	500	309,000	300	m <sup>3</sup>	500	150,000	300	m <sup>3</sup>	500	150,000	*AECOM remeasure
Trees; 3-4m high clear stem, metal grate	67	nr	7,500	502,500									
Betula Utilis Var. Jacquemontii					21	nr	6,098	128,058	21	nr	6,098	128,058	
Metasequoia Glyptostroboides					13	nr	3,822	49,686	13	nr	3,822	49,686	
Rhus Typhina					21	nr	4,820	101,220	21	nr	4,820	101,220	
Sorbus Aucuparia					13	nr	3,553	46,189	13	nr	3,553	46,189	
									68	nr	2,500	170,000	*AECOM rate tree pits allowance
Allowance for soft landscaping finish in-between podium stairs	213	m <sup>2</sup>	80	17,040	182	m <sup>2</sup>	80	14,560	182	m <sup>2</sup>	80	14,560	
<b>Drainage</b>				<b>427,760</b>				<b>355,375</b>				<b>393,210</b>	
Allowance for surface water drainage	8,793	m <sup>2</sup>	35	307,760	6,725	m <sup>2</sup>	35	235,375	7,806	m <sup>2</sup>	35	273,210	
Allowance for irrigation	1	item	120,000	120,000	1	item	120,000	120,000	1	item	120,000	120,000	
<b>External Services</b>				<b>315,860</b>				<b>204,500</b>				<b>226,120</b>	
Allowance for in ground power supplies	8,793	m <sup>2</sup>	20	175,860	6,725	m <sup>2</sup>	20	134,500	7,806	m <sup>2</sup>	20	156,120	
Allowance for CCTV	35	no	4,000	140,000	35	no	2,000	70,000	35	no	2,000	70,000	
<b>External lighting - As indicated on drawing no, E8101</b>				<b>4,083,760</b>				<b>641,656</b>				<b>4,083,760</b>	
EXL 11	6	nr	150,000	900,000	6	nr	30,000	180,000	6	nr	60,000	360,000	
EXL 09	24	m	180	4,320									
EXL 07	12	nr	480	5,760	12	nr	480	5,760	12	nr	480	5,760	
EXL 01	48	nr	550	26,400	20	nr	550	11,000	20	nr	550	11,000	
EXL 02	27	nr	85,000	2,295,000	27	nr	10,000	270,000	27	nr	25,000	675,000	
EXL 03	2	nr	120,000	240,000	2	nr	10,000	20,000	2	nr	50,000	100,000	
EXL 08	25	nr	550	13,750	25	nr	550	13,750	25	nr	550	13,750	
EXL 10	17	nr	500	8,500	17	nr	550	9,350	17	nr	550	9,350	
EXL 12	37	nr	500	18,500	37	nr	500	18,500	37	nr	500	18,500	
Light installations	199	nr	60	11,910	199	nr	60	11,940	199	nr	60	11,940	
Wiring	199	nr	80	15,880	199	nr	80	15,920	199	nr	80	15,920	
Testing	3	%	3,540,020	106,200	3	%	556,220	16,687	3	%	1,221,220	36,637	
Sub-contractor preliminaries	12	%	3,646,219	437,540	12	%	572,907	68,749	12	%	1,257,857	150,943	
Lighting adjustment												2,674,960	refer to detailed report - lighting needs to be adjusted when marked prices are received

Appendix C - Level 01 (Podium Plan) Raised Podium South Finishes Cost Plan - Public

Revised assessment

Public Realm	ARCADIS ASSESSMENT (A)				AECOM ASSESSMENT (B)				AECOM ASSESSMENT (B)				Comments
	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	
<b>Sub total</b>				<b>9,773,590</b>				<b>5,341,139</b>				<b>9,531,718</b>	
Preliminaries	18	%		1,759,246	12.5	%	5,341,139	667,642	18	%	9,531,718	1,715,709	Arcadis advised rates are correct
OH&P	5.5	%		634,306	5.5	%	6,008,781	330,483	5.5	%	11,247,427	618,608	Arcadis advised rates are correct
Sub-total construction				12,167,142				6,339,264				11,866,035	
Design Fees	15	%		1,825,071	10	%	6,339,264	633,926	15	%	11,866,035	1,779,905	Arcadis advised rates are correct
<b>Total cost of Raised Podium South Finishes</b>				<b>13,992,213</b>				<b>6,973,190</b>				<b>13,645,940</b>	

Tottenham Hotspurs ; Comparison of Aecom and Arcadis for Northumberland Development Project ; 8 April 2016

Appendix D - Level 01 (Podium Plan) Podium Square Finishes - Public

Revised assessment

	ARCADIS ASSESSMENT (A)				AECOM ASSESSMENT (B)				AECOM ASSESSMENT (B)				Comments	
	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)		
<b>Podium Square Finishes</b>														
<b>Surface Treatments</b>				<b>328,300</b>				<b>246,955</b>					<b>262,325</b>	
Make up levels to suit finish	1,897	m <sup>2</sup>	25	47,425	1,537	m <sup>2</sup>	15	23,055	1,537	m <sup>2</sup>	25		38,425	
Granite paving stone ; dark finish	480	m <sup>2</sup>	175	83,995	308	m <sup>2</sup>	175	53,900	308	m <sup>2</sup>	175		53,900	*AECOM remeasure
Granite paving stone; light finish	182	m <sup>2</sup>	140	26,880										* As demonstrated within specification no light granite required
Playground Area	1	item	10,000	10,000	1	item	10,000	10,000	1	item	10,000		10,000	
Play and sports equipment	1	item	150,000	150,000	1	item	150,000	150,000	1	item	150,000		150,000	
Jumping jet fountain area	1	item	10,000	10,000	1	item	10,000	10,000	1	item	10,000		10,000	
<b>External Fittings &amp; Furniture</b>				<b>1,649,000</b>				<b>826,500</b>					<b>1,649,000</b>	
Green Wall Planter	1	item	250,000	250,000	1	item	125,000	125,000	1	item	250,000		250,000	
Interactivity planter	1	item	500,000	500,000	1	item	250,000	250,000	1	item	500,000		500,000	
Bench intake & exhaust planter	1	item	500,000	500,000	1	item	250,000	250,000	1	item	500,000		500,000	
Jumping jet fountain	1	item	350,000	350,000	1	item	175,000	175,000	1	item	350,000		350,000	
Artwork and signage	1	item	45,000	45,000	1	item	22,500	22,500	1	item	45,000		45,000	
Allowance for rubbish bins	1	item	4,000	4,000	1	item	4,000	4,000	1	item	4,000		4,000	
<b>Drainage</b>				<b>96,395</b>				<b>76,110</b>					<b>76,110</b>	
Allowance for surface water drainage	1,897	m <sup>2</sup>	30	66,395	1,537	m <sup>2</sup>	30	46,110	1,537	m <sup>2</sup>	30		46,110	
Allowance for irrigation	1	item	30,000	30,000	1	item	30,000	30,000	1	item	30,000		30,000	
<b>External Services</b>				<b>79,320</b>				<b>62,120</b>					<b>62,120</b>	
Allowance for in ground power supplies	1,897	m <sup>2</sup>	20	37,940	1,537	m <sup>2</sup>	20	30,740	1,537	m <sup>2</sup>	20		30,740	
Allowance for fountain pipe distribution	10,690	m <sup>2</sup>	2	21,380	10,690	m <sup>2</sup>	2	21,380	10,690	m <sup>2</sup>	2		21,380	
Allowance for CCTV	5	nr	4,000	20,000	5	nr	2,000	10,000	5	nr	2,000		10,000	
<b>External Lighting - As indicated on Draw No. E8101</b>				<b>229,600</b>				<b>102,993</b>					<b>229,600</b>	
EXL 19	1	nr	15,000	15,000										
5XJ1 Flood lighting to Five aside football pitch	1	nr	15,000	15,000	1	nr	5,000	5,000	1	nr	5,000		5,000	
EXL 01				-	22	nr	550	12,100	22	nr	550		12,100	
EXL 02				-	1	nr	10,000	10,000	1	nr	10,000		10,000	
EXL 13	4	nr	10,000	40,000	4	nr	10,000	40,000	4	nr	10,000		40,000	
EXL14	28	m	150	4,200	28	nr	150	4,200	28	nr	150		4,200	
EXL03	1	nr	120,000	120,000	1	nr	10,000	10,000	1	nr	50,000		50,000	
Light installation	35	nr	60	2,070	57	nr	60	3,420	57	nr	60		3,420	
Wiring	35	nr	80	2,760	57	nr	80	4,560	57	nr	80		4,560	
Testing	3	%	199,030	5,970	3	%	89,280	2,678	3	%	129,280		3,878	
Sub-contractor prelims	12	%	205,000	24,600	12	%	91,958	11,035	12	%	133,158		15,979	
Lighting adjustment													80,463	refer to detailed report - lighting needs to be adjusted when marked prices are received
<b>Sub-total</b>				<b>2,382,615</b>				<b>1,314,678</b>					<b>2,279,155</b>	
Preliminaries	18	%	2,382,615	428,871	12.5	%	1,314,678	164,335	18	%	2,279,155		410,248	Arcadis advised rates are correct
OH&P	5.5	%	2,811,486	154,632	5.5	%	1,479,013	81,346	5.5	%	2,689,403		147,917	Arcadis advised rates are correct
<b>Sub-total Construction</b>				<b>2,966,117</b>				<b>1,560,358</b>					<b>2,837,319</b>	
Design Fees	15	%	2,966,117	444,918	10	%	1,560,358	156,036	15	%	2,837,319		425,598	Arcadis advised rates are correct
<b>Total cost of Raised Podium Square Finishes</b>				<b>3,411,035</b>				<b>1,716,394</b>					<b>3,262,917</b>	

Tottenham Hotspurs ; Comparison of Aecom and Arcadis for Northumberland Development Project ; 8 April 2016

Appendix D - Other Cost - Public

	ARCADIS ASSESSMENT (A)				AECOM ASSESSMENT (B)				Comments
	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	
<b>Appendix D - Other Cost</b>									
<b>Public WC Provision (based on following cost calculation)</b>									
Base build contribution	296	m <sup>2</sup>	1,000	296,000	296	m <sup>2</sup>	1,000	296,000	
Finishes (wall, floor ceiling)	296	m <sup>2</sup>	150	44,400	296	m <sup>2</sup>	150	44,400	
Fixed fixture, fittings, etc				60,000				60,000	*No quantity has been provided
Sanitary appliances, connections, pipework, soil & waste, hot water, plant contribution etc	94	nr	1,500	141,000	94	nr	1,500	141,000	
Hand dryers	12	nr	500	6,000	12	nr	500	6,000	
Services generally	296	m <sup>2</sup>	150	44,400	296	m <sup>2</sup>	150	44,400	
<b>Sub-total</b>				<b>591,800</b>				<b>591,800</b>	
<b>Tottenham experience accessible roof</b>									
Estimated e/o cost to provide (based on Order of Cost Estimate 14/08/15)									
Additional substructure + frame say 5%	5	%	508,942	25,447	5	%	508,942	25,447	
e/o cost for stepped roof slab	362	m <sup>2</sup>	300	108,600	362	m <sup>2</sup>	300	108,600	
e/o surface treatment	362	m <sup>2</sup>	100	36,200	362	m <sup>2</sup>	100	36,200	
steps to accessible roof	1	item	100,000	100,000	1	item	100,000	100,000	
Handrail to accessible roof	105	m <sup>2</sup>	750	78,750	105	m <sup>2</sup>	750	78,750	
Services	362	m <sup>2</sup>	50	18,100	362	m <sup>2</sup>	50	18,100	
<b>Sub-total</b>				<b>367,097</b>				<b>367,097</b>	
Preliminaries	18	%	958,897	172,601	18	%	958,897	172,601	Arcadis advised rates are correct
OH&P	5.5	%	1,131,498	62,232	5.5	%	1,131,498	62,232	Arcadis advised rates are correct
<b>Sub-total construction</b>				<b>1,193,731</b>				<b>1,193,731</b>	
Design fees	15	%	1,193,731	179,060	15	%	1,193,731	179,060	Arcadis advised rates are correct
<b>Grand Total</b>				<b>1,372,791</b>				<b>1,372,791</b>	

**Appendix B - Level 00 (Podium Plan) Pavement Cost Plan Plaza - THFC**

Public Realm	ARCADIS ASSESSMENT (A)				AECOM ASSESSMENT (B)				Comments
	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	
<b>Plaza</b>									
<b>External Fittings and Furnishing</b>				<b>5,000</b>				<b>5,000</b>	
Relocation of Bill Nicholson Gates	1	item	5,000	5,000	1	item	5,000	5,000	
<b>Sub total</b>				<b>5,000</b>				<b>5,000</b>	
Prelims	18	%	5,000	900	18	%	5,000	900	Arcadis advised rates are correct
OH&P	5.5	%	5,900	325	5.5	%	5,900	325	Arcadis advised rates are correct
<b>Sub total Construction</b>				<b>6,225</b>				<b>6,225</b>	
Design fees	15	%	6,225	934	15	%	6,225	934	Arcadis advised rates are correct
<b>Total Works to Plaza</b>				<b>7,159</b>				<b>7,159</b>	

Tottenham Hotspurs ; Comparison of Aecom and Arcadis for Northumberland Development Project ; 8 April 2016

Appendix C - Level 01 (Podium Plan) Raised Podium Substructure Cost Plan - THFC only

Public Realm	ARCADIS ASSESSMENT (A)				AECOM ASSESSMENT (B)				Comments
	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	
<b>Appendix C - Substructure Cost Plan</b>									
<b>Substructure</b>									
<b>Excavation</b>		Not Applicable				Not Applicable			
Bulk earthworks:		Not Applicable				Not Applicable			
Allowance for bulk excavation included in stadium cost plan									*Assumed 50% of Ground floor area GIA at 400mm thick
<b>Piling</b>				<b>1,198,976</b>				<b>1,072,746</b>	
Installation of piling mat	14,068	m2	6	84,408	10,586	m2	6	63,516	
<b>Mobilisation &amp; Demobilisation</b>									
Transport all necessary plant, labour and equipment to site and clear upon completion (Contractor to state number of Rigs)	1	Item	35,000	35,000	1	Item	35,000	35,000	* Allowance made by Arcadis. This cost would allow for 2 rigs
Setting out of pile positions	1	Item	24,610	24,610	1	Item	24,610	24,610	
Set up / move to pile position	593	No	30	17,791	372	No	30	11,160	
<b>CFA piles</b>									
Excavation									
Bore piles <b>excavation</b> only (spoil removal by others)									
450mm CFA piles	4,031	m	18.25	73,565	4,031	m	18.25	73,565	
600mm CFA piles	3,921	m	27.87	109,286	3,921	m	27.87	109,286	
750mm CFA piles	3,512	m	34.86	122,445	3,512	m	34.86	122,445	
<b>Place concrete in piles</b>									
450mm Diameter - supplied from on site batching facilities	638	m3	68.81	43,882	638	m3	68.81	43,882	
600mm Diameter - supplied from on site batching facilities	1,076	m3	66.20	71,213	1,076	m3	66.20	71,213	
750mm Diameter - supplied from on site batching facilities	1,552	m3	65.20	101,175	1,552	m3	65.20	101,175	
<b>Reinforcement</b>									
Provide, fix and place <b>reinforcement</b>									
6mm Dia									
8mm Dia									
10mm Dia	57		808	46,395	57		808	46,395	
12mm Dia									
14mm Dia									
16mm Dia									
18mm Dia									
20mm Dia									
Cut off top of piles	593	No	210	124,534	372	No	80	29,760	* Rate high when compared to bench mark data
<b>Working Pile Testing</b>									
Working Pile Test Allowance	1	Item	44,000	44,000	1	Item	44,000	44,000	
<b>Integrity Tests using Sonic Echo Method</b>									
Test and report per pile (minimum of 20 piles to be available on any visit)	593	No	13.26	7,864	372	No	13.26	4,933	
<b>Sub-contractor Prelims and Design</b>									
0.05 %	0.05	%	906,169	45,308	0.05	%	906,169	45,308	
<b>Concrete Batching for Piles only</b>									
Delivery of Batching Plant	1	Item	10,500	10,500	1	Item	10,500	10,500	
Decommissioning of Batching Plant & removal upon completion	1	Item	7,000	7,000	1	Item	7,000	7,000	
Batching Plant Weekly Rental & Operational Costs	6	Wks	7,000	43,000	6	Wks	7,000	42,000	
Concrete Hardstanding to Batching Plant assumed 15 x 20m with no reinforcement	1	Item	17,500	17,500	1	Item	17,500	17,500	
SE Davis mobilisation and demobilisation	1	Item	14,000	14,000	1	Item	14,000	14,000	
SE Davis washing	3,265	m3	18.86	61,580	3,265	m3	18.86	61,578	
Future piling works	1	Item	93,920	93,920	1	Item	93,920	93,920	
<b>Pilecaps / Ground Beams / mass concrete pads</b>				<b>1,383,277</b>				<b>1,383,275</b>	
Pile Caps									



Tottenham Hotspurs ; Comparison of Aecom and Arcadis for Northumberland Development Project ; 8 April 2016

Appendix C - Level 01 (Podium Plan) Raised Podium Substructure Cost Plan - THFC only

