Our Ref: MR/W1190

Date: 1st November 2013

GRAVITY
CONSULTING
ENGINEERS

Mr Francis Dickinson
Barratt West London
Wallis House
Brentford
Middlesex
TW8 9BS

Dear Francis

RE: KIDDERPORE AVENUE
Civil And Structural Engineering Services

Thank you for your call on Friday 18th October, in which you invited us to tender for the detailed civil and structural engineering design on Kidderpore Avenue. You are aware that we have a great deal of knowledge relating this site already. We are mindful that the knowledge we do have may give us a disadvantage compared with our competitors. We have worked to keep the fees down to a reasonable level, but in the end the fee has to be realistic.

In determining the fee for this project we have referred to drawings produced by Allies and Morrison and issued to us in November 2012. We presume the scheme has not changed significantly since this drawing issue.

We would note your concern about our resourcing on this project. We do have a large number of bids coming into the office. In the event that we are successful we will only accept appointments on projects we feel we can deliver. We do have projects coming to an end now, and therefore we have capacity. In short, if you are likely to appoint us quickly then we will be in a position to turn down subsequent appointments so that we do not over-extend ourselves.

A company organogram is attached with this letter. We currently have two offices - one in Wokingham, and the other in Hyderabad in India. Our UK numbers are growing. We will be moving to larger offices elsewhere in Wokingham at the beginning of December. The office in India is a new venture in the early stages of development, and is managed by an Indian born, UK educated engineer who has worked with me for seven years.

Comments Relating Structural Elements

Blocks A and B - Refurbishment

Blocks A and B comprise the refurbishment of three Victorian properties on Kidderpore Avenue, two of which will become linked. The alterations in Block A are extensive, and preliminary layouts have been indicated on our planning issue drawings. The structural changes indicated on those drawings are designed to provide you with a robust budget. We would be looking to move the project forward at the detailed design with a view to reducing the structural costs for these buildings in order to see that we stay well within your budget. This will be achieved through a combination of value engineering and further structural inspections. The inspections can take place once the buildings have been sanitised.

Block C – Refurbishment

Block C comprises the refurbishment of a two storey 'coach house'. The changes anticipated are relatively straight forward, and the fee reflects this.

Block D – Refurbishment and Conversion

The library comprises a semi basement, and seven overlying slabs (including the roof). The substructure consists of a 762mm thick raft that is subjected to concentrated loads from columns and stair cores. The superstructure is a framed construction with an unusual waffle slab construction. Cladding comprises masonry inner and outer leafs.

It is Barratt's intention to convert the library building for residential use, and to add one storey on top of the existing frame. The conversion will include significant demolition works within the existing structure, during which most elements of the existing cores will be removed, and the construction of a new, central core. We have already carried out a detailed assessment of the existing and proposed structural loads to demonstrate that the new loads, pressures and stresses on the existing foundations do not exceed the original actions by any more than 10%. This has been achieved in part by introducing additional posts that change the way the raft behaves, reducing stresses by suppressing hogging and therefore sagging moments in the raft. We have provided detailed advice relating the scheme design that was generated by Grid Architects, so the structural principles for the conversion have been established. We will need to take that experience over to the detailed design stage and ensure that the project architect adheres to the limitations imposed by us via the structural design (within reason). The current Gravity Consulting Engineers design for the library is again a worst case, and we would look to reduce the structural requirements wherever possible during the course of the detailed design.

Temporary Works for Refurbishment Elements

Temporary works will be required for the buildings that you intend to refurbish, particularly the library. We can provide temporary works designs. Our aim with the design on the Kidderpore Avenue properties will be to reduce or eliminate the requirement for temporary works wherever possible in order to reduce development costs. We can do this at the outset with some help from your surveyors and your construction team. With reference to the library we will see that these works are reduced to the bare minimum and are properly coordinated with the permanent works such that they do not impede construction.

Block E – New Build

Block E comprises a two storey structure that can be constructed using steelwork and load bearing masonry. The design for this building is relatively straightforward, and our fee reflects that.

Blocks F to J - New Build

Blocks F to J front on to Finchley Road, and are semi-retaining at the rear. The units are all currently designed to stage D as reinforced concrete frames supported on piles. We would like to look at load bearing masonry on the upper levels during the value engineering stage if the layouts permit. We would also like to look at using raft foundations instead of piles for these units.

Blocks K to M New Build

These blocks are currently shown over a 2 storey basement forming Phase 2 of the development, which is excluded from the scope of our works as requested.

Comments Relating Civil Engineering Elements

The civil engineering input for the detailed design will include traffic sweeps to help generate a workable basement layout that maximises the number of available spaces. We will also provide external works drawings with levels, footpath alignments and on site highway alignments, along with all associated construction details. The external works package will be supplemented with a setting out plan identifying coordinates for the corners of new buildings and for piles.

From previous involvement in the planning application support, we are aware of the site's complexities that are driven by existing topography, restricted access to existing drainage connections, and the development layout. The substructure pack will include the detailed design of storm and foul water drainage including attenuation devices. We will make an application to Thames Water for consent to connect to their drainage network.

At present, the Phase 1 site is served by an existing vehicular access from Kidderpore Avenue and it is assumed that the bellmouth retains the current geometry/configuration etc. to avoid carrying out works on the public highway. We would of course, be able to assist should BWL require modification works to be undertaken to the existing access.

Design Programme

We would anticipate a structural and civil engineering design programme of 8 weeks for Phase 1 of the development. Phase 2 is excluded as requested. This programme can be reduced with additional resourcing if required. RC detailing can be done by us if required. The RC detailing programme would be as follows:

- Phase 1 substructure: 4 weeks.
- Phase 1 superstructure: 3 weeks.

PHASE 1

A. Structural Engineering

BLOCK A – REFURBISHMENT

Task Description
Design
Drawings
Block A Structural Design and Detailing

BLOCK B - REFURBISHMENT

Task Description
Design
Drawings
Block B Structural Design and Detailing

BLOCK C - REFURBISHMENT

Task Description
Design
Drawings
Block C Structural Design and Detailing

BLOCK D – REFURBISHMENT AND CONVERSION

Task Description
Design
Drawings
Block D Structural Design and Detailing

BLOCK E – NEW BUILD

Task Description
Design
Drawings
Block E Structural Design and Detailing

BLOCK F/G – NEW BUILD

Task Description
Design
Drawings
Block F/G Structural Design and Detailing

BLOCK H – NEW BUILD

Task Description
Design
Drawings
Block H Structural Design and Detailing

B. Block A-D Temporary Works designs

Task Description
Blocks A-C (off Kidderpore Avenue) – Free of Charge. We will work to eliminate if possible. If works required then no fee will be charged for the design of the works.
Block D design and drawings.
Phase 1 Temporary Works

C. RC Details

Task Description
Library Building
New Builds (Blocks F,G,H)
External Works
Phase 1 RC Detailing

D. Civil Engineering

Task Description
Design concepts and coordination with the Architect, Structural Engineer and M&E Consultant
Highway record plans (excluding cost of copies of records, which we would claim from Barratt as a disbursement)
Basement layout review for block D – with traffic sweeps – both levels.
External ground works pack – finished footpath levels, finished ground levels, site general arrangement layout, private foul water drainage strategy, private surface water drainage strategy, kerbing and pavement construction plans, setting out coordinates, construction details. Drainage design to be carried out in accordance with the drainage strategy prepared for the planning application.
Thames Water Consent to Connect (S106 drainage connection application).
Street lighting design for access road and external areas
Modification of existing vehicular access – excluded pending confirmation of any requirements.
Phase 1 Civil Engineering Design and Detailing

E. Supplier Drawing Reviews

Task Description
Pile Schedule Review – Phase 1
Wind Post Drawing Review – Phase 1
Lintel Schedule Review – Phase 1
Total for Supplier Drawings Reviews

F. Resident Engineer – 3 Month Placement

Chartered Engineer:

G. Site visits / Meetings

Site visits / meetings required while the resident engineer is not on site: per visit / meeting. No charges will be made for inspections on Blocks A-C, but we would like to limit that offer to 3 visits – one day for each building.

Phase 2 of the development is excluded as requested. The total cost for structural design and detailing for Phase 1 excluding meetings, but including for RC detailing and provision of a Resident Engineer for a 3-month period is

The total cost for civil engineering design and detailing excluding meetings is

Please note that the work for which we have priced is as per the fee schedules. A list of exclusions is attached at the rear of this letter.

We have made allowances for design development during our working drawing production, and we acknowledge and accept that you would expect small changes to be made free of charge post working drawing issue. The fee proposal is however prepared on the basis that there will be minimal changes to drawings following construction issue of our working drawings, which we will do at the tender stage.

Benefits We Can Bring

In terms of the benefits we can bring to the project, our motivation is always to deliver on time. We work well with others in order to help us to achieve our deadlines. We are commercially aware and we are more than willing to undertake value engineering exercises at the start of the project to ensure that the design is as economic as it can be. Typically our main value engineering drive relates the foundations, and in this respect we usually work closely with the geotechnical engineer to remove conservatisms in the design at the outset.

As discussed, we work with Ardent on the vast majority of our projects. We act as their structural consultant and they act as our civil engineering consultant. The partnership works very well. We have not received criticism for our joint performance from any of our clients. If we were successful then your contract would be with Gravity Consulting Engineers Ltd, and Ardent would be out subcontractor, and our responsibility. I will be your point of contact.

We hope this offer is competitive and that it is of interest to you. The fee proposal is negotiable. Please call if you need to discuss any parts of the proposed fee schedules or if you want us to correct any of the scope identified in these schedules.

Yours sincerely,

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