

Sikkim Housing & Development Board (SH&DB)

AWAS Bhavan,
Church Road,
Gangtok, East Sikkim- 737101

**Development of Residential Property at Lumsey,
5th Mile Tadong, Gangtok, East Sikkim**

Technical Schedules

November 2017

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SCHEDULE – A

(See Clause 2.1)

SITE OF THE PROJECT

1 The Site

- 1.1 The Site for the Project covers an area of 2 acres consisting in 2 parcels of land separated by an existing natural drain (Jhora), which is off the National Highway (NH-10) from Manipal Central Referral Hospital Junction at a motorable distance of 1.5 Km, beyond the existing location of Mechanical Workshop of Road & Bridges Department, Government of Sikkim. The new road with a width of 3 meters and length measuring 282 meters dissects the site ending on the southern boundary off the NABARD land.
- 1.2 The land parcel comprising the Site is in possession of SH&DB and SH&DB owns the land title.
- 1.3 The broad specifications for construction/development of Residential Property have been specified in **Schedule B** and utilities/facilities to be provided/included in construction/development of the Residential Property have been broadly set out in **Schedule C**.
- 1.4 The access to land parcels being granted to the Contractor/Developer for the construction/development of Residential Property on the land parcel shall be specifically identified and physically demarcated by SH&DB for commencement of construction.

SCHEDULE - B

(See Clause 2.1)

DEVELOPMENT OF THE PROJECT

1. Development of the Residential Property

1.1 Development of the Residential Property shall involve the construction of 2/3/4 BHK flats in the ratio of 30:50:20 and other amenities such as compound wall, internal roads, parks, parking, landscape & open spaces, etc. The specifications for development of residential land parcel have been specified in **Schedule B** and for utilities/facilities in **Schedule C** of this Agreement.

2. Residential Flats

2.1 The construction of the residential units would include the construction of standard layout & size BHK 2/3/4 type of residential flats in the proportion of 30:50:20. The development of these flats would be undertaken as per the Technical Specifications and Standards set forth in Schedule D.

3. Facilities Forming Part of Residential Property

3.1 The construction of other facilities other than the residential flats units would include the construction of support infrastructure such as sewage tank, underwater reservoir, etc. and other amenities such as compound wall, internal roads, parks, parking, landscape & open spaces, as would be decided after preparation, review and approval of Design of the Contractor/Developer.

4. Break Up of Built-Up Areas forming part of Residential Property Development

4.1 The composite summary of built up areas comprising the Residential Property Development would be as per design and drawings, prepared by the Contractor/Developer as permissible under Applicable Laws.

4.2 Depending on the final approval of the site development plans by the relevant competent Authority, SH&DB & the Independent Engineer, the total unit area to be developed may increase/decrease marginally. However, the developer is mandated to maintain the best possible adherence to the stipulated areas as permissible under Applicable Laws. Considering the possibility of marginal

variation in Built Up Areas for Residential Flat the variation shall be limited to +/- 5%.

4.3 In case of marginal variations in Built up Areas for Residential Flat, the area provisioned for support spaces shall also be adjusted/modified accordingly, subject to approval by SH&DB & the Independent Engineer.

5. Provisions with regard to Charges for Utilities and Consumables in Residential Property

5.1 During the construction period of the Residential Property, the Contractor/Developer shall be required to consume power, water, chemicals and other consumables for the setting up of the Residential Property at his own cost.

6. Detailed Designs for Each Component forming part of Residential Property

6.1 The detailed designs and drawings for specific components and amenities will be prepared by the Contractor/Developer as permissible under Applicable Laws and will be reviewed and approved by SH&DB.

7. Broad Specifications of the Scheme

Sl. No.	Description	Requirement
1	Number of Towers	As per design and drawings to be prepared by the Bidder as permissible under Applicable Laws.
2	Floors in each Tower including ground floor	G+5 or G+6 (special permission required), and as per design and drawings to be prepared by the Bidder as permissible under Applicable Laws.
3	Height of Building	As per design and drawings to be prepared by the Bidder as permissible under Applicable Laws.
4	Parking	As per the site condition, design and drawings to be prepared by the Bidder as permissible under Applicable Laws.
5	Number of Flats per Floor	As per design and drawings to be prepared by the Bidder as permissible under Applicable Laws.