Public Realm	ARCADIS ASSESSMENT (A)				AECOM ASSESSMENT (B)				Comments
	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	
2200mm Thick Pile Cap Attaching 9No Piles 900mm in Diameter_PC900-9-22a	2	No	45,968	80,650	2	No	41,200	82,400	
2200mm Thick Pile Cap Attaching 6No Piles 900mm in Diameter_PC900-6-22a	12	No	27,080	332,581	12	No	22,000	264,000	
1800mm Thick Pile Cap Attaching 3No Piles 900mm in Diameter_PC900-3-18b	8	No	5,170	40,818	8	No	5,170	41,360	
1300mm Thick Pile Cap Attaching 2No Piles 600mm in Diameter_PC600-2-13a	114	No	1,015	115,753	114	No	1,015	115,710	
1300mm Thick Pile Cap Attaching 3No Piles 600mm in Diameter_PC600-3-13b	15	No	40,245	600,181	15	No	5,170	77,550	
								589,000	Additional piling information received from Arcadis
<b>Ground Beams in between pile caps</b>									
Ground Beam 900mm wide x 900mm deep	366	m	438	160,196	366	m	438	160,308	
Ground Beam 750mm wide x 1067mm deep	83	m	448	37,365	83	m	448	37,184	
Ground Beam 600mm wide x 600mm deep	66	m	212	13,968	66	m	212	13,992	
Ground Beam 300mm wide x 350mm deep	23	m	77	1,765	23	m	77	1,771	
<b>Other Foundations</b>				48,248				44,000	
Allowance to form lift pits									
Single Lifts	4	No	11,000	48,248	4	No	11,000	44,000	
Double Lifts	-	No	17,700	-	-	No	17,700	-	
<b>Podium Slab</b>				2,245,532				2,246,075	
Post Tension Slab									
275mm Thk. PT Slab	322	m2	121	38,956	322	m2	121	38,962	
300mm Thk. PT Slab	3,842	m2	126	484,134	3,842	m2	126	484,092	
325mm Thk. PT Slab	470	m2	130	61,126	470	m2	130	61,100	
Reinforced Concrete suspended slab									
400mm Thk. R.C Slab	3,591	m2	176	631,940	3,591	m2	176	632,016	*
Composite Slab									
150mm Thk. Composite Slab	6,059	m2	95	575,618	6,059	m2	95	575,605	
Steel deck to the above	273	t	1,600	436,258	273	t	1,600	436,800	
Allowance for Movement Joints	1	Item	17,500	17,500	1	Item	17,500	17,500	
<b>Podium Steel Structure</b>				304,672				304,869	
Precast Concrete Columns									
Rectangular Columns, incl 300 kg/m3 reinforcement									
400 x 400 R.C. Column	387	m	147	56,919	387	m	147	56,889	
600 x 600 R.C. Column	16	m	286	4,511	16	m	286	4,576	
UC 254 x 254 x 167	28	t	1,480	41,958	28	t	1,480	41,440	
UC 356 x 406 x 634	83	t	1,480	122,244	83	t	1,480	122,840	
Fittings and connections	0.10	%	164,202	16,420	0.10	%	164,202	16,420	
Fire protection	111	t	300	33,282	111	t	300	33,300	
Precast Concrete Columns	111				111				
Circular Columns, incl 300 kg/m3 reinforcement									
	144	m	131	18,911	144	m	131	18,864	
	42	m	186	7,814	42	m	186	7,812	
	11	m	248	2,613	11	m	248	2,728	
<b>Reinforced Concrete Beams</b>				1,325,698				1,325,662	
Level 00 - Reinforced Concrete Beams 700mm wide x 1530mm deep	7	m	594	4,166	7	m	594	4,158	
Level 00 - Car park reinforced concrete ground bearing slab	10,832	m2	122	1,321,532	10,832	m2	122	1,321,504	
<b>Sub total</b>				6,506,403				6,376,627	
Preliminaries	18.0%			1,171,153	18	%	6,376,627	1,147,793	Arcadis advised rates are correct
OH&P	5.50%			422,266	5.5	%	7,524,420	413,843	Arcadis advised rates are correct
<b>Sub total Construction</b>				8,099,821				7,938,263	
Design fees	15.0%			1,214,973	15		7,938,263	1,190,739	

**Appendix C - Level 01 (Podium Plan) Raised Podium Substructure Cost Plan - THFC only**

		ARCADIS ASSESSMENT (A)				AECOM ASSESSMENT (B)				Comments
Public Realm		Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	
<b>Total works to Raised Podium Substructure</b>					<b>9,314,794</b>				<b>9,129,002</b>	Arcadis advised rates are correct

Tottenham Hotspurs ; Comparison of Aecom and Arcadis for Northumberland Development Project ; 8 April 2016

