



ARCHITECTURAL SERVICES DEPARTMENT 建築署

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By Post & Email
davidfung@a-c-i-d.com

Our Ref : ASD 51/91051/BIM/QUO

14 May 2019

Advance Construction Information Development Ltd
A02, 35/F, TML Tower,
3 Hoi Shing Street, Tseun Wan

Attn: Mr. David FUNG

Dear Sirs,

Quotation Contract No. 3/2019/AB1
Consultancy Services
for
Creation of Structural BIM Objects

You are invited to submit a quotation in Hong Kong Dollars for the work set out in the enclosed documents listed below:-

- (i) The Assignment Brief;
- (ii) Annexes 1 to 3; and
- (iii) Appendices A1-A4, B1-B4, C, D and E.

Any query in connection with the enclosed documents shall be directed to the undersigned.

The time for completion of the work is listed in the attached brief. It is anticipated that the date for commencement of the work will be around 4 June 2019 and completion date will be around 6 April 2020.

The supervising officer shall have the power to order a variation to any part of the work as a result of a change in the employer's requirements. A variation ordered by the supervising officer shall not in any way vitiate or invalidate the contract. The variations so ordered shall be valued using the schedule of rates (if any). In the absence of a rate for any item of work, the rate shall be determined by the supervising officer. The supervising officer shall provide the consultant with a breakdown of the measurement and valuation of the variation and effect shall be given to the measurement and valuation of the variation in the calculation of the final quotation sum.

After the presentation of your invoice and subsequent certification by the supervising officer on his being satisfied that the work has been completed in accordance with the Contract, payment shall be made within 30 days of the date of such certification.

Please note that a report on your performance will be kept in our records for future reference and a copy of the performance report will be sent to you in case of unsatisfactory performance.

Your quotation and all necessary submissions required in the Assignment Brief must be submitted in two separate sealed envelopes, one being the Technical Proposal and the other being the Fee Proposal. The outside of the envelopes must be clearly marked with the title and quotation contract number and addressed to **Mr. Thomas WAN, Chief Architect/1, Architectural Services Department at 41/F, Queensway Government Offices, 66 Queensway, Hong Kong**. The outside of the envelopes must NOT bear any indication as to the identity of the consultant. Quotations must reach the above mentioned address before **12 noon on Tuesday, 28 May 2019**. Late submissions will NOT be accepted.

If a black rainstorm warning signal or tropical cyclone warning signal No. 8 or above is hoisted at any time between 9:00 am and 12:00 noon on the closing date for receipt of quotations, the closing time for receipt of quotations will be postponed to 12:00 noon on the first working day after the black rainstorm warning signal has ceased to be in effect or the tropical cyclone warning signal No. 8 is lowered.

The Government of the Hong Kong Special Administrative Region does not bind itself to accept any quotation irrespective of whether the quotation is the lowest offer or where the assessment of the quotations is based on a formula approach, the quotation is with the highest overall score.

The Government of the Hong Kong Special Administrative Region reserves the right to negotiate with any tenderer about the terms of the offer.

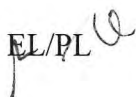
Yours faithfully,



(Vincent HONG)
For Chief Architect/1
Architectural Services Department

Encl.

File via CA/1

EL/PL 

**THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION
ARCHITECTURAL SERVICES DEPARTMENT
ARCHITECTURAL BRANCH**

ASSIGNMENT BRIEF

FOR

QUOTATION CONTRACT NO. 3/2019/AB1

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**THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION
ARCHITECTURAL SERVICES DEPARTMENT
ARCHITECTURAL BRANCH**

ASSIGNMENT BRIEF

FOR

QUOTATION CONTRACT NO. 3/2019/AB1

1. Background of the Assignment

- 1.1 The ArchSD intends to appoint a Consultant firm (the “**Consultant**”) to provide “**Creation of Structural BIM Objects**” (the “**Assignment**”). The Assignment is proposed by Building Information Modelling Working Group (BIMWG) under the purview and supervision of the Chief Architect/1 (CA/1), BIM Support Team and Structural Engineering Branch (SEB) BIMWG.
- 1.2 Development Bureau of the Hong Kong SAR Government issued Technical Circular (Works) No. 18/2018 on Adoption of Building Information Modelling for Capital Works Projects in Hong Kong which takes effect from January 2019. The Circular has mandatory items on BIM uses both at design stage and construction stage.
- 1.3 A BIM model comprises numerous BIM objects such as structural floors, walls, columns, beams, etc. BIM object creation is an integral part of the BIM process, underpinning and helping to standardize elements within the BIM model. Object creation produces simplified versions of building products, providing an information-rich 3D model that is usable by Architects, Engineers, and Contractors.
- 1.4 High quality BIM objects could provide the right levels of information, appropriate parametric geometric behaviour, standard facility management properties (e.g. COBie), and a consistent, structured, easy-to-use format. It should be efficient to use, easily comparable and interoperable. A comprehensive and usable BIM object library would facilitate daily operation and improve efficiency in design and construction of projects.

2. Objectives of the Assignment

- 2.1 To create common BIM objects to facilitate the modelling and data management of BIM models. To enhance productivity and efficiency, it is essential to establish every BIM object with core property set that:
 - a) Adopts a consistent approach to classification
 - b) Applies a standard naming convention for ease of use
 - c) Standardizes approaches to the level of detail and object presentation
- 2.2 To study and recommend inclusion of suitable parameters for BIM objects to facilitate BIM workflow and the operation of ArchSD, including statutory submission, tendering, etc. with due consideration in the management of BIM object library and best practices in BIM application.
- 2.3 To transfer knowledge and techniques of BIM object creation, through demonstration of

the approach and methodology in object creation, to enable ArchSD staff to continuously develop, customize and fine-tune the BIM objects, e.g. capable of modifying and improving the BIM objects in the future.

- 2.4 To demonstrate by means of case studies or examples, the functions, features and limitation of the created BIM objects. To discuss the advantages and disadvantages of different approaches, solicit input from ArchSD and incorporate for improvement.
- 2.5 To apply the latest technology and software technique and identify technical concerns / limitations of BIM software and rooms for improvement for continuous development of the BIM objects.

3. Lump Sum Fees

- 3.1 A lump sum quotation is invited. The quotation for the Assignment shall be deemed to include the cost of all the specified professional services, evaluation, testing, co-ordination/liaison with software developers/vendors, and the cost of all other things and matters necessary for the proper carrying out and completion of the Assignment as specified.

4. Description of the Assignment

- 4.1 The Assignment requires the creation of three-dimensional BIM objects with the following general requirements:
 - Software version: Autodesk Revit 2018 and 2019
 - Level of Development: 400 for Steel Welds and 300 for Cranked Concrete Beam and Tapered Concrete Beam
 - Unit of measurement: Millimetres
 - Language: English
 - Can be correctly mirrored and rotated
 - The design of object shall minimize the errors induced by manual input, such as contradictory inputs in different parameters. Drop down menus, simple tick boxes should be used as far as possible. Simple logical checking for parametric inputs should be provided.

(a) Item A - Steel Welds

The following BIM objects shall be created:

- (i) Type A – Fillet weld (Single side)
- (ii) Type B – Fillet weld (Both side)
- (iii) Type C – Butt weld (Single bevel)
- (iv) Type D – Butt weld (Double bevel)
- (v) Type E – Butt weld (Single V)
- (vi) Type F – Butt weld (Double V)

The BIM Object of Steel Welds shall be included the following properties.

- (i) Line-based
- (ii) Length of the Weld can be scheduled

In addition to the built-in family parameters, the following parameters shall be incorporated in the BIM objects as detailed in Appendix A1:

Name of Parameter	Group parameter under	Type of parameter	Type					
			A	B	C	D	E	F
Weld size, w	Dimensions	Length	✓	✓				
Weld length, l	Dimensions	Length	✓	✓	✓	✓	✓	✓
-All round		Yes/No						
-Edge of element		Yes/No						
Arch height	Dimensions	Length	✓	✓	✓	✓	✓	✓
Groove angle, a	Dimensions	Length			✓	✓	✓	✓

(b) **Item B – Annotation Symbols for Steel Welds (i.e. Item A)**

The following annotation symbols for Steel Welds shall be created:

- (i) Type A – Fillet weld (Single side)
- (ii) Type B – Fillet weld (Both side)
- (iii) Type C – Butt weld (Single bevel)
- (iv) Type D – Butt weld (Double bevel)
- (v) Type E – Butt weld (Single V)
- (vi) Type F – Butt weld (Double V)

In addition to the built-in family parameters, the following parameters shall be incorporated in the BIM annotation symbols as detailed in Appendix A2:

Name of Parameter	Group parameter under	Type of parameter	Type						Remarks
			A	B	C	D	E	F	
Weld size, w	Structural	Text	✓	✓					Value from Item A
All round	Graphics	Yes/No	✓	✓	✓	✓	✓	✓	Value from Item A
Site Weld	Graphics	Yes/No	✓	✓	✓	✓	✓	✓	
Weld Face - Near face - Far face	Graphics	Yes/No	✓		✓		✓		
		Yes/No							

(c) **Item C – Cranked Concrete Beam**

BIM object of cranked concrete beam of Type A to Type D shall be created.

In addition to the built-in family parameters, the following parameters shall be incorporated in the BIM objects as detailed in Appendix A3:

Name of Parameter	Group parameter under	Type of parameter	Type				Remarks
			A	B	C	D	
Beam Breadth, B	Dimensions	Length	✓	✓	✓	✓	
Beam Depth, H	Dimensions	Length	✓	✓	✓	✓	
Beam Depth 2, H2	Dimensions	Length		✓	✓		
Beam Length, L	Dimensions	Length	✓	✓	✓	✓	Value from pick two points by user
Level Raise	Construction	Yes/No	✓	✓		✓	
Level Drop	Construction	Yes/No	✓	✓		✓	Opposite value of Level Raise
Increase Depth	Construction	Yes/No			✓		
Decrease Depth	Construction	Yes/No			✓		Opposite value of Increase Depth
L1	Dimensions	Length	✓	✓	✓	✓	Start of level drop/raise
L2	Dimensions	Length	✓	✓	✓	✓	
L3	Dimensions	Length				✓	
Level different, Z	Dimensions	Length	✓	✓	✓	✓	
Angle, R	Dimensions	Length			✓		Value (0< R ≤90)

The additional parameters shall be incorporated in the corresponding object tags as detailed in Appendix A3.

(d) **Item D – Tapered Concrete Beam**

BIM object of tapered concrete beam of Type A and Type B shall be created.

In addition to the built-in family parameters, the following parameters shall be incorporated in the BIM objects as detailed in Appendix A4:

Name of Parameter	Group parameter under	Type of parameter	Type		Remarks
			A	B	
Beam Breadth, B	Dimensions	Length	✓	✓	
Beam Depth, H	Dimensions	Length	✓	✓	
Beam Depth 2, H2	Dimensions	Length	✓	✓	
Beam Length, L	Dimensions	Length	✓	✓	Value from pick two points by user
L1	Dimensions	Length		✓	
L2	Dimensions	Length		✓	
L3	Dimensions	Length		✓	
Z	Dimensions	Length		✓	
Z1	Dimensions	Length	✓		If Z2=0, Z1=H-H2
Z2	Dimensions	Length	✓		If Z1=0, Z2=H-H2

The additional parameters shall be incorporated in the corresponding object tags as detailed in Appendix A4.

- 4.2 Individual BIM Object Sheet should be submitted with each BIM Object to record the properties of the object. The Consultant is required to complete the BIM Object Sheets as per the format shown in Appendix B1-B4.

5. Standards, Specifications and Guidelines

5.1 The creation of BIM objects shall make reference to the following international and local standards and guidelines:

- (a) CIC Building Information Modelling Standards (Phase One) issued by Hong Kong Construction Industry Council
- (b) Computer-Aided-Drafting Standard for Works Projects (CSWP) issued by Development Bureau of the HKSAR Government
- (c) American Institute of Architects (AIA)'s G202-2013 Building Information Modeling Protocol Form.
- (d) BS EN ISO19650-1:2018 Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) - Information management using building information modelling - Part 1: Concepts and principles.
- (e) BS 8536-1:2015 Briefing for design and construction. Code of practice for facilities management (Buildings infrastructure).
- (f) BS EN ISO19650-2:2018 Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) - Information management using building information modelling - Part 2: Delivery phase of the assets.
- (g) PAS 1192-3:2014 Specification for information management for the operational phase of assets using Building Information Modelling.
- (h) BS 1192-4:2014 Collaborative production of information Part 4: Fulfilling employers information exchange requirements using COBie – Code of practice
- (i) PAS 1192-5:2015: Specification for security-minded Building Information Modelling, digital built environments and smart asset management.
- (j) Level of Development Specification Part I, November 2017 by BIMFORUM
- (k) Construction Industry Council Production BIM Object Guide General Requirements issued by Hong Kong Construction Industry Council
- (l) Family Library Interchange Program (F.L.I.P.)
(<http://www.aiab.org/index.php/flip-guideline>)
- (m) The latest BIM Guide for Architectural Design by Architectural Branch, ArchSD
- (n) The latest BIM Guide for Structural Engineering by Structural Engineering Branch, ArchSD

6. Deliverables

6.1 The Consultant shall prepare, coordinate, produce and deliver to the Employer's Representative (ER) of ArchSD, Chief Architect/1 in accordance with Clause 10.1 the deliverables as detailed in the Brief and any other deliverables necessary for the completion of the Assignment, and circulate to relevant parties in sufficient copies.

6.2 Within 7 calendar days from the date of receipt of ER's instruction to proceed with the Assignment, the Consultant shall submit an organization chart showing the organization of the team members to be mobilized together with the particulars and curriculum vitae of the personnel together with a master programme for execution of the Assignment. The master programme shall be reviewed regularly and updated before progress meetings with the ER or whenever necessary.

6.3 The Consultant shall produce the following deliverables for comment and approval:

- (a) BIM Objects

The Consultant shall submit draft and final versions of BIM objects in compliance with the requirements and standards as stated in this Brief. The BIM objects should be of high quality in terms of naming, data structure, modelling techniques, etc. and should be so designed to operate in a Common Data Environment (CDE) in accordance with the current standards and requirements of ArchSD. The BIM objects should be in such formats as specified by the Employer and as with the other existing BIM objects, and to be managed in object library with established data structure. The BIM objects should also be designed and modelled to enable drawing production without extra handling and modifying.

- (b) **BIM Object Sheets**
The Consultant shall submit BIM Object Sheet for each BIM Object created, which shall contain important information of the object such as name, category, LOD, 3D geometry, 2D view and symbol, parameters, etc. as per the format in **Appendix B1-B4**. The Consultant shall recommend on the establishment of BIM Object Register for effective management of the object library.
- (c) **Monthly Progress Reports**
The Consultant shall attend monthly progress meetings with the ER and his BIM support team including SEB BIMWG members to indicate the progress of the Assignment and to include essential information as required by the ER and his BIM support team including SEB BIMWG members.
- (d) **Final User Manual**
The Consultant shall submit a Draft User Manual for the ER's comment. Upon completion of the draft manual, the Consultant shall arrange a presentation to ER and his BIM support team including SEB BIMWG members for consideration. The comments and suggestions by the ER shall be considered by the Consultant prior to its submission of Final User Manual.

Upon completion on the preparation of the Final User Manual, the Consultant shall prepare a final presentation to the ER and essential stakeholders of the ArchSD (i.e. BIMWG and such other stakeholder that the ER may invite to attend). The comments and suggestions made by ArchSD in this final presentation would be conclusive and the Consultant shall incorporate into the Final User Manual for submission to the ER for final approval.

The Final User Manual shall be used for internal knowledge sharing in the ArchSD. The Consultant should propose a format that is user-friendly and holistically consistent. Both the format and contents for the Final User Manual should be submitted to the ER and his BIM support team including SEB BIMWG members for comment and agreement prior to the submission of the draft User Manual.

Approval by the ER on the BIM Objects, BIM Object Sheets and the Final User Manual shall be conclusive evidence of Consultant's satisfactory completion of the scope of Assignment. The BIM Objects shall be submitted in soft copies by 2 sets of DVD/CD-ROM. The BIM Object Sheets and the Final User Manual shall be submitted in coloured hard copies (i.e. in 4 sets) properly bounded and soft copies (i.e. in 2 sets of DVD/CD-ROM).

- (e) **Presentation Materials**
Presentation materials for the following is expected:
 - (i) Monthly progress meetings (i.e. simple presentation for discussion purpose is sufficient. Elaborate presentation materials are NOT required).
 - (ii) 2 formal presentations to ER, both in hard and soft copies, such as

presentation power-point files.

- 6.4 For Quality Assurance, the Consultant is required to conduct self-checking for the BIM objects prior to submission. A comprehensive check form including the following items should be submitted for each BIM object for endorsement by ER and his BIM support team including SEB BIMWG:

Item	Content	Description
3D Geometry	File size	Is it too large?
	Visibility control	Suitable setting? Hide unnecessary geometry on plan and elevation?
	Category	Is the BIM object of correct category?
	Insertion point	Is the insertion point appropriate?
	Unit	Is unit of measurements correct?
	Maintenance Space	Does it require maintenance space? Is space conformed to local practice?
	Parametric Properties	Is it necessary to be parametric? Is parametric behavior as expected? Are the parameters enough for intended purpose?
	Host	Is the object hosted as appropriate?
	Property / Parameter	Are property classified in suitable grouping and naming?
2D-Symbolic Item (Symbol)	Information	Is all information necessary or exhaustive for the user?
	Symbol	Is the symbol conformed to local practice or client requirement?
	Size Dependency	Can the symbol follow the change of the 3D geometry?
	Symbol Offset	If necessary, can the symbol offset adjustable for overlapping in BIM model?
	Symbol Orientation	Is the symbol orthogonal to the BIM object geometry? If necessary, can the symbol orientation be controlled?
	Drawing Production	Is is readable when printing out?
	Tag / Label / Annotation	Is the tag / label / annotation conformed to local practice or client requirement?
	2D-Symbolic Item (Tag / Label / Annotation)	
	Drawing Production	Is it readable when printing out in appropriate scale?

- 6.5 The Employer shall become the exclusive owner of all Deliverables. The Consultant shall draw the ER's attention to any Deliverables that are under license and any pre-existing copyright or patent on any Deliverables and any other restriction whatsoever affecting the Employer's use of the same. The Consultant, if required by the ER, shall establish the existence of any license, copyright, patent or restriction. The Consultant's attention is drawn that the created BIM Objects may be shared to third parties, e.g. Construction Industry Council in establishment of a common object library in the future.
- 6.6 Apart from the general requirements stipulated in Clause 6.3 of this Brief, the Consultant shall propose for the ER's agreement the format or the contents of the Deliverables where

necessary.

7. Professional Services to be provided by the Consultant

- 7.1 The duties of the Consultant shall include all of the tasks required to complete the Assignment as described in this Assignment Brief (i.e. especially the requirements under Clause 4 of this Brief), producing the Deliverables as described in Clause 6 of this Brief and shall include, but not limited to, the following:
- (e) BIM Objects;
 - (f) BIM Object Sheets;
 - (g) Provide recommendations in BIM Object Register for effective management of the BIM Object Library;
 - (h) Prepare draft and final version of User Manual and present to the ER;
 - (i) Conduct 2 nos. of final presentation to ER (and stakeholders such as BIMWG members including SEB BIMWG Members) on the Final User Manual;
 - (j) Provide technical support including answering queries and if necessary, fine-tuning the objects, for a period of **six months** after acceptance of the objects.
- 7.3 The Consultant shall be required to attend presentations to ER and his BIM support team including SEB BIMWG members. The presentation shall include:
- (a) Demonstration of the functions and features of the BIM Objects;
 - (b) There will be two formal presentations of the briefing by the Consultant after acceptance of the BIM Objects. The date and venue of these two presentations to be advised by the ER; and
 - (c) Prepare and submit information for the presentations before each meeting.
- 7.4 The Consultant is generally responsible for the following services:-
- (a) The Consultant shall coordinate with project team members of the ER, attend all meetings including but not limited to progress meetings and co-ordination meetings, and prepare and provide all necessary correspondence reports, presentation materials and financial details of fees throughout the course of the Assignment as required by the ER;
 - (b) For the progress meetings and final presentations to ER, the Consultant is required to appoint necessary and appropriate professionals of their Consultancy Team to attend these meetings and presentations to the satisfaction of the ER;
 - (c) The Consultant shall complete all tasks required by the ER for successful execution and completion of this Assignment;
 - (d) The Consultant shall provide prompt response to comments and requests as-and-when required by the ER;
 - (e) The Consultant shall take note of the operation of a performance assessment system. The performance of the Consultant and his sub-consultants, if any, is assessed and reported on a regularly basis and upon completion of the Assignment; and
 - (f) To discharge the duties of the Consultant in this Assignment, the Consultant shall arrange at his own cost for all necessary provision, including hardware and software, to carry out the Assignment.

8. Programme of Implementation

- 8.1 The due date for commencement of the Assignment shall be directed by the ER but shall not be more than 7 calendar days from the date of Letter of Acceptance of the

Assignment. The Assignment shall be completed within **10 months** from the date for commencement.

- 8.2 The Consultant shall submit a master programme within 7 calendar days from the date of receipt of ER's instruction to proceed with the Assignment, detailing the dates of submission of deliverables for agreement by the ER.
- 8.3 The Consultant shall follow the time frame of the various phases of the Assignment as specified below:

Stages	Schedule of Submission
<u>Stage 1:</u> <ul style="list-style-type: none">First draft of BIM objects	By the 35 th calendar day from the date of commencement
<u>Stage 2:</u> <ul style="list-style-type: none">Second draft of BIM ObjectsDraft full set of BIM Object SheetsDraft User ManualPresent to ER and his BIM support team including SEB BIMWG Members	By the 70 th calendar day from the date of commencement
<u>Stage 3:</u> <ul style="list-style-type: none">Final BIM ObjectsFinal BIM Object SheetsFinal User ManualPresent to BIMWG	By the 105 th calendar day from the date of commencement
Maintenance Period (approx. 6 months)	By the 10 th calendar month from the date of commencement

- 8.4 The Consultant shall endeavour to ensure that the Assignment is carried out in accordance with the programme approved by the ER.

9. Variations and Other Commitments

- 9.1 No variation shall be allowed in this Assignment. The Consultant shall make all necessary allowance for all possible services and variation factors in connection with the timely and satisfactory completion of the Assignment in his Fee submission.
- 9.2 If the Consultant is of the view that the instructions by the ER (or his representative) falls outside the scope or deliverables of this Assignment, the Consultant shall inform the ER as soon as practicable together with the Consultant's grounds for justifications in writing for the ER's assessment. Upon consideration of all the circumstances of facts and the Consultant's application, the ER may amend his instructions or confirm his instructions in writing to the Consultant. The decision of the ER shall be final.
- 9.3 If the ER considers that there exists any variation or commitments essentially necessary for the satisfactory completion of the Assignment, the ER may consult the Employer and SEB BIMWG to consider in holding separate meetings with the Consultant to arrange for

agreement with the Consultant on a separate supplementary agreement.

Note: Clause 14.5 regarding Payment for Additional Services shall be read in conjunction with Clause 9.3. The decision of ER shall be in writing and shall be final.

10. Employer and Employer's Representative

- 10.1 The Employer means the Government of Hong Kong Special Administration Region. The ER shall be Chief Architect/1, ArchSD, or such other person as may be authorized by the Employer in writing and notified to the Consultant. The ER shall be responsible for the administration of the Assignment and may delegate any of his functions to his delegated officers in writing. If the Consultant is dissatisfied with a decision or instruction of any such officer(s) pertaining to the Assignment, the matter shall be referred to the ER for a ruling.
- 10.2 During the course of the Assignment, the Consultant shall report directly to the ER. The Consultant shall comply with all reasonable instructions of the ER or his delegated officers. The ER (or his delegated officers) shall issue to the Consultant general instructions on procedures and shall supply such additional information as may be required for the completion of the Assignment.

11. Control of the Project and Assignment

- 11.1 The Consultant shall attend progress meetings or other meetings, if any, with the ER and other staff of the ArchSD during the course of the Assignment.
- 11.2 The meetings expected at this Assignment, include but not limited to, progress meetings, presentation/meetings as required with the BIM Support Team including SEB BIMWG Members and 2 final presentations to ER and stakeholders upon completion of Assignment.

12. Information and Facilities Provided by the Employer

- 12.1 All available information relevant to the Assignment (e.g. the latest BIM Guide for Structural Engineering) will be provided to the Consultant. Relevant documents, reports, drawings and other background materials relevant to the projects could be retrieved by the Consultant from the Employer.
- 12.2 One copy each of the relevant documents and drawings needed by the Consultant will be supplied free of charge by the ER. A charge may be made for additional copies.

13. Consultant's Office and Staffing

- 13.1 The Consultant shall maintain for the duration of this Assignment an office in Hong Kong under the control of a Project Team Leader or Project Director. He or she shall have adequate authority and sufficient professionals, technical and administrative supporting staff in all relevant disciplines to the satisfaction of the ER.
- 13.2 The Consultant shall provide and maintain a Consultancy Team, which must possess adequate and substantial knowledge and skills on BIM, building technology, building materials, building design, maintenance, computer simulation and relevant statutory requirements for the duration of this Assignment. The Consultancy Team has to comprise sufficient key staff. The minimum qualifications of the Consultancy Team, key staff and duties are specified in Appendix C. The Consultant shall propose to the ER the organization structure and the manpower resources deployed in this Assignment for

approval.

- 13.3 The Consultant shall provide full details of all the staff responsible for the Assignment with their curriculum vitae and qualifications. The team should consist of an experienced professional in construction industry with recognized BIM qualifications and a minimum of 2 years working experience involving **Revit families in Engineering discipline**.

14. Payment

- 14.1 Remuneration of the Consultant for performance of the Assignment shall be the Lump Sum as stated by the Consultant in the Form of Quotation, subject to Clause 14.3 below.