Sl. No.	Description	Requirement
6	Type of Flats	2/3/4 BHK in the ratio of 30:50:20
7	Total Built-Up Area	As per design and drawings,built-up area to be prepared by the Bidder as permissible under Applicable Laws.
8	Green Spaces & Parks	To be developed.
9	Water & Sewer Lines	Water Security& Public Health Engineering Department (WS&PHED), Government of Sikkim, is providing the water supply. A dedicated connection needs to be taken from the point of water tapping source/point of WS&PHED till the Project site in consultation with WS&PHED. The sewerage will be discharged in the existing sewer lines within the proposed site.
10	Electricity Sub-Station	66/11 KV Electric Sub-Station is lying just above the Project site but a separate transformer is needed to be installed as per the load condition in consultation with the Power Department. Government of Sikkim.
11	Internal Roads	To be developed if there is more than one Tower.
12	Number of Community Halls	Single Multi-purpose Hall of 60'-0"x40'-0"x18'-0" specification.
13	Utility Stores	To be built above the Multi-purpose Hall.
14	Power Back-Up	To be provided

SCHEDULE – C

(See Clause 2.1)

UTILITIES/ FACILITIES

1. Utilities at Residential Property

The Contractor/Developer shall provide the Utilities for the Residential Property in accordance with the provisions of this Contract. For the avoidance of doubt, the Parties hereto agree that the Utilities as provided in this Schedule C shall be required to be developed by the Contractor/Developer forming part of the Residential Property Development. However, such Utilities shall include, but would not be limited, to the following facilities as per CPWD Specifications, Volume I & II, 2009:

2. Obligations of the Contractor/Developer

In case SH&DB provides for power, water, etc., during the construction phase of the Residential Property, the Contractor/Developer shall be responsible for reimbursing to SH&DB, the cost of such power and water made available to the Contractor/Developer.

SCHEDULE – D
(See Clause 2.1)

TECHNICAL SPECIFICATIONS AND STANDARDS

The Contractor/Developer shall construct the Residential Property in accordance with the overall Specifications and Standards set forth in **Schedule - D**.

Subject to the provisions of this Schedule D, the construction of the Residential Property shall comply with Specifications and Standards laid down by the Building & Housing Department (BHD), Government of Sikkim and Central Public Works Department (CPWD), under the Ministry of Urban Development (MoUD), for the construction of Residential Units. The technical specifications covered by each Annexure shall be as listed below.

Annexure – I
(SCHEDULE - D)
Specifications for Residential Buildings

Sl. No.	Item	Type	Grade
1	Structure	R.C.C. framed structure with column and slabs.	As per Architects/Engineering. Specification, confirming to NBC
2	Walls	200 mm. thick wall on the external face and all partition wall 125 mm. thick wall for partition of the two flats and 75 mm. thick brick wall for all internal walls, inside plastered walls should be finished with Plaster of Paris and all outside plastered walls will be painted with two coats of cement based paints, weather coat or	Eco friendly light weight concrete blocks/bricks.

Sl. No.	Item	Type	Grade
		equivalent quality.	
3	Doors	All doors frame would be salwood and all doors are commercial flush doors finished with synthetic paint. Main Door of the flat would be Teak Finish Flush Door and fitted with eye-hole and night latches.	
4	Windows	All windows will be of anodized aluminum frames with glass panels (sliding window).	
5	Flooring	All floors will be vitrified tiles with skirting upto height 4" and floor of the bathroom and kitchen will be anti skid vitrified tiles floor.	Minimum tiles size 2'X2' of branded quality.
6	Kitchen	One 8' X 2' granite kitchen cooking platform with 2½' height glazed tiles to be fitted over the cooking bench of kitchen and one granite sink of 2' / 2' size fitted with one C.P. Sink-cock, one C.P. Stop-cock and one C.P. Pillar-Cock.	
7	Toilets	Fittings with vitreous European, Wash basin with chromium plated bib-cock, PVC low down cistern with one C.P. Shower, one C.P. Stock-cock and two C.P. Water-taps, all of ISI standard and walls will be fitted with	

Sl. No.	Item	Type	Grade
		glazed tiles upto 7'-0" height including skirting. A stand basin will be fitted in drawing room. All plumbing connections will be in concealed form with hot & cold distribution line.	
8	Electrical	All electrical wiring will be concealed All electrical wiring will be done with Branded Copper wire and all Electrical fittings will be of branded quality.	
8A	Drawing-cum-Dining Room	Shall have 4 light points, 2 fans, 1 TV Point, 1 Telephone Point, 1 Freeze Point, 1 Washing Machine Point (at a convenient place close to bath room / kitchen, 1Cable Line Point, 1 Plug and 1 Power Point.	
8B	Bedroom	Shall have 1 Fan, 2 Lights and 1 Plug Point (in all bed rooms and one A.C. Point in one bed room only.	
8C	Kitchen	Shall have 1 light point, 1 plug point and 1 point for chimney or exhaust fan.	
8D	Toilet	Shall have 1 light point, 1 exhaust fan point and 1 geyser point.	
8E	Balcony	Shall have 1 light point and 1 plug point.	
8F	Entrance	1 light point and 1 calling bell point will be provided.	

Sl. No.	Item	Type	Grade
9	Water Supply	Construction of water reservoir, water harvesting, filtration plant and other necessary arrangements to accommodate water supply from available sources. Dedicated water supply from WS & PHED, Government of Sikkim	As per Architects/Engineering specification, confirming to NBC
10	Staircase	All landings, staircase and passages etc. will be of marble/kota stone floor. Fire exit and fire safety equipments as per Safety norms.	
11	Elevators	As per recommendations and requirement.	
12	Waste Disposal	Proper waste disposal mechanism confirming to rules prescribed by Pollution Control Board and concern authorities.	As per Architects/Engineering specification, confirming to NBC
13	Power	Adequate arrangements for uninterrupted Power supply and power back-up through various sources.	Solar power, Gen-set.

Note: For masonry work, if any other option of local materials is available, the same can also be used by the Contractor/Developer, with the approval of the Independent Engineer.

Annexure – II

(SCHEDULE D)

GENERAL TECHNICAL SPECIFICATIONS

The Contractor/Developer shall construct the Residential Property as per the Technical Specifications laid down by the Central Public Works Department Specifications Volumes – I& II – 2009, Building & Housing Department (BHD), Government of Sikkim and including up to date amendments thereto.

All Electrical works related to the Residential Property shall be those conforming to the Standards Code of Practice for Electrical Wiring Installations, National Building Code and Safety Procedures of Indian Electricity Rules.

In the absence of any definite provisions on any particular issue in the aforesaid specifications, reference may be made to the latest codes and specifications of BIS in that order. Where even these are silent, the construction and completion of the Residential Property shall conform to sound engineering practice as approved by the Independent Engineer.

The work shall be carried out in the best workmanship like manner and in strict accordance with C.P.W.D. guidelines and as per specific order of the Independent Engineer or his representative from time to time.

The Contractor/Developer shall submit day-to-day account of the materials also monthly progress and program of work.

Annexure – III

(Schedule – D)

Design Criteria and Drawings Design Criteria for Structural Design of Buildings

1. General Requirements:

The design shall generally fulfill the following requirements:

- i. It shall ensure soundness of design and strength and durability of the structure, basing designs on requirement of adequate strength and satisfactory serviceability.
- ii. It shall ensure speedy and easy construction and lead to appreciable economy.
- iii. It shall be accompanied by preliminary but detailed drawings and detailed description of work and specification of materials and items. If called upon, the Contractor/Developer shall furnish any additional information.
- iv. At the time of detailed design, the Contractor/Developer shall not normally deviate from the basic scheme proposed by him initially.
- v. It shall maintain the aesthetics as per the architect's plan and architectural beauty as a whole.
- vi. It shall evolve good engineering designs based on the latest state of the art technology.
- vii. The designs shall be of a high professional standard and shall be complete and shall cover all the structural members.
- viii. The necessary certificate of structural stability shall be obtained on completion from competent agency, before issue of the Completion Certificate by the Independent Engineer.

2. Restrictions on Type of Structures:

The design shall generally fulfill the following requirements:

- i. It shall ensure soundness of design and strength and durability of the structure, basing designs on requirement of adequate strength and satisfactory serviceability.
- ii. It shall ensure speedy and easy construction and lead to appreciable economy.
- iii. It shall be accompanied by preliminary but detailed drawings and detailed description of work and specification of materials and items. If called upon, the Contractor/Developer shall furnish any additional information.
- iv. At the time of detailed design, the Contractor/Developer shall not normally deviate from the basic scheme proposed by him initially.
- v. It shall maintain the aesthetics as per the architect's plan and architectural beauty as a whole.
- vi. It shall evolve good engineering designs based on the latest state of the art technology.
- vii. The designs shall be of a high professional standard and shall be complete and shall cover all the structural members.
- viii. The necessary certificate of structural stability shall be obtained on completion from competent agency, before issue of the Completion Certificate by the Independent Engineer.