Appendix D - Level 01 (Podium Plan) Podium Square Substructure- THFC

Public Realm	ARCADIS ASSESSMENT (A)				AECOM ASSESSMENT (B)				Comments
	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	
<b>Appendix D - Level 00 (Street Plan) Pavement Cost Plan</b>									
<b>Excavation</b>									
Bulk earthworks;									
Allowance for bulk excavation included in stadium cost plan									
<b>Piling</b>									
Installation of piling mat	1,897	m2	6	11,382	1,897	m2	6	11,382	
<b>Mobilisation &amp; Demobilisation</b>									
Transport all necessary plant, labour and equipment to site and clear upon completion (Contractor to state number of Rigs)	1	Item	5,000	5,000	1	Item	5,000	5,000	
Setting out of pile positions	1	Item	3,440	3,440	1	Item	3,440	3,440	
Set up / move to pile position	83	No	30	2,489	244	No	30	7,320	AECOM remeasure
<b>CFA Piles</b>									
<b>Excavation</b>									
Bore piles <b>excavation</b> only (spoil removal by others)									
450mm CFA piles	564	m	18.25	10,294	564	m	18.25	10,294	
600mm CFA piles	549	m	27.87	15,293	549	m	27.87	15,293	
750mm CFA piles	492	m	34.86	17,134	492	m	34.86	17,134	
<b>Place concrete in piles</b>									
450mm Diameter - supplied from on site batching facilities	89	m3	68.81	6,140	89	m3	68.81	6,140	
600mm Diameter - supplied from on site batching facilities	151	m3	66.20	9,965	151	m3	66.20	9,965	
750mm Diameter - supplied from on site batching facilities	217	m3	65.20	14,158	217	m3	65.20	14,158	
<b>Reinforcement</b>									
Provide, fix and place <b>reinforcement</b>									
6mm Dia									
8mm Dia									
10mm Dia	8	t	808	6,492	8	t	808	6,492	
12mm Dia									
14mm Dia									
16mm Dia									
18mm Dia									
20mm Dia									
Cut off top of piles	83	No	210	17,426	244	No	210	51,240	* Rate high when compared to bench mark data
<b>Working Pile Testing</b>									
Working Pile Test Allowance	1	Item	6,000	6,000	1	Item	6,000	6,000	
<b>Integrity Tests using Sonic Echo Method</b>									
Test and report per pile (minimum of 20 piles to be available on any visit)	83	No	13.26	1,100	244	No	13.26	3,235	
<b>Sub-contractor Prelims and Design</b>									
	0.05	%	126,314	6,316	0.05	%	126,314	6,316	
<b>Concrete Batching for Piles only</b>									
Delivery of Batching Plant	1	Item	1,500	1,500	1	Item	1,500	1,500	
Decommissioning of Batching Plant & removal upon completion	1	Item	1,000	1,000	1	Item	1,000	1,000	
Batching Plant Weekly Rental & Operational Costs	1	Wks	7,000	6,000	1	Wks	7,000	7,000	
Concrete Hardstanding to Batching Plant assumed 15 x 20m with no reinforcement	1	Item	2,500	2,500	1	Item	2,500	2,500	
SE Davis mobilisation and demobilisation	1	Item	2,000	2,000	1	Item	2,000	2,000	
SE Davis Washing	457	m3	18.86	8,617	457	m3	18.86	8,619	
Future piling works	1	Item	13,142	13,142	1	Item	13,142	13,142	
<b>Pile caps / Ground Beams / mass concrete pads</b>									
<b>Pile Caps</b>				<b>193,565</b>				<b>124,123</b>	
2200mm Thick Pile Cap Attaching 9No Piles 900mm in Diameter_PC900-9-22a	0.25	No	45,968	11,285	0.25	No	41,200	10,300	

Tottenham Hotspurs ; Comparison of Aecom and Arcadis for Northumberland Development Project ; 8 April 2016

Appendix D - Level 01 (Podium Plan) Podium Square Substructure- THFC

Public Realm	ARCADIS ASSESSMENT (A)				AECOM ASSESSMENT (B)				Comments
	Quantity	Unit	Unit Cost (£)	(£)	Quantity	Unit	Unit Cost (£)	(£)	
2200mm Thick Pile Cap Attaching 6No Piles 900mm in Diameter_PC900-6-22a	2	No	27,080	46,539	2	No	22,000	44,000	
1800mm Thick Pile Cap Attaching 3No Piles 900mm in Diameter_PC900-3-18b	1	No	5,170	5,712	1	No	5,170	5,170	
1300mm Thick Pile Cap Attaching 2No Piles 600mm in Diameter_PC600-2-13a	16	No	1,015	16,197	16	No	1,800	28,800	
1300mm Thick Pile Cap Attaching 3No Piles 600mm in Diameter_PC600-3-13b	2	No	40,245	83,984	2	No	3,000	6,000	
<b>Ground Beams in between pile caps</b>									
Ground Beam 900mm wide x 900mm deep	51	m	438	22,417	51	m	438	22,338	
Ground Beam 750mm wide x 1067mm deep	12	m	448	5,229	12	m	448	5,376	
Ground Beam 600mm wide x 600mm deep	9	m	212	1,955	9	m	212	1,908	
Ground Beam 300mm wide x 350mm deep	3	m	77	247	3	m	77	231	
<b>Other Foundations</b>				<b>6,752</b>				<b>11,000</b>	
Allowance to form lift parts									
Single Lifts	1	No	11,000	6,752	1	No	11,000	11,000	
Double Lifts	-	No	17,700	-	-	No	17,700	-	
<b>Podium Slab</b>				<b>170,179</b>				<b>170,165</b>	
<b>Post Tension Slab</b>									
275mm Thk. PT Slab	45	m2	121	5,451	45	m2	121	5,445	
300mm Thk. PT Slab	538	m2	126	67,746	538	m2	126	67,788	
325mm Thk. PT Slab	66	m2	130	8,554	66	m2	130	8,580	
<b>Reinforced Concrete suspended slab</b>									
400mm Thk. R.C. Slab	502	m2	176	88,428	502	m2	176	88,352	
<b>Composite slab</b>									
150mm Thk. Composite Slab	848	m2	95	80,547	848	m2	95	80,560	
Steel deck to the above	38	t	1,600	61,046	38	t	1,600	60,800	
Allowance for Movement Joints	1	Item	2,500	2,500	1	Item	2,500	2,500	
<b>Podium Steel Structure</b>				<b>42,633</b>				<b>43,272</b>	
<b>Precast Concrete Columns</b>									
<b>Rectangular Columns, incl 300kg/m3 reinforcement</b>									
400 x 400 R.C. Column	54	m	147	7,965	54	m	147	7,938	
600 x 600 R.C. Column	2	m	286	631	2	m	286	572	
UC 254 x 254 x 167	4	t	1,480	5,871	4	t	1,480	5,920	
UC 356 x 406 x 634	12	t	1,480	17,106	12	t	1,480	17,760	
Fittings and connections	0.10	%	22,977	2,298	0.10	%	22,977	2,298	
Fire protection	16	t	300	4,657	16	t	300	4,800	
<b>Precast Concrete Columns</b>									
<b>Circular Columns, incl 300 kg/m3 reinforcement</b>									
	20	m	131	2,646	20	m	131	2,620	
	6	m	186	1,093	6	m	186	1,116	
	1	m	248	366	1	m	248	248	
<b>Reinforced Concrete Beams</b>				<b>185,507</b>				<b>185,546</b>	
Level 00 - Reinforced Concrete Beams 700mm wide x 1530 deep	1	m	594	583	1	m	594	594	
Level 00 - Car park reinforced concrete ground bearing slab	1,516	m2	122	184,924	1,516	m2	122	184,952	
<b>Sub total</b>				<b>910,118</b>				<b>743,276</b>	
Preliminaries	18.0%			163,821	18	%	743,276	133,790	Arcadis advised rates are correct
OH&P	5.50%			59,067	5.5	%	877,066	48,239	Arcadis advised rates are correct
<b>Sub total Construction</b>				<b>1,133,006</b>				<b>925,305</b>	
Design fees	15.0%			169,951	15		925,305	138,796	Arcadis advised rates are correct
<b>Total of Podium Square Substructure</b>				<b>1,302,956</b>				<b>1,064,101</b>	

#### About AECOM

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