Deliverables	Schedule of Payment (upon completion of deliverables)
<u>Stage 1:</u>	
• First draft of BIM objects	• 10% of Awarded Sum
<u>Stage 2:</u>	
• Second draft of BIM Objects	• 30% of Awarded Sum (Cumulative 40% of Awarded Sum)
• Draft full set of BIM Object Sheets	
• Draft User Manual	
• Present to ER and his BIM support team including SEB BIMWG Members	
<u>Stage 3:</u>	
• Final BIM Objects	• 50% of Awarded Sum (Cumulative 90% of Awarded Sum)
• Final BIM Object Sheets	
• Final User Manual	
• Present to ER and his BIM support team including SEB BIMWG Members	
Maintenance Period	• 10% of Awarded Sum (Cumulative 100% of Awarded Sum)

- 14.3 Payment will be made upon the ER's written acceptance of the relevant deliverables submitted by the Consultant and the Consultant's performance of all its obligations due to the date of payment under the Assignment to the satisfaction of the ER, and the receipt of the Consultant's invoice. Should there be defects or amendments required of a deliverable, the Consultant shall amend and re-submit the deliverables at no extra cost or expense to the Employer within seven days of the notice being given by the ER until the ER accepts the deliverable.
- 14.4 The Consultant shall not be paid for any work which is not authorized by the Assignment or approved in writing by the ER.
- 14.5 Payment for Additional Services - where it is determined by the ER that additional services shall be performed and that such additional services are not attributable to defaults on the part of the Consultant, payment for such services shall be either on a time charge basis or by means of a lump sum fee agreed between the Consultant and the ER before commencement of the additional services.

For the avoidance of doubt, provision of services as required by the ER in accordance with this Brief is NOT an Additional Services.

- 14.6 The Consultant is responsible to monitor the overall programme of the Assignment and is not allowed to claim for any payment of delays. The Consultant shall make all necessary allowance for all possible delay factors in his fee submission.

15. Consultation

- 15.1 The Consultant shall, as may be necessary for the successful completion of the Assignment, consult all authorities having rights or powers in connection with the Assignment and bodies or persons affected by the Assignment.
- 15.2 The Consultant shall consult all persons and entities listed in the Brief or who may be appointed by the Employer in regard to any particular aspect of the Assignment and in consequence thereof make such changes in the production of the Deliverables as may be approved by the ER.

16. Care and Due Diligence

- 16.1 The Consultant shall exercise all reasonable professional skill, care and diligence in the performance of all and singular the Assignment and, in so far as his duties are discretionary, shall act fairly between the Employer and any third party.
- 16.2 The Consultant shall, in respect of any work done or information supplied by or on behalf of the Employer, report to the ER any errors, omissions and shortcomings of whatsoever nature of which the Consultant becomes aware in the performance of the Assignment.
- 16.3 The Consultant shall indemnify and keep indemnified the Employer against all claims, damages, losses or expenses arising out of or resulting from any negligence in or about the conduct of and performance by the Consultant, his servants and agents, of all and singular the Assignment.
- 16.4 In the event of any errors or omissions for which the Consultant is responsible and as a result of which re-execution of the Assignment is required, the Consultant shall, without relieving any liability and obligation under this Assignment, at his own cost re-execute such Assignment to the satisfaction of the ER.

17. Instructions and Procedures

The Consultant shall comply with all reasonable instructions of the Employer or the ER. The ER shall issue to the Consultant general instructions on procedure and shall supply such additional information and standard Government printed forms as may be required. The Consultant shall follow the Employer's procedures so far as possible and shall obtain the prior approval in writing of the ER to major departures from such procedures. Nothing in this Clause shall be deemed to affect the responsibility of the Consultant in connection with the Assignment.

18. Ethical Commitment

- 18.1 The Consultant shall inform his employees and his agents who are engaged either directly or indirectly on the formulation and implementation of a Government project that the soliciting or accepting of advantage as defined in the Prevention of Bribery Ordinance is not permitted. The Consultant shall also caution his employees and his agents against

soliciting or accepting any excessive hospitality, entertainment or inducements which would impair their impartiality in relation to the Government projects.

- 18.2 The Consultant and his employees shall observe the ethical commitments promulgated in **ETWB TC(W) No. 3/2004 and 3/2004A in respect of “Confidentiality”, “Prevention of bribery”, “Declaration of ethical commitment” and “Acknowledgement of being notified of the ethical requirements”**.
- 18.3 The Consultant shall submit a signed declaration in a form specified in **Appendix D** to confirm compliance with the ethical commitments requirements upon appointment and when submitting an invoice. If the Consultant fails to submit a duly signed and completed declaration, the Employer shall be entitled to withhold payment until such declaration is submitted and the Consultant shall not be entitled to interest in that period.

19. Declaration of Interests

- 19.1 On appointment and during the course of this Assignment, the Consultant must declare any interest if it is considered to be in real or apparent conflict with the Assignment. The Consultant shall not undertake any services, which could give rise to conflict of interest, except with the prior approval of the ER which approval shall not be unreasonably withheld.
- 19.2 In any case, the Consultant or any of his associated companies shall not undertake any services for a contractor in respect of a contract between that contractor and the Employer for which the Consultant is providing a service to the Employer.
- 19.3 The Consultant shall submit a signed declaration in a form specified in **Appendix E** to confirm compliance with the conflict of interest avoidance and debarring requirements upon appointment and when submitting an invoice. If the Consultant fails to submit a duly signed and completed declaration, the Employer shall be entitled to withholding payment until such declaration is submitted and the Consultant shall not be entitled to interest in that period.

20. Assignment Proposal

- 20.1 The Tenderer shall submit a Technical Proposal with supporting documents as stipulated in Clause 1 to 21 of the Brief.

Technical Proposal

(a) Organization, Resources and Manpower

The Tenderer shall submit the following information:

- Staff Organization Chart;
- Relevant experience and qualification of key staff;
- Responsibilities and degree of involvement of key staff;
- Adequacy of manpower input;
- Relevant organizational structure, experience and qualification of sub-consultant (if applicable).

(b) Response to the Brief

The Tenderer shall submit the following information:

- General understanding on the needs and problems of the Assignment;
- General understanding of the Assignment objectives;
- General understanding on the scope of each of the deliverables;

- General understanding on the constraints and key issues of the Assignment.
- (c) *Tenderer's Experience*
The Tenderer shall submit the following information:
- Consultant's Experience (in Hong Kong & elsewhere) in **Construction Projects**;
 - Consultant's Experience on **BIM Object Creation in Engineering Discipline** in preceding 5 years;
- (d) *Methodology and Programme*
The Tenderer shall submit the following information:
- Methodology to show the preliminary idea about the approach to this Assignment. It should also include examples of the Company's deliverables that would help evaluation of the standard of services provided by the Consultant;
 - General understanding of the Programme.
- 20.2 Full requirements of the Technical Proposal are included in the attached "**Guidelines for Preparation of Technical Proposal and Fee Proposal**" under **Annex 1**.
- 20.3 **Fee Proposal**
The Fee Proposal for the Assignment shall be a lump sum fee quotation in Hong Kong dollars. The fee quotation for the Assignment shall be deemed to include the total cost for full range of the services specified in this Brief, including the cost of all incidentals of labour and materials, cartage, plant, tests, the giving of notices and payment of fees required to be given or paid by any enactment or any regulation or by-law of any local or other fully constituted authority and any public body or company, all graphic, printing and production materials, and the cost and expenses of all other things and matters necessary for the proper carrying out and completion of Assignment.
- 20.4 The Fee Proposal shall include the following documents:
- (a) The Fee Quotation duly completed, signed and dated (original and duplicated copy) by the authorized signatory of the tender.
 - (b) **Form of Tender (Quotation Contract)**, duly completed, signed and dated, as specified in **Annex 2** of the Conditions of Quotation and the letter of invitation; and
 - (c) **Summary of Tender (Quotation Contract)**, duly completed, signed and dated as specified under **Annex 3** of the Conditions of Quotation and the letter of invitation.
- 20.5 Submission of the Fee Proposal must be submitted in a sealed envelope separate from the Technical Proposal. Without prejudice to the other terms and conditions in the Conditions of Quotation, the Brief and the letter of invitation that provides for invalidating a tender submitted by a Tenderer, the failure of a Tenderer to comply with the "Two-Envelope System" shall render his tender as invalid.
- 20.6 The Government does not bind itself to accept the lowest quotation or any quotation, and reserves the rights to negotiate with any consulting firms on the terms of the offer.
- 20.7 Subject to the Government's right to reject bids which are considered to have been priced unreasonably low, the selection of tenderers will be determined on the basis of a combined assessment of the Technical Proposal and Fee proposal. Full requirements of the Technical Proposal and Fee Proposal are included in the attached "**Guidelines for Preparation of Technical Proposal and Fee Proposal**" under **Annex 1**.

21. Submission of Technical Proposal and Fee Proposal

- 21.1 The Technical Proposal and Fee Proposal shall be enclosed in sealed envelope as specified below:-
- (a) One envelope containing 2 copies of the Fee Proposal duly completed, signed and dated. This envelope shall be marked “**Creation of Structural BIM Objects – FEE PROPOSAL.**”
 - (b). One envelope containing 4 copies of the Technical Proposal duly completed, signed and dated. This envelope shall be marked “**Creation of Structural BIM Objects – TECHNICAL PROPOSAL.**”
 - (c). The envelopes submitted in pursuance to (a) and (b) above shall then be enclosed in a covering envelope. This covering envelope shall be marked: “**Tender Submission for Creation of Structural BIM Objects – (Quotation Contract No. 3/2019/AB1).**”
- 21.2 In the event of a consultant firm discovering an error in his assignment proposal after it has been deposited, the ER should be informed in writing. An amendment submitted shall be accepted and shall form part of the assignment proposal, provided that it shall have been deposited in the manner described in Clause 21.1 above and submitted in accordance with Clauses 21.3 and 21.4. All envelopes containing such amended documents must be clearly marked “With Amendment”.
- 21.3 The covering envelope as specified at Clause 21.1(c) shall be addressed to Chief Architect/1, Mr. Thomas WAN, Architectural Services Department and placed in the Architectural Services Department Tender Box located at Room 4101, 41/F, Queensway Government Office, 66, Queensway, Admiralty **before 12:00 noon on 28 May 2019.**
- 21.4 If a black rainstorm warning or tropical cyclone warning signal No. 8 or above is hoisted between 9.00 am and 12.00 noon on **28 May 2019**, the closing time for submission will be postponed to 12.00 noon on the first working day after the black rainstorm warning signal has ceased to be in effect or the tropical cyclone warning signal No. 8 has been replaced by a lower signal.
- 21.5 Late submissions or submissions in other formats or by other means or that do not comply with the conditions above will not be accepted for evaluation.
- 21.6 The Employer reserves the right, in its absolute discretion, not to invite any of the bidders which have submitted proposals in response to this invitation, to enter into a written agreement for the project. Submission of any proposal should be made on the understanding that the Employer will not be liable to pay any costs arising out of its preparation and submission.

List of Annexes

Annex 1 - Guidelines for Preparation of Technical Proposal and Fee Proposal

Annex 2 - Form of Tender (Quotation Contract)

Annex 3 - Summary of Tender (Quotation Contract)

Creation of Structural BIM Objects

Guidelines for Preparation of Technical Proposal and Fee Proposal

The **Technical Proposal** shall be limited to 20 pages in length excluding drawings and appendices etc. It shall be inexpensively bound with plain cover and shall be of A4 size. The Proposal shall be divided into sections under the main headings given below. Sub-sections shall be generally as described below, with variations to suit the type of consultancy and nature of a particular project and shall be specified in the invitation to submit proposals.

1. Submission of Technical Proposal and Fee Proposal

- (a) The Technical Submission as required in this **Technical Proposal** under the “**Two Envelope System**” is a **Marking Scheme Submission**.
- (b) The Technical Submission shall demonstrate compliance and general understanding on the essential requirements of the Assignment Brief. Demonstration on compliance and general understanding of the essential requirements is a **PREREQUISITE** to eliminate any non-conforming tenders before evaluation on the Fee Quotations.

Note:

The Technical Proposal shall be vetted and assessed by the Tender Assessment Panel assigned and chaired by the Chief Architect/1 of the ArchSD. The Tender Assessment Panel shall consist of members of the relevant discipline or branches of the ArchSD under the Building Information Modelling Working Group (BIMWG) or such other person the Chief Architect/1 may consider as suitable and appropriate to serve as a member of the Tender Assessment Panel. The Tender Assessment Panel shall be established and set up prior to the opening of the Technical Submission and Fee Quotation.

2. Assessment Criteria

- (a) The assessment shall be based on the technical knowledge and relevant job references etc. of the Tenderer in the **Technical Proposal and the Fee Proposal**. **The weights for the technical proposal and fee proposal are 70% and 30% respectively.**
- (b) The technical knowledge and experience should refer to the consultant's experience, staff qualifications, technical knowledge and past performance on similar projects within a period of maximum 10 years.

All quoted job experience and past performance etc. should be supported with relevant documents or evidence. The supporting documents should be either in printed copy or softcopy in pdf format or web link. Any proposal without supporting evidence may not be considered. The Tenderer may consider to include such information as drawings or appendices etc. not counted within the 20 pages maximum Technical Proposal.

- (c) Assessment and marking of the Technical Proposal shall be in accordance to the following criteria and weighting:-
 - (i) **25% - Organization, Resources and Manpower**
 - (ii) **20% - Response to the Brief**
 - (iii) **30% - Tenderer's Experiences**
 - (iv) **25% - Methodology and Programme**

3. Technical Proposal

3.1 Organization, Resources and Manpower

The Tenderer's submission should demonstrate their general understanding (and in particular) of the requirements in **Clauses 2, 4, 6, 7, 8 & 13**.

The Tenderer should include the sub-sections on:-

- (a) Staff organization chart.
- (b) Relevant experience and qualifications of key staff.
- (c) Responsibilities and degree of involvement of key staff.
- (d) Adequacy of manpower input; and
- (e) Relevant organizational structure, experience and qualification of sub-consultant (if applicable).

3.2 Response to the Brief

The Tenderer's submission should demonstrate their general understanding (and in particular) of the requirements in **Clauses 1, 2, 4, 5, 6, 7 & 8**.

The Tenderer should include the sub-sections on:-

- (a) General understanding on the needs and problems of the Assignment.
- (b) General understanding of the Assignment objectives.
- (c) General understanding, inclusion and realistic estimate on the scope of each of the deliverables.
- (d) General understanding on the constraints and key issues of the Assignment.

3.3 Tenderer's Experiences

The Tenderer's submission should demonstrate their general understanding (and in particular) of the requirements in **Clauses 1, 2, 4, 5, 6, 7, 8 & 11**.

- (a) Consultant's Experience (in Hong Kong & elsewhere) in Construction Projects

Note:

(1). For the avoidance of doubt, the construction project submitted shall be multi-storey building project (in Hong Kong & elsewhere) that may be completed, under design or construction.

- (b) Experience in BIM Object Creation in Engineering Discipline in preceding 5 years

Note:

(1). For the avoidance of doubt, teaching and training experience in BIM object creation is also acceptable.

(2). Experience in Government, public sector, private sector etc. are all inclusive.

3.4 Methodology and Programme

The Tenderer should include the sub-sections on:-

- (a) General understanding of Methodology in relation to **Clause 1, 2, 4, 5 & 6 of the Brief only.**

Note:

(1). This part of Technical Proposal shall cover a maximum of 20 marks.

- (b) General understanding of the Master Programme in relation to **Clause 8 of the Brief only.**

Note:

(1). This part of Technical Proposal shall cover a maximum of 5 marks.

4. Non-Conforming Tenders

Tenderers shall take note on this Clause 3 under these Guidelines regarding non-conforming tenders. If the Technical Submissions as specified in Clause 2 above by the Tenderer fails to demonstrate compliance to the requirements as specified under **Clauses 3.1, 3.2, 3.3 OR 3.4** above of these Guidelines, then such tender shall be considered as a non-conforming tender. Fee Quotation of a non-conforming tender shall not be evaluated or considered.

5. Two Envelopes System

Technical Submission shall comply with all the requirements as specified under Clauses 3.1, 3.2, 3.3 **and** 3.4 above of these Guidelines. Compliance of all the requirements as specified in Clauses 3.1, 3.2, 3.3 **and** 3.4 above of these Guidelines is a **PREREQUISITE** to eliminate non-conforming tenders before the 2nd Envelope on Fee Quotation would be evaluated.

6. Fee Quotation

Once the Technical Submissions are assessed and demonstrated to be in compliance with tender requirements (i.e. not non-conforming tender), the Fee Quotation will be opened and assessed. **The weights of the Technical Proposal and Fee Proposal are 70% and 30% respectively.**

7. Employer not bound to accept the Tenderer with the lowest Fee Quotation

Tenderers shall take note that Employer is not bound to accept the tender with the lowest tender price or any tender and may cancel the tender exercise on public interest ground. In considering the acceptance of a tender, the Employer may take account of all relevant circumstances including the following:-

- (a) The Technical Submission fails to demonstrate the required understanding and compliance of the essential requirements of the Consultancy Brief and the requirements under Clauses 3.1, 3.2, 3.3 **OR** 3.4 above of these Guidelines.
- (b) The Tenderer's capability (financial, commercial and technical) in undertaking the contract. For the avoidance of doubt, matters such as bankruptcy, false declaration, lack of integrity, and acts of dishonesty, the latest available information and reports reflecting serious shortfall in performance and the latest available information and reports relating to serious safety or environmental incident may be taken into account in determining whether a tenderer is fully capable of undertaking the contract.

8. **Assessment Criteria and Weighting**

8.1 The weights of **Technical Proposal** and **Fee Proposal** are **70%** and **30%** respectively.

8.2 Assessment and marking shall be in accordance with the following criteria and weighting.

<u>Table: Summary of Assessment Criteria and Weighting for submission of Technical Proposal</u>		
		<u>Weighting</u>
(a) Organization, Resources and Manpower		<u>Sub-total</u>
		25%
(i) Staff organization chart.	5%	
(ii) Relevant experience and qualifications of key staff.	5%	
(iii) Responsibilities and degree of involvement of key staff.	5%	
(iv) Adequacy of manpower input.	5%	
(v) Relevant organizational structure, experience and qualification of sub-consultant (if applicable).	5%	
(b) Response to the Brief		20%
(i) General understanding on the needs and problems of the Assignment.	5%	
(ii) General understanding of the Assignment objectives.	5%	
(iii) General understanding on the scope of each of the deliverables.	5%	
(iv) General understanding on the constraints and key issues of the Assignment.	5%	
(c) Tenderer's Experiences		30%
(i) Consultant's Experience (in Hong Kong & elsewhere) in Construction Projects	10%	
(ii) Consultant's Experience in BIM Object Creation in Architectural Discipline in preceding 5 years	20%	
(d) Methodology and Programme		25%
(i) General understanding of Methodology	20%	
(ii) General understanding of the Master Programme	5%	
		<u>Total</u>
		100%

THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION
ARCHITECTURAL SERVICES DEPARTMENT
ARCHITECTURAL BRANCH

QUOTATION CONTRACT NO. 3/2019/AB1

Creation of Structural BIM Objects

FORM OF TENDER (QUOTATION CONTRACT)

NOTES:

- 1) If a Tender is being made by a partnership or an unincorporated body, the names and residential address of all partners should be given in the spaces provided below.
- 2) In all cases, the Tenderer must give the number and date of the business registration certificate here:-

Number: _____ Date: _____

To: Chief Architect/1, Architectural Services Department

Room 4101, 41/F, Queensway Government Office, 66, Queensway, Admiralty.

1. Having inspected the Conditions of Quotation, Assignment Brief, the associated tender documents, annexes and appendices, I / we offer to execute, complete and maintain the whole of the Assignment for the lump sum of Hong Kong Dollars:

(\$) _____

Or such sum as may be ascertained in accordance of the Contract.

2. I/We undertake if my/our Tender is accepted to complete the Assignment comprised in the Quotation Contract within the time stated below:-

Time for Completion: about 10 months (including general holidays)

3. I/We agree to abide by this Tender for the period of 90 days from the date fixed for receiving the same and it shall remain binding upon me / us and may be accepted at any time before the expiry of that period.
4. This Tender, together with the written acceptance thereof by the Employer subject to the provisions of Clause 3 hereof, shall constitute a binding contract between us.
5. I/We understand that the Employer is not bound to accept the lowest of any tender it may receive.

Signature _____

In the capacity of _____

Duly authorized to sign Tender for and on behalf of @_____

Trading in Hong Kong under the style of * _____

Registered address of firm: _____

Date: _____

Name and Signature of Witness: _____

Address of Witness: _____

Name(s) of the sole proprietor / partners#	Residential address of the sole proprietor / partners#

Note:

Delete as necessary

@ In the case of an incorporated company, insert the name of the Company.

In case of a sole proprietorship or a partnership, insert the name(s) of the sole proprietor or all the partners as the case may be.

* In the case of a sole proprietor or a partnership, insert the name of the firm.

In the case of an incorporated company, insert the registered office address of the incorporated company.

In the case of a sole proprietorship or partnership, insert the principle place of business of the firm in Hong Kong.

SUMMARY OF TENDER (QUOTATION CONTRACT)**QUOTATION CONTRACT NO. 3/2019/AB1****Creation of Structural BIM Objects****FOR****THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION**

	Hong Kong Dollars (\$)	cents
1). Services as specified in the Brief and elements breakdown as in Clause 4.1:		
I. Item A (Total 6 nos. of BIM objects)		
II. Item B (Total 6 no. of BIM object)		
III. Item C (Total 4 nos. of BIM objects)		
IV. Item D (Total 2 nos. of BIM objects)		
2). Other items considered necessary for the satisfactory completion of the Assignment, e.g. provision of plug-in or other software		
Total Amount Carried to Form of Tender:		

Authorized Signature: _____

Name (IN BLOCK LETTER) _____

Name & Stamp of Company: _____

Telephone: _____

Date: _____

List of Appendices

Appendix A1-A4 2D presentation of BIM Objects

Appendix B1-B4 Sample BIM Object Sheets

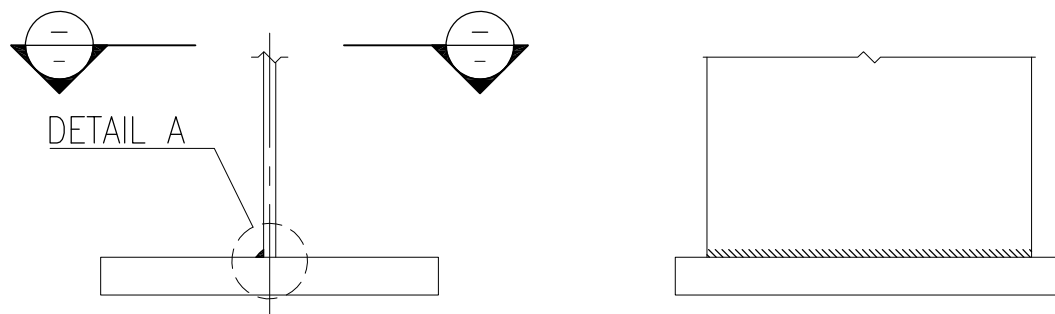
Appendix C Qualification requirements of the Consultancy Team

Appendix D Declaration by Consultant on Compliance with the Ethical Commitments Requirements

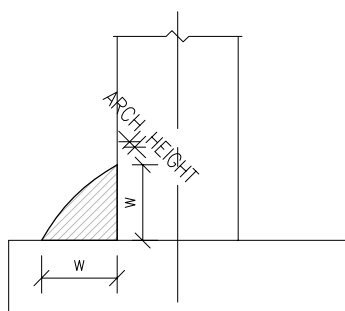
Appendix E Declaration by Consultant on Compliance with the Conflict of Interest Avoidance and Debarring Requirements

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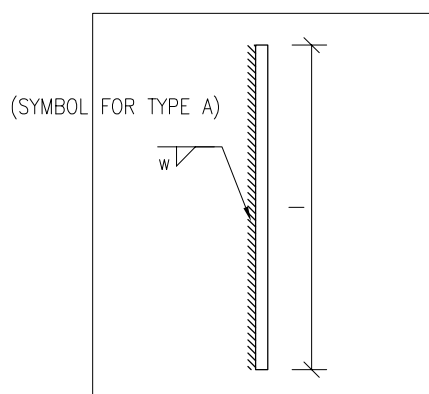
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ELEVATION



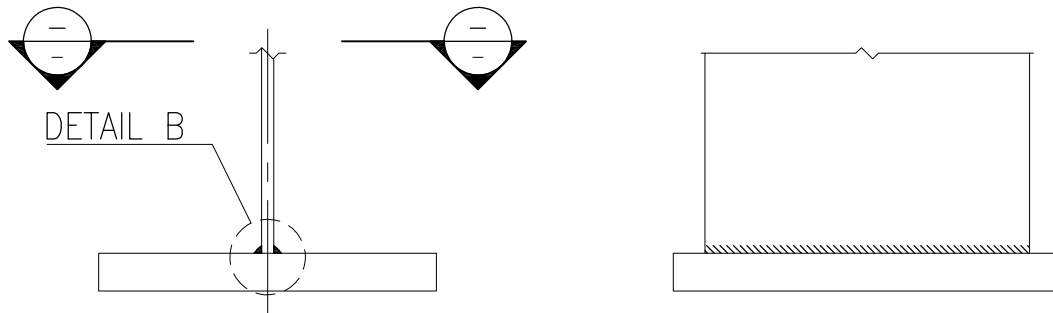
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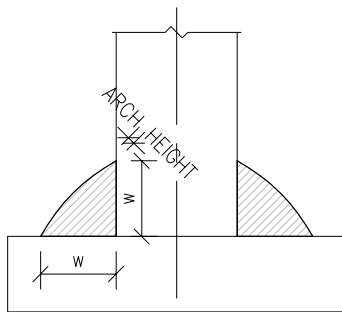
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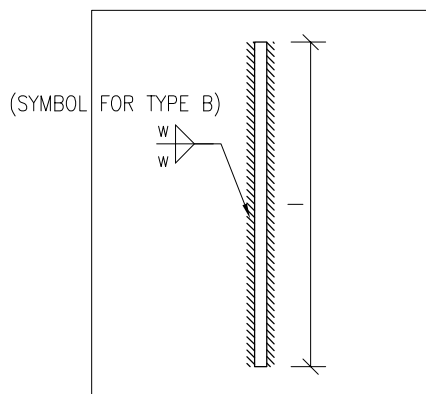
FILLET WELD (BOTH SIDE)



ELEVATION



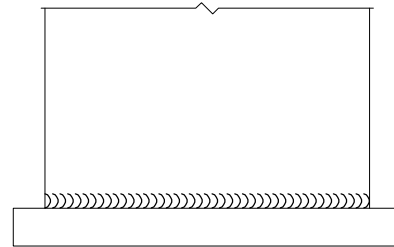
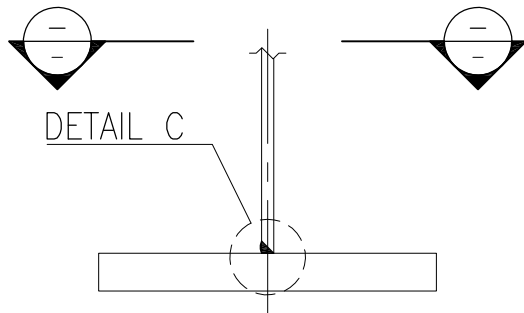
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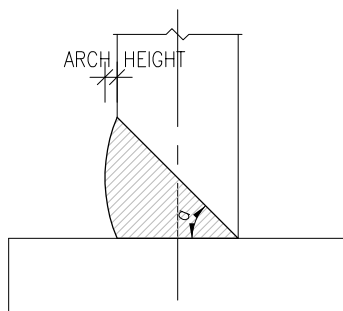
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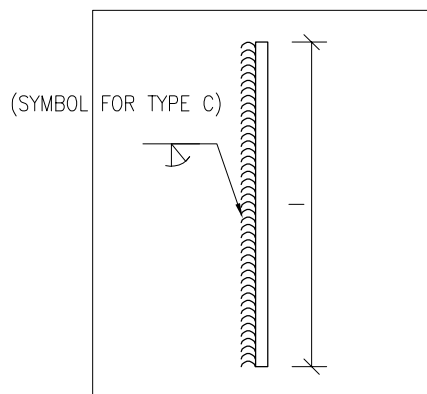
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ELEVATION



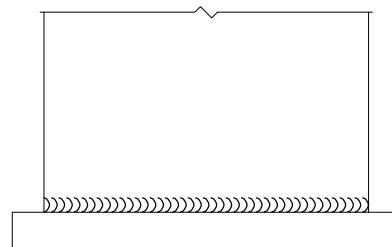
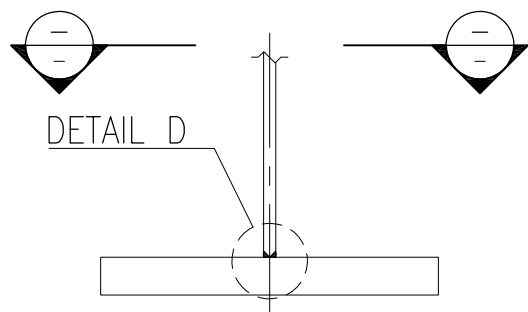
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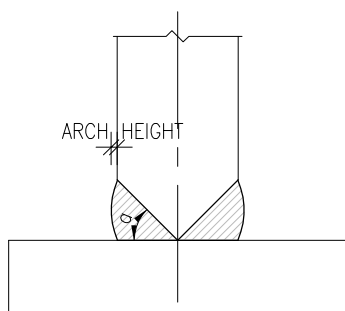
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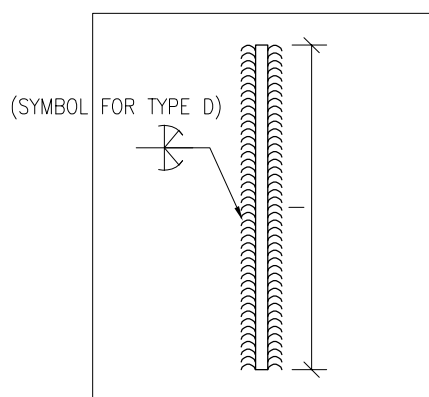
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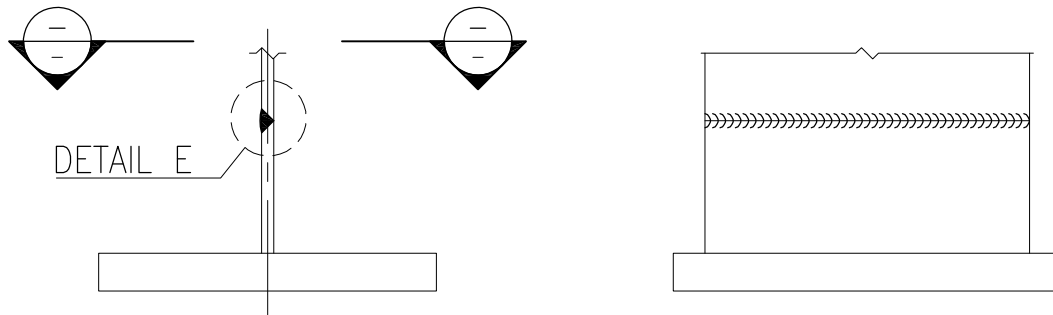


DETAIL D

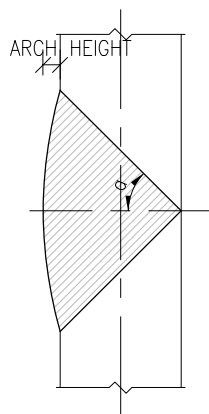


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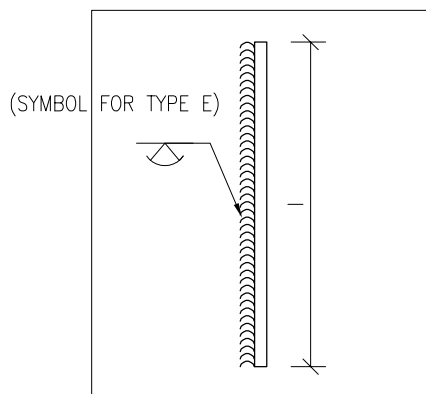
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BUTT WELD (SINGLE V)



ELEVATION



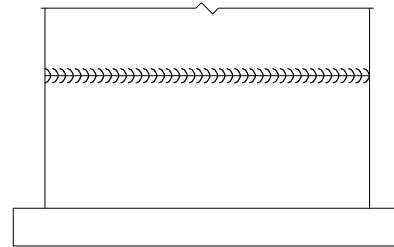
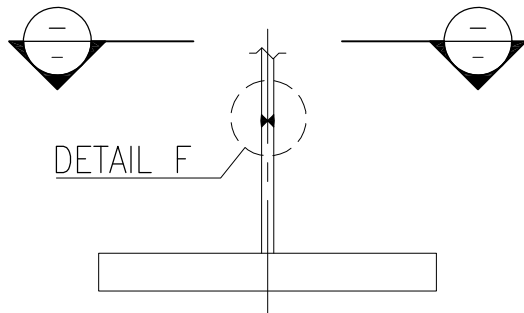
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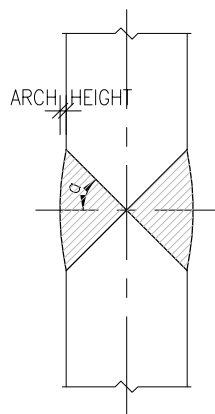
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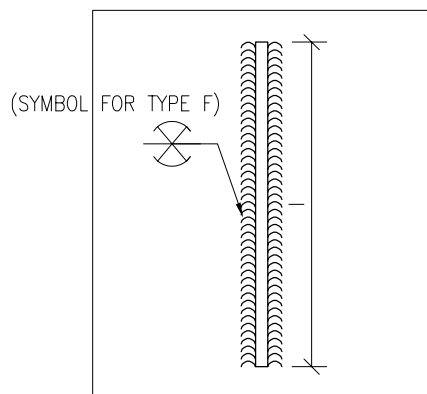
BUTT WELD (DOUBLE V)



ELEVATION





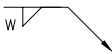
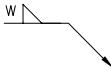
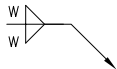
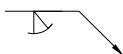
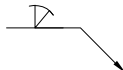
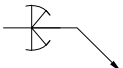
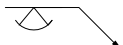
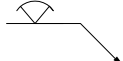
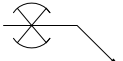
DETAIL F



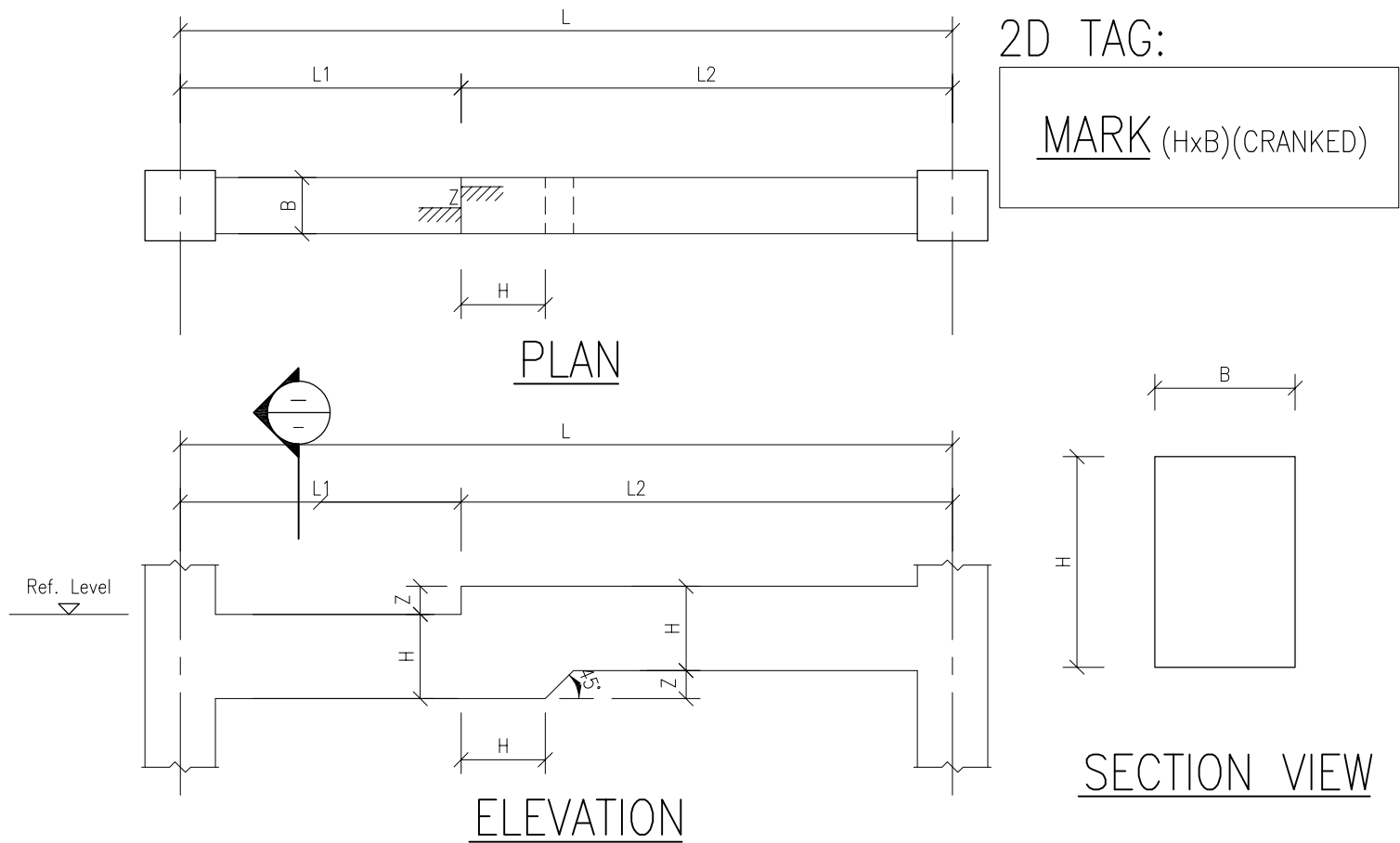
SECTION VIEW

ITEM B

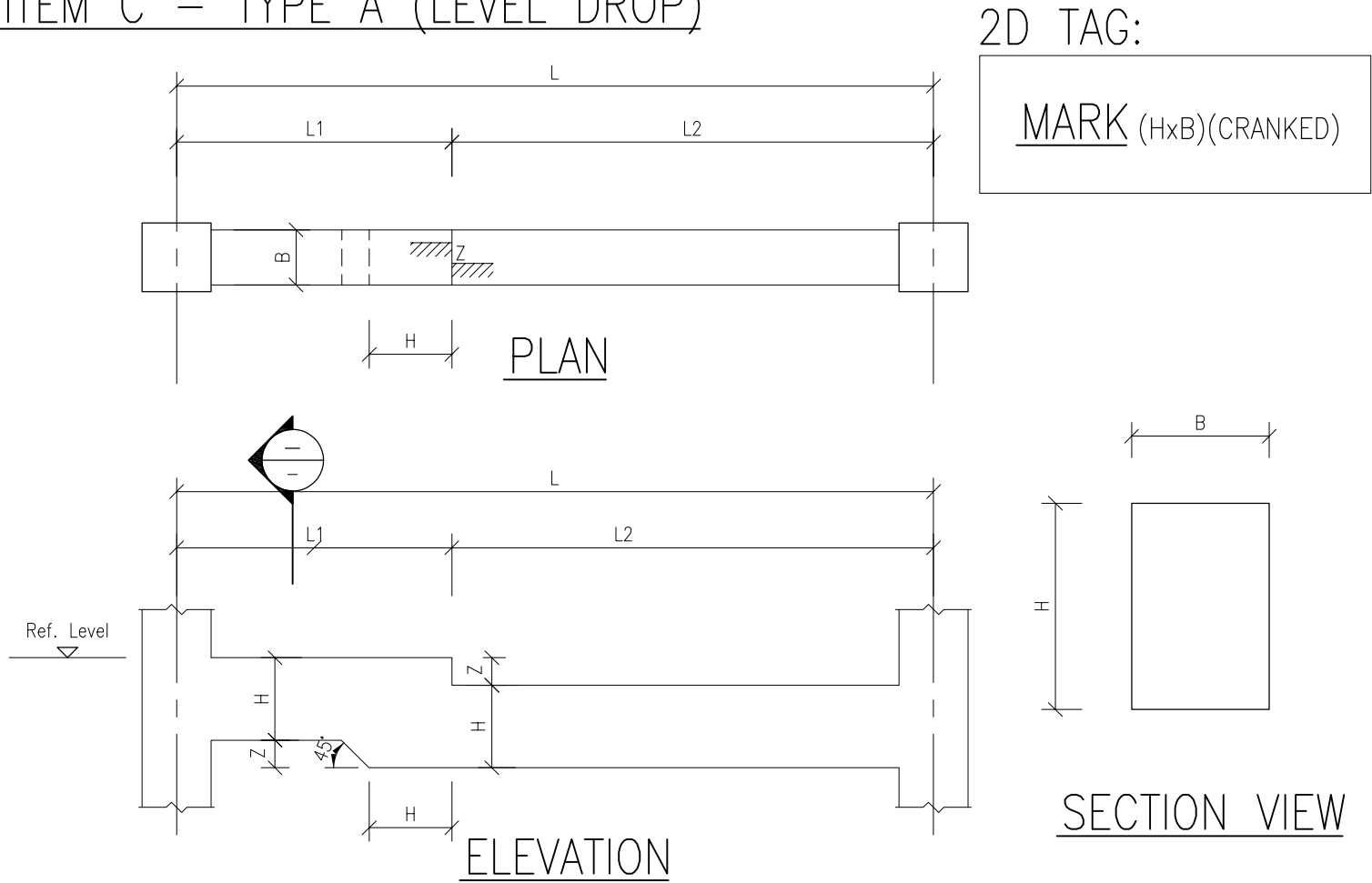
ANNOTATION SYMBOLS FOR STEEL WELDS

<u>SYMBOL</u>		<u>APPLICABLE TO</u>
 ALL ROUND(○)	 SITE WELD(▴)	<u>TYPE A TO TYPE F</u>
 (NEAR FACE)	 (FAR FACE)	<u>TYPE A</u>
 (BOTH SIDE)		<u>TYPE B</u>
 (NEAR FACE)	 (FAR FACE)	<u>TYPE C</u>
 (BOTH SIDE)		<u>TYPE D</u>
 (NEAR FACE)	 (FAR FACE)	<u>TYPE E</u>
 (BOTH SIDE)		<u>TYPE F</u>

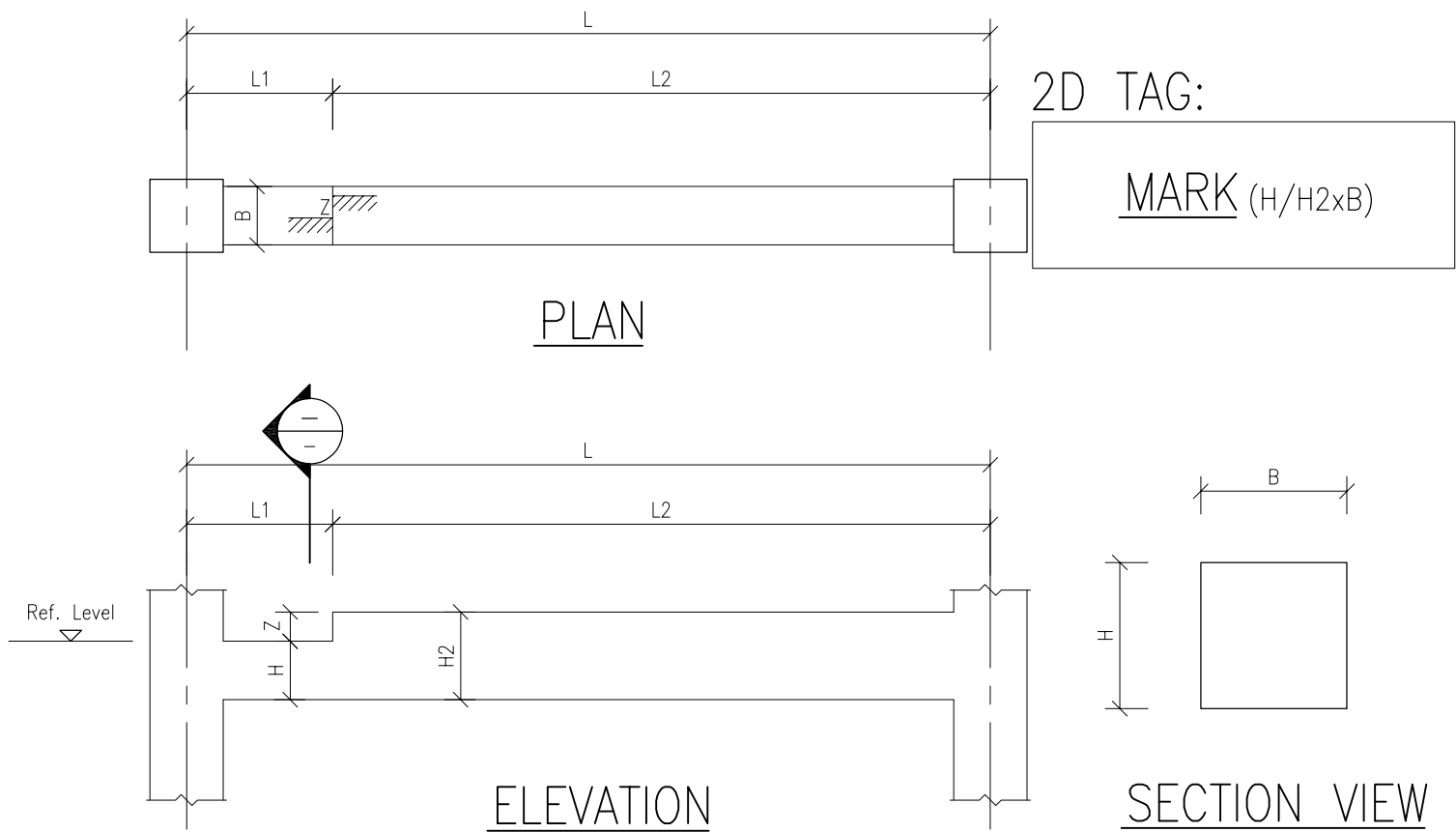
ITEM C – TYPE A (LEVEL RAISE)



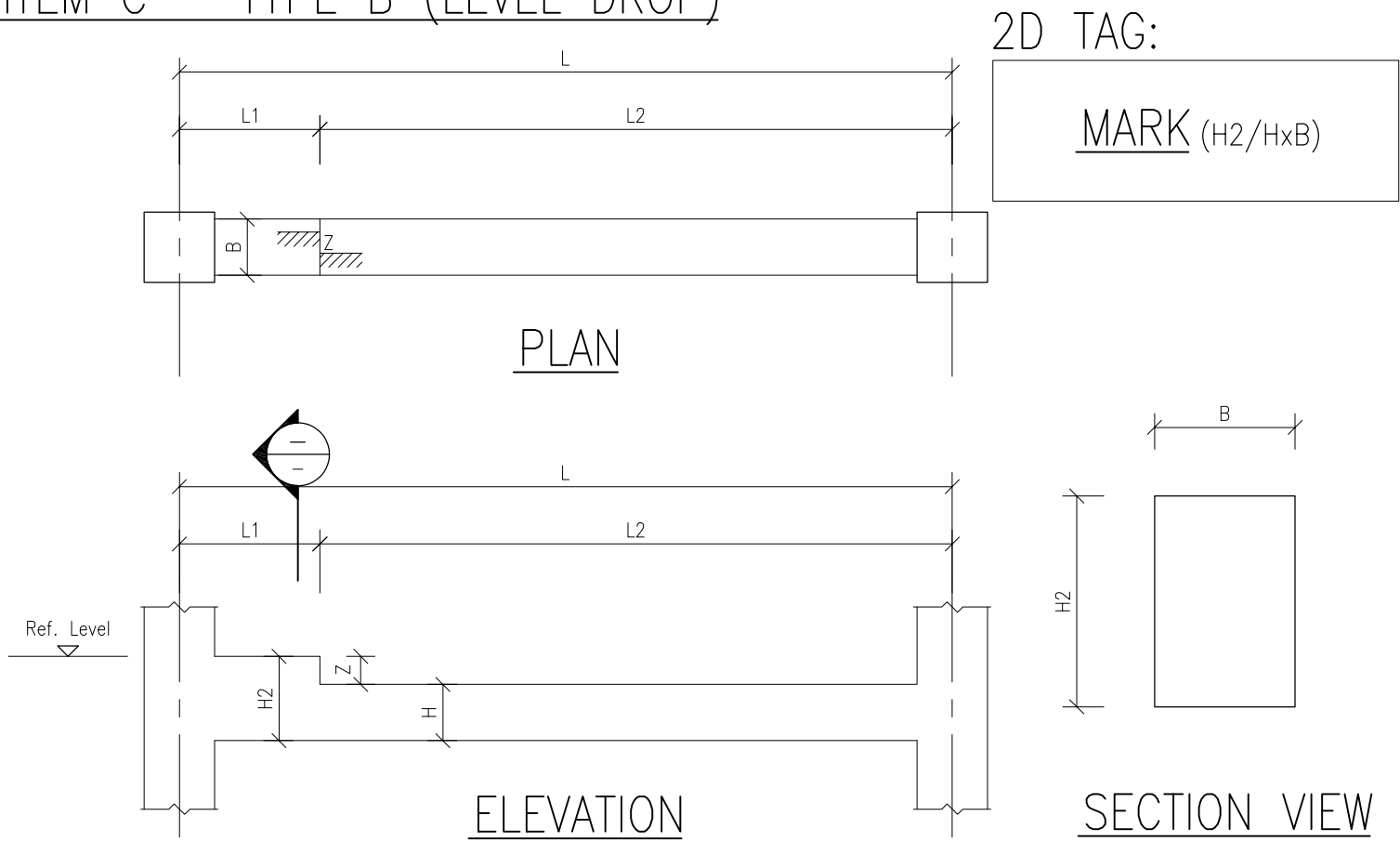
ITEM C – TYPE A (LEVEL DROP)



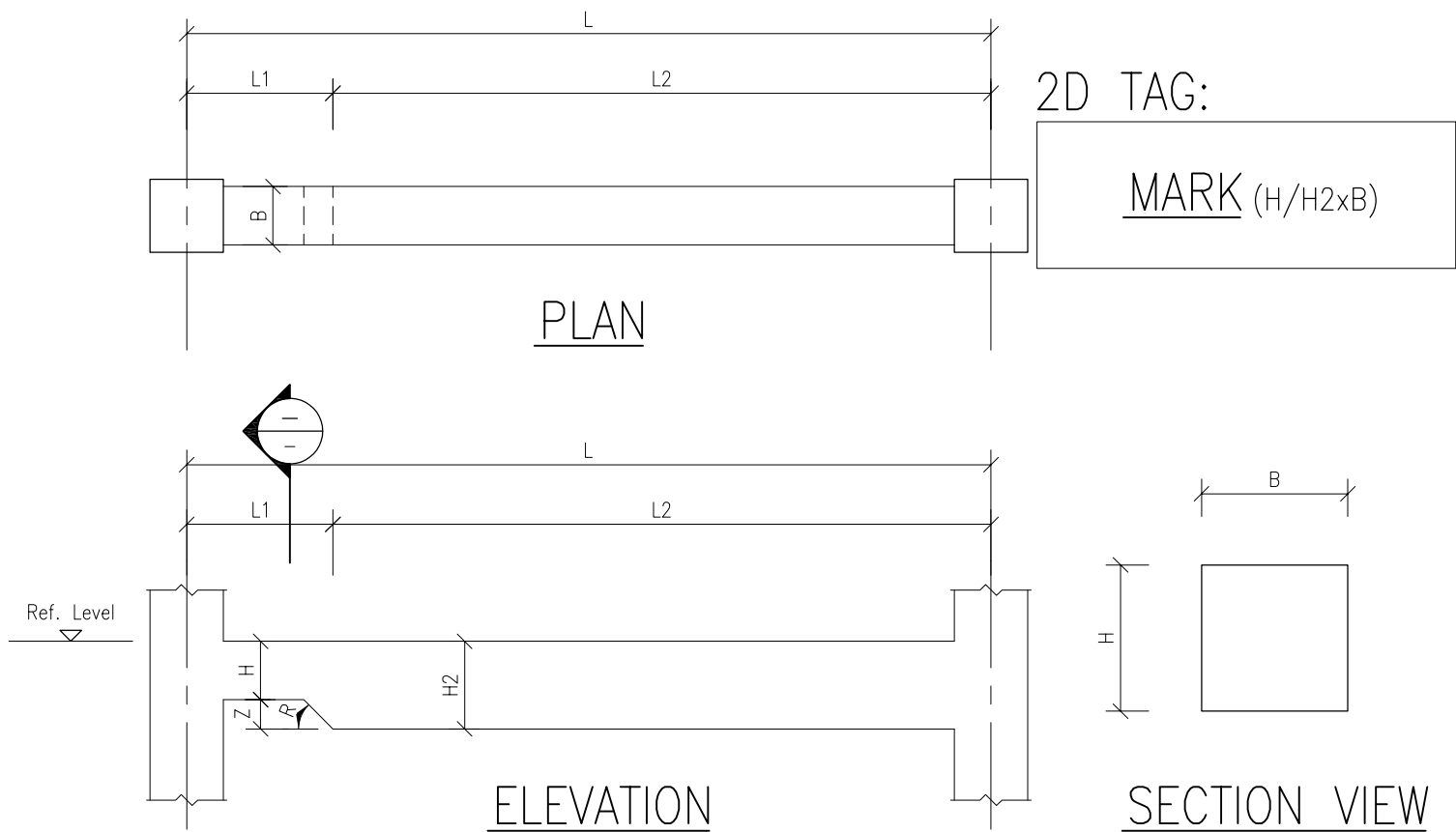
ITEM C – TYPE B (LEVEL RAISE)



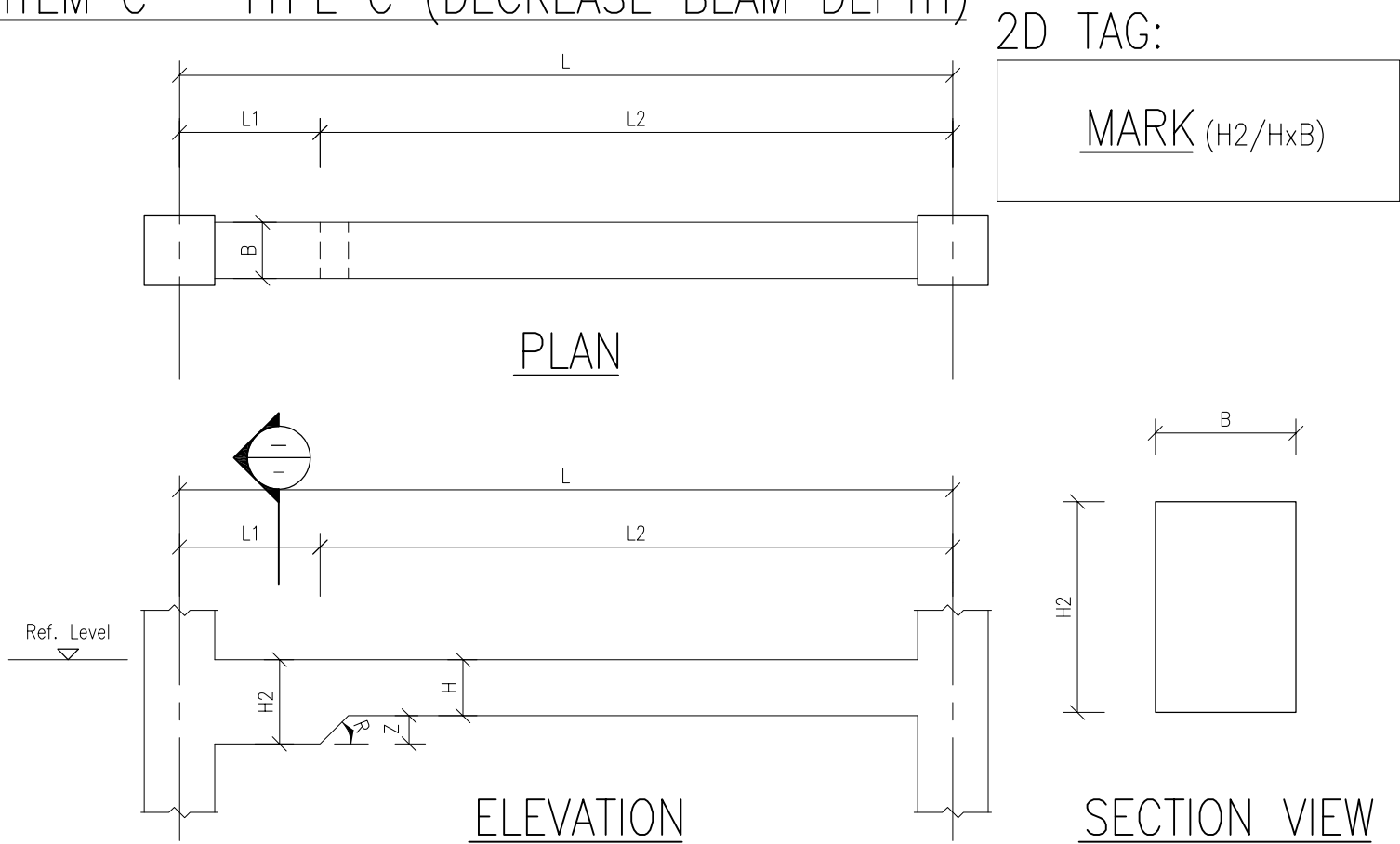
ITEM C – TYPE B (LEVEL DROP)



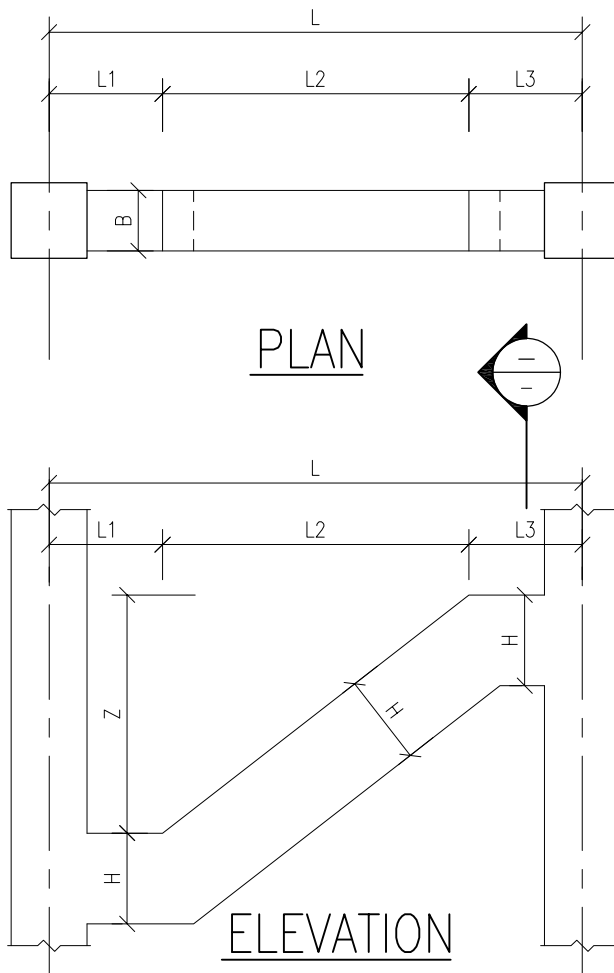
ITEM C – TYPE C (INCREASE BEAM DEPTH)



ITEM C – TYPE C (DECREASE BEAM DEPTH)

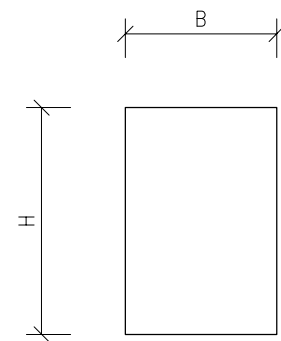


ITEM C – TYPE D (RAISE)



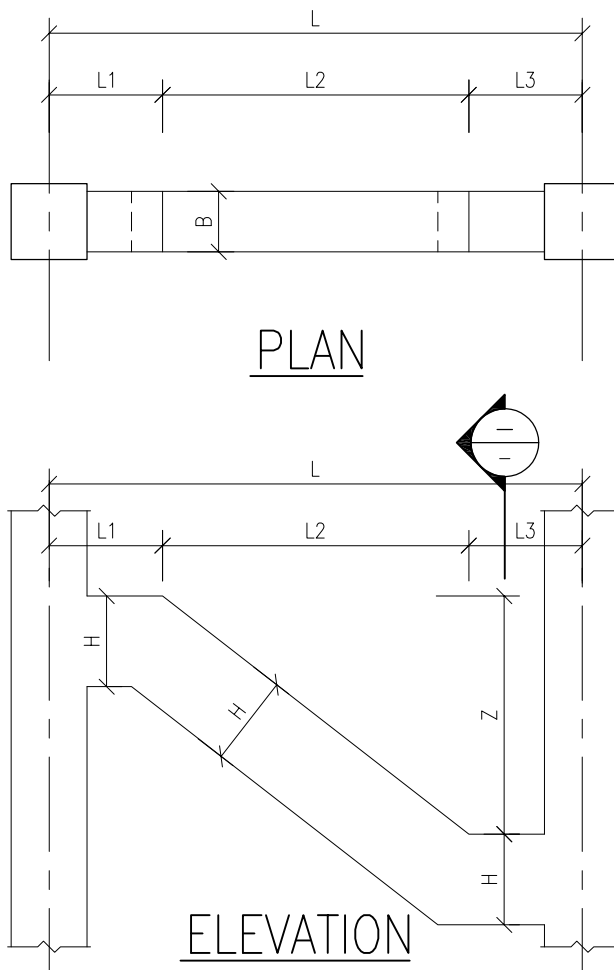
2D TAG:

MARK (HxB)(CRANKED)



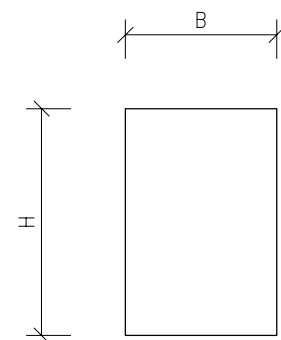
SECTION VIEW

ITEM C – TYPE D (DROP)



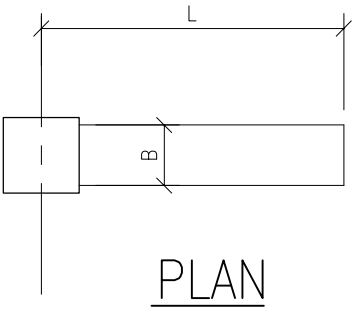
2D TAG:

MARK (HxB)(CRANKED)



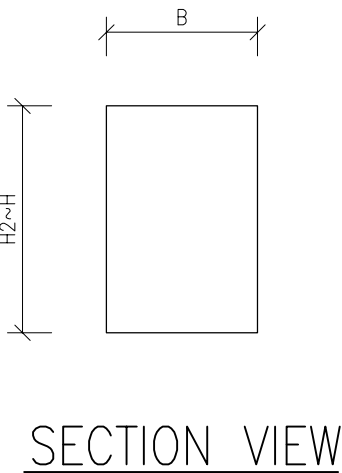
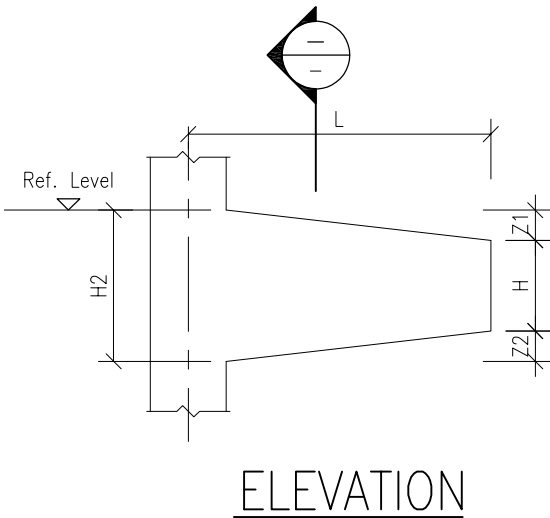
SECTION VIEW

ITEM D – TYPE A



2D TAG:

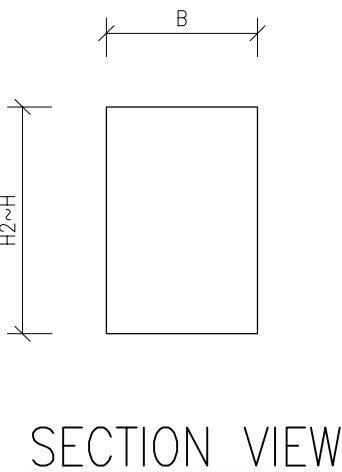
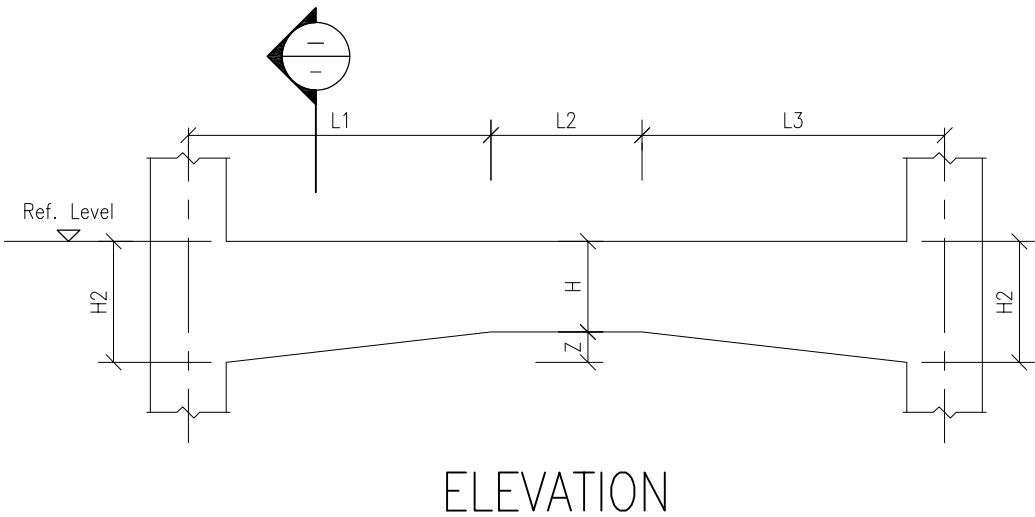
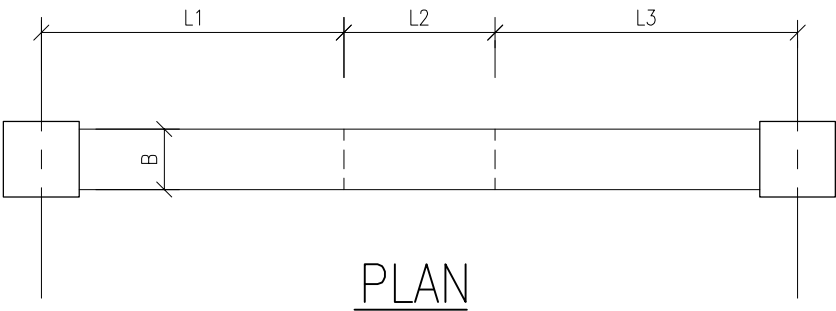
MARK ($H2 \sim H \times B$)



ITEM D – TYPE B

2D TAG:

MARK ($H2 \sim H \sim H2 \times B$)





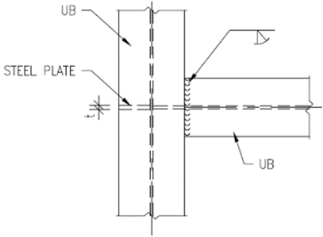
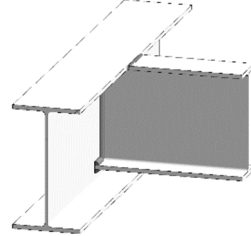
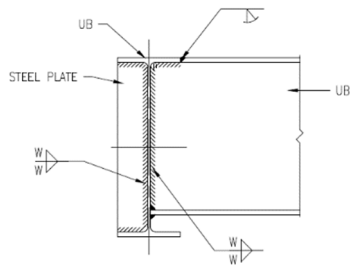
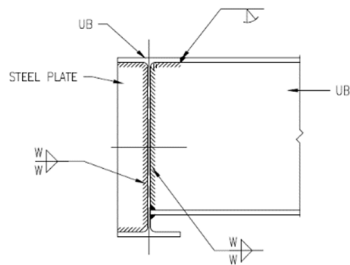
BIM OBJECT SHEET

QR CODE
FOR FMREVIT
2018/19
01-2019

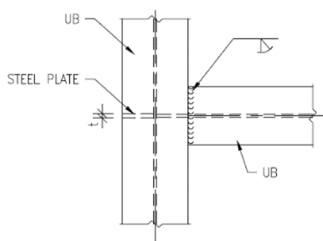
Reference Number

XXX X -XXX

INPUT (Name : Steel Welds)

BIM OBJECT NAME	BIM OBJECT CATEGORY	LOD
SCO-STE-ADS-19-Welding	Structural Connections	400
 <p>Plan View</p>	 <p>3D View</p>	3D GEOMETRY
 <p>Front Elevation View</p>	<p>Dimension: Weld size (w), l, arch height, a</p> <p>Construction: Type A to Type F</p> <p>Identity Data:</p>	
 <p>Section View</p>	Property/ Parameter	

2D Symbol Name



2D SYMBOL

2D Tag /Label/ Annotation

Steel Member Type Tag
Steel Welding Type Tag
Welding Size Tag

2D TAG/ LEVEL/
ANNOTATION

Remarks	
	Purpose/ Value Driven BIM OBJECT DELIVERABLES

OUTPUT

Sheet View Plan	Sheet View Elevation	
		Presentation Drawing
		Statutory/ Authorities submission/Drawing
		Tender Construction drawing
		Schedule drawing



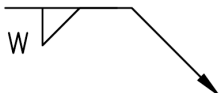
BIM OBJECT SHEET

QR CODE
FOR FMREVIT
2018/19
01-2019

Reference Number

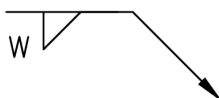
XXX X -XXX

INPUT (Name : Annotation Symbols for Steel Welds)

BIM OBJECT NAME		BIM OBJECT CATEGORY	LOD
ANN-SYM-ADS-19-Weld		Generic Annotations	N.A.
 Plan View	N.A.		
N.A. Front Elevation View	Structural: Weld size (w) Graphics: All round Site Weld Near face Far face		
N.A. Section View	Property/ Parameter		

3D GEOMETRY

2D Symbol Name



2D SYMBOL

2D Tag /Label/ Annotation

2D TAG/ LEVEL/
ANNOTATION

Remarks	
	Purpose/ Value Driven BIM OBJECT DELIVERABLES

OUTPUT

Sheet View Plan	Sheet View Elevation	
		Presentation Drawing
		Statutory/ Authorities submission/Drawing
		Tender Construction drawing
		Schedule drawing




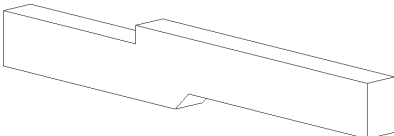


BIM OBJECT SHEET

QR CODE
FOR FMREVIT
2018/19
01-2019

Reference Number

XXX X -XXX

INPUT (Name : Crank Beam)

BIM OBJECT NAME SBM-CON-ADS-19- Cranked_Beam	BIM OBJECT CATEGORY Structural Framing	LOD 300	3D GEOMETRY
 Plan View	 3D View		
 Front Elevation View	Dimension: Beam Breadth (B), H, H2, L, L1, L2, L3, Z, R Construction: Type A to Type D Identity Data:		
 Section View	Property/ Parameter		

2D Symbol Name



2D SYMBOL

2D Tag /Label/ Annotation

Beam Type Tag

2D TAG/ LEVEL/
ANNOTATION

Remarks	
	Purpose/ Value Driven BIM OBJECT DELIVERABLES

OUTPUT

Sheet View Plan	Sheet View Elevation	
		Presentation Drawing
		Statutory/ Authorities submission/Drawing
		Tender Construction drawing
		Schedule drawing




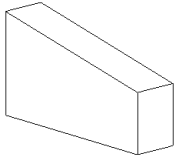
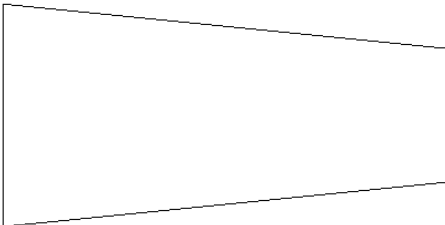

BIM OBJECT SHEET

QR CODE
FOR FMREVIT
2018/19
01-2019

Reference Number

XXX X -XXX

INPUT (Name : Tapered Beam)

BIM OBJECT NAME SBM-CON-ADS-19- Tapered_Beam	BIM OBJECT CATEGORY Structural Framing	LOD 300	3D GEOMETRY
 Plan View	 3D View		
 Front Elevation View	Dimension: Beam Breadth (B), H, H2, L, L1, L2, L3, Z, Z1, Z2 Construction: Type A to Type B Identity Data:		
 Section View	Property/ Parameter		

2D Symbol Name



2D SYMBOL

2D Tag /Label/ Annotation

Beam Type Tag

2D TAG/ LEVEL/
ANNOTATION

Remarks	
	Purpose/ Value Driven BIM OBJECT DELIVERABLES

OUTPUT

Sheet View Plan	Sheet View Elevation	
		Presentation Drawing
		Statutory/ Authorities submission/Drawing
		Tender Construction drawing
		Schedule drawing

QUOTATION CONTRACT NO: 3/2019/AB1

Creation of Structural BIM Objects

FOR

THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION

Qualification requirements of the Consultancy Team

The minimum qualification requirements of the key personnel are specified as follows:

Position	Qualification
BIM Team Leader	1) Corporate membership of an appropriate professional institution or shall have 5 years relevant post-qualification experience plus university degree or equivalent in an appropriate construction related discipline; and 2) Minimum of 3 years of practical experience in management of BIM projects or equivalent; and 3) Minimum of 2 years of experience in working with Autodesk Revit Families and plug-ins.
BIM Modellers	1) Minimum of 3 years local construction project experience in engineering discipline; 2) Minimum of 1 year practical experience in local BIM projects; and 3) Familiar with Autodesk Revit Families and plug-ins.

BIM Team Leader

The BIM Team Leader shall be responsible for the supervision, management and administration of the Assignment including planning, coordination, monitoring, and liaising with the Employer for all matters in connection with the Assignment. The Consultant's BIM Team Leader shall be proficient in spoken and written English and Cantonese / Chinese. The BIM Team Leader shall work with the BIM Modellers to generate the required modelling for the project delivery to the satisfaction of the Employer.

BIM Modellers

The BIM Modellers shall carry out the object creation and provide technical support for BIM modelling and drawings generation. The BIM Modellers shall be proficient in spoken and written English and Cantonese / Chinese.

Declaration Form by Consultant on Compliance with Conflict of Interest Avoidance and Debarring Requirements

[Guidance Notes :

1. **Reference: ETWB TC(W) No. 18/2005.**
2. **This form is to be submitted by the Consultant upon commencement of the Services.]**

To: **[Director's Representative]**

Agreement No.:

Title:

In accordance with Special Conditions of Employment Clause SCE 13, we confirm and declare that we have complied with the provisions stated therein. We further confirm and declare that we have taken action to ensure that our associated companies, associates or associated persons, sub-consultants, employees and agents are aware of the provisions therein stipulated including the following:

- (a) our associated companies, associates or associated persons or any of our sub-consultants shall not, during the term of this Agreement and for **[@]** months thereafter, undertake any services, tasks or jobs or do anything whatsoever for or on behalf of third party (other than in the proper performance of this Agreement), which touches, concerns or affects the Services or which may reasonably be seen to touch, concern or affect the Services, except with the prior written approval of the Director's Representative;

[@ Insert same period as that stated in SCE 13.]

- (b) our associated companies, associates or associated persons, and any of our sub-consultants shall not,
 - (i) undertake or compete for the role of a contractor or supplier or otherwise be involved as a shareholder of the contractor or supplier, in a subsequent procurement of any services and/or goods arising out of or relating to this Agreement;
 - (ii) undertake any services for a contractor (including acting as a sub-contractor) or supplier in respect of a contract between that contractor or supplier and the Employer for which we are providing a service arising out of or relating to this Agreement;
 - (iii) undertake any services for, including without limitation provision of advice to, a bidder bidding for a contract arising out of or relating to this Agreement,

except with the prior written approval of the Employer;

- (c) we are under an obligation to render advice or recommendations pursuant to this Agreement to the Employer on an impartial basis without giving favour to any particular product, services or equipment in which we have a commercial interest. We also have an obligation to notify the Employer immediately and in writing and keep the Employer notified of any actual, apparent, potential or perceived conflict we or our associated companies, associates or associated persons or any of our sub-consultants may have in, or any association or connection we or the aforesaid persons may have with, any of the services, products or equipment proposed or recommended by us under this Agreement. Each and every one of our directors, employees, agents and sub-consultants who are involved in this Agreement have given a binding undertaking to observe the aforesaid;
- (d) our directors, employees, agents and sub-consultants who are involved in the Agreement are required to declare in writing to us and keep us informed regularly any actual, apparent, or potential or perceived conflict between their personal/financial interests and their duties in connection with this Agreement, including all or any facts which may reasonably be considered to give rise to a situation which the financial interests of such persons, conflict or compete, or may conflict or compete, with our duties to the Employer under this Agreement. In the event that such conflict is disclosed in a declaration, we are under an obligation to forthwith take such reasonable measures as are necessary to mitigate as far as possible or remove the conflict so disclosed; and
- (e) our directors and employees who are involved in the Agreement are prohibited from engaging in any work or employment other than in the performance of this Agreement, with or without remuneration, which could create or potentially give rise to any actual, apparent, potential or perceived conflict between their personal/financial interests and their duties in connection with the Agreement. Our agents and sub-consultants are required to impose similar restriction on their directors and employees by way of a contractual provision.

(Name of the Consultant)
(Name of the Signatory)
(Position of the Signatory)
(Date)

Declaration Form by Consultant on Compliance with Ethical Commitments Requirements

[Guidance Notes :

1. **Reference: ETWB TC(W) No. 3/2004A and SDEV's memo ref. DEVB(PS)106/43 dated 24.8.2015.**
2. **This form is to be submitted by the Consultant upon commencement of the Services.]**

To: **[Director's Representative]**

Agreement No.:

Title:

In accordance with the Special Conditions of Employment Clause SCE 14:

- (1) We confirm that we have complied with the following provisions and have ensured that our directors, employees, agents and sub-consultants are aware of the following provisions:
 - (a) Prohibiting our directors, employees, agents and sub-consultants who are involved in this Agreement from offering, soliciting or accepting any advantage as defined in section 2 of the Prevention of Bribery Ordinance, Cap 201 when conducting business in connection with this Agreement;
 - (b) Taking all measures as necessary to protect any confidential/privileged information or data entrusted to us by or on behalf of the Employer, or any such or similar information generated or produced by us pursuant to this Agreement, from being divulged to a third party other than those allowed in this Agreement.
- (2) We further confirm that we have ensured that our accountants, insurers and legal advisers are aware of the provisions requiring us taking all measures as necessary to protect any confidential/privileged information or data entrusted to us by or on behalf of the Employer, or any such or similar information generated or produced by us pursuant to this Agreement, from being divulged to a third party other than those allowed in this Agreement.

(Name of the Consultant)

(Name of the signatory)

(Position of the signatory).....

(Date)