3. Requirements and Data

- i. The design of building, number of floors and other details shall satisfy prevailing developmental regulations of the local authorities.

- ii. If there is any vertical expansion planned in future the design shall cater for that expansion.
- iii. If there is any horizontal expansion planned in future, provision for the same shall be made by way of providing expansion joints, combined footings, etc., or other provisions required for the same. Foundation near such joint also shall be designed accordingly; taking this factor into account.

4. Obligatory Provisions

5. Clarifications

Any clarifications about design criteria, if required, may be obtained in advance from the Independent Engineer.

6. Boring Data and Soil at Site

The Contractor/Developer shall make his own assessment regarding safe bearing capacity, depth of foundation and other relevant soil characteristics, dewatering during execution, if any, before preparing the structural design.

7. Expansion Joints

Expansion joints of water proof type shall be adequately designed to suit the structure proposed by the Contractor/Developer. Relevant IS Code shall prevail.

8. Document and Instrumentation:

- a) All final drawings and micro films of all approved drawings and 'as built' drawings and calculations shall be supplied by the Contractor/Developer free of cost for the whole project.
- b) Three video film cassettes/VCD of 180 minutes duration each of the Scheme covering the different phase of construction from start to finish shall be supplied by the Contractor/Developer free of cost for the whole project.

- c) A “Quality Assurance Manual” covering designs and drawings, mix designs, materials, testing, soil and rock properties, statistical quality control etc. shall be prepared by the Contractor/Developer free of cost well before starting the work and get it approved from Independent Engineer.

9. Procedure for Scrutiny of Detailed Calculations and Working Drawings and their Approval

- a) The Contractor/Developer shall submit to the Independent Engineer a program of submission of designs. The program of submission of designs of various components should be consistent with the program of work prepared by the Contractor/Developer and approved by the Independent Engineer.
- b) Detailed design calculations and working drawings of all the component parts of the building shall be submitted well in advance of execution, in accordance with the above program. Two (2) sets of such design calculations and three (3) sets of drawings accompanied by complete information and sufficient data shall be submitted to the Independent Engineer for checking the design calculations. The design and drawings for various component parts shall be submitted progressively. If computer is used for design and/or analysis; the Contractor/Developer shall submit with design, the detailed description of method of analysis with explanatory notes. Manually done sample calculations for adequate number of typical cases shall be submitted, if programs developed in house are used for designs. The computer program as submitted will be further tested by comparison with solutions of worked examples. The Contractor/Developer should submit along with his design, a note giving design approach and construction scheme conforming to the basic requirements which should be approved by SHDB/Independent, so as to avoid the possibility of major changes being required in the design at a later date.
- c) Drawings and designs shall be in metric units only. Calculations shall be neat and clean and supplemented by full explanatory notes and sketches wherever required. The drawings of initial submission and for final approval shall be stenciled and in A-1 Size only. If during the scrutiny of detailed

design calculations and working drawings, any changes there in which are found necessary in the opinion of the Independent Engineer shall be incorporated. It is entirely the responsibility of the Contractor/Developer to submit the designs in good time to enable the Independent Engineer to approve them in time. No claims shall be granted on account of late approval to the design and consequently delay in the execution. Schedule of reinforcement and rate of reinforcement per cum of concrete quantity and also percentage with respect to gross cross sectional area of the component should also be shown on each drawing.

- d) Nine (9) sets of approved drawings and four sets of approved design calculations shall then be supplied by the Contractor/Developer which will be formally authenticated by the Independent Engineer. Five (5) copies of drawings and one (10) set of design calculations for field officers, one (1) set to be returned to the Contractor/Developer and three [3] to be retained by the Independent Engineer.
- e) Approval to drawings and design calculations by Independent Engineer shall not in any way relieve the Contractor/Developer of his responsibility for the correctness, soundness and structural stability and safety of the structure.
- f) The approved drawings and the design calculations of the buildings shall be the property of SH&DB.

The Contractor's/Developer's designer shall attend all the design review meetings conducted by the Independent Engineer from time to time without any extra cost and shall also remain present as and when required during the checking of designs.