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ROYAL GOVERNMENT OF BHUTAN

GELEPHU THROMDE

DEVELOPMENT CONTROL & MONITORING DIVISION



Guidance notes to all persons wishing to make an application for a building permit.

All applicants will be required to submit the following documentation:

- 1) A completed application form (available from Gelephu Thromde (GT) at a cost of Nu.100/-) with an attached passport sized photograph.
- 2) Latest Ownership certificate (available from Revenue/Land Record section, GT at a cost of Nu.75/-)
- 3) Latest Official site plan (available from Survey & Planning section where LAP (local area plan) is available. Cost depends on the area of your registered area)
- 4) Three sets of architectural plans clearly identifying the designer.
- 5) Three sets of structural drawings/ calculations clearly identifying the designer.
- 6) Three sets of plumping/sewerage drawings.
- 7) Three sets of water supply connection drawings.
- 8) Three sets of electrical/telephone connection drawings.
- 9) An Environmental Clearance from Environment Division, Gelephu Thromde
- 10) Registration no. and CDB certificate of your Architect and the Certificates of Structural/Electrical Engineer.

For the guidance of applicants the following documents should also be read:

- a) Architectural drawings checklist.
- b) Structural drawings checklist.
- c) Sewerage connection checklist.
- d) Water supply checklist.
- e) Electrical/ Telephone checklist.

These documents will assist the designer in checking the most important elements which will be scrutinized by GT.

The applicant is advised to ensure that their designer is aware of the current building rules and other regulations pertaining to construction work and that the submitted documents are in accordance with such documents.

The applicant is further advised to ask their designer to seek consultation with GT prior to making a formal submission of documents; this will help GT to process plans quickly and without undue delay.



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APPLICATION FOR THE CONSTRUCTION OF BUILDINGS IN THE URBAN AREA OF GELEPHU

Please complete all sections clearly using capital letters

1. Applicants name:.....

2. Sex: Male Female

3. Date of birth: Day.....Month.....Year.....Age.....(years)

4. Marital status: Single Married Divorced Widowed

Citizenship identity card No.....

Place of issue.....

5. Telephone number.....

6. Permanent address.....

7. Present address.....

8. Land ownership.

a) Government allotment

State Allotment Order No & Date.....

b) Purchased on the open market

State Transaction Approval Letter No& date.....

c) If allotted under a Kasho attach a copy of the Royal Kasho

d) If inherited, exchanged or gifted, give details of the previous owner

e) If subdivided please give the approval letter No

9) Plot details:

PlotNo.....Area.....ft²/m²/acres Dimensions.....

Land/building use (existing and proposed).....

10) Declaration to be signed by all applicants:

The information supplied in this application form is correct to the best of my knowledge, I shall be held personally responsible for any discrepancies for which I am prepared to face any disciplinary or legal consequences.



Fix passport sized photograph here

Date..... Place..... Signature.....



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Notes

1. Every application must be accompanied by this completed form.
2. Signing on behalf of the applicant is not permitted.
3. For information, which is not applicable, please write in “not applicable” or “N/A”.
4. The responsibility of relocating any municipal services rests with the applicant.
5. For any cases involving additions, extensions or alterations the following will apply:
 - a) A letter from a structural engineer is to be submitted certifying that the existing foundations are capable of taking the additional loads.
 - b) A letter from a services engineer is to be submitted certifying that the existing septic tank is able to deal with the additional waste or
 - c) A new septic tank (duly marked on the site plan) is to be designed to take the additional waste.
 - d) A non-destructive testing machine results/reports should be included to assess the stability of the existing structure.
 - e) The existing building fabric is to be clearly identified on the drawings, and the existing setbacks and structure are to be verified as accurate by the applicant.
6. All applications should be accompanied by the appropriate documentation as required by the current Building Rules
7. Please use additional paper to give further information if necessary.

FOR OFFICIAL USE ONLY

Observations by the Thromde (if any):

Recommended/Not recommended

Signature of Thrompon..... Signature of Case Officer.....

Date..... Date.....



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CHECKLIST FOR ARCHITECTURAL DRAWINGS

Applicants name..... Ref No.....

Contact address..... Architect.....

Plot

No.....Demkhong.....

1. Documentation:

- a) Application form
- b) Ownership certificate
- c) Official site plan
- d) Three sets of Architectural Drawings which must include the following:
 -Drawn site plan showing proposed building with parking layout
 -All floor plans
 -Elevation (minimum of 4 elevation)
 -Sections (one through the staircase)
 -Opening Details/Drawings
- e) Three sets of structural drawings
- f) Three sets of electrical/ telephone connection drawings
- g) Three sets of sewerage connection drawings

2. Site Coverage

- a) Area of proposed building
- b) Area of existing building
- c) Area of site/plot
- d) Allowed percentage coverage
- e) Actual percentage coverage
- f) Permitted number of floors
- g) Proposed number of floors
- h) Minimum plot size-2400sq.ft for commercial & 4000 sq.ft for residential/industrial

3. Setbacks

- a) Allowed at front
- b) Proposed at front
- c) Allowed at rear
- d) Proposed at rear
- e) Allowed at sides
- f) Proposed at sides

4. Architectural features

- a) Windows
- b) Doors
- c) Railings
- d) Roof overhangs (min.400mm)
- e) Eaves to cornices gap (max.300mm)
- f) Traditional cornices

5. Room size

- a. Habitable room sizes and heights (9.3m² and 2.4m high)
- b. WC and bathroom sizes and height
- c. Kitchen size and height
- d. Store size and height



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6. Staircases

- a. Width of stair (minimum 1200mm)
- b. Length of tread (minimum 250mm)
- c. Height of riser (max 190 mm)
- d. Travel distance for basement, 2nd floor and above (max.22.5m)

7. Corridors

- a. Width of corridors (min. 1100mm)

8. Windows

- a) Size of windows
- b) Size of openable ventilators

9. Drainage

- a) Surface of water
- b) Foul water
- c) Water tanks



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Checklist for Structural Drawings

Applicants

name.....

Contact

address.....

Plot

No.....Demkhong.....

Engineer.....Work

Description.....

1. General

- i. Complete set of drawing submitted
- ii. All drawing properly identified with complete title
- iii. Clear and correct design note submitted
- iv. Considered design codes list
- v. Considered design load list (imposed, snow, wind, earthquake)
- vi. Material properties listed and acceptable
- vii. Plan shape acceptable
- viii. Movement joints provided acceptable
- ix. Stiffness distribution in plan and elevation acceptable
- x. Mass distribution in plan and elevation acceptable
- xi. Calculations for the design shall be asked by the concerned officer in-charge if required.

2. Foundation

- a. Soil description
- b. Assumed soil properties with soil test report
- c. Foundation dimensions
- d. Foundation reinforcements
- e. Special confining reinforcement
- f. Anchorage length for columns reinforcement into the rcc footing pad

3. Columns

- a. Column dimension
- b. Column reinforcement and cover to be provided
- c. Anchorage length at connections
- d. Splice location and splice lengths
- e. Ties size and spacing to be provided
- f. Additional ties provided near connections and along splices
- g. Ties detailing (hooks, angle extension, all bars restrained)
- h. Columns stronger than beams

4. Beams

- a. Beam dimensions
- b. Beam reinforcement and cover
- c. Anchorage length at connection
- d. Splices location
- e. Splice length
- f. Stirrups size and spacing
- g. Additional stirrups provided near connections and along splices
- h. Stirrup detailing (hooks, angle and extension)



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5. RC Slab

- Slab dimensions
- Slab reinforcement and cover
- Anchorage length and connections
- Splices locations
- Splice length

6. RC Cornice:

- Cornice dimensions
- Cornice reinforcement and cover
- Anchorage length and cover

7. RC Wall: (NOTE: This section does not apply to retaining wall)

- Walls dimensions provided and reasonable
- Anchorage length at connections provided and reasonable
- Splices location provided and acceptable
- Splices length provided and acceptable.

8. RCC STAIRCASES

- Staircases dimensions.
- Stair cases reinforcement and cover.
- Anchorage length at connections.
- Splices locations.
- Splices lengths.
- Seismic protection (gap, blocks...)

9. INFILL PANEL

- Panels dimensions including thickness.
- Openings dimensions and locations.
- Materials defined (including masonry unit dimension and strength and mortar mix).
- Bond type defined along length and at junctions.
- Panels adequately restrained along edges.

10. ROOF TRUSS

- Truss materials defined.
- Assumed materials properties stated.
- Members dimensions (length and section) stated.
- Truss members connection details stated.
- Truss anchorage to structure described.
- Roofing materials described.
- Anchoring of roofing material to truss described.
- Treatment and maintenance (if any) described.

11. LOAD BEARING MASONRY WALLS

- Walls dimension including thickness stated.
- Opening dimensions and locations provided.
- Materials defined (including masonry units, dimensions, strength and mortar mix).
- Bond type defined along length and at junctions.
- Adequate dowels provided at corners and T junctions.
- Lintel bands.
- Top bands.
- Plinth bands.

12. TRADITIONAL BUILDINGS

Note: Roof truss and masonry or concrete extension to be checked on relevant sections.

- Foundation dimensions stated.
- Foundation materials defined(including mortar mix)
- Mud wall thickness stated.
- Timber for structural elements described.
- Floor joist dimensions, spacing and bearing.
- Roof truss adequately supported.



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13. RETAINING WALLS

- a. Soil description stated.
- b. Assumed soil properties (including density, cohesive strength, angle of internal friction and safe bearing stress) stated.
- c. Assumed water level stated.
- d. Wall dimensions stated.
- e. Masonry units and mortar mix described.
- f. Assumed mortar density described.
- g. Concrete mix described.
- h. Reinforcement described.
- i. Drainage system described.
- j. Overturning capacity adequate.
- k. Sliding resistance adequate.
- l. Bearing stress not exceeding allowable.
- m. Masonry unit fully in compression.
- n. Shear capacity of wall adequate.
- o. Bending capacity of wall adequate.
- p. Bending and shear capacity of toe adequate.



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Checklist for Electrical Connections

1. Specifications should indicate:

- i. Type of wiring
- ii. Other materials

2. Legends should show:

- a. Type and wattage of fixture
- b. Type of SDBs
- c. Type of PCBs and connected load
- d. Type of MCBs
- e. Switches and switchboard
- f. Junction boards

3. Layout plans to show for each floor:

- a. Fixture positions
- b. Fixture switching
- c. Fixture connection and circuitry
- d. Distribution network

4. Wiring routes indicated on single line diagram showing:

- a. Junctions
- b. Switchboards
- c. Power circuitry
- d. Lighting circuitry
- e. Phase distribution (for multi-phase installation)

5. Mains Control panel Boards (MCB):

- a. Show connection to meter and incoming terminal point
- b. Show main isolating switch and ear thing
- c. Specification of boards

6. Sub-distribution Board (SDB):

- a. Circuit distribution
- b. Phase distribution
- c. Connected load
- d. Earth continuity
- e. Loop earthing
- f. Specification of boards

7. Power Distribution Board (PCB) for large multi-storied installations:

- a. Floor by floor distribution from MCB

8. Compound Electrification work

- a. Fixture and fitting specification
- b. Foundation details for support poles etc.
- c. Terminal box details and method of fixing
- d. Section showing how cable will be lied
- e. Single line diagram showing



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Checklist for Electrical Connections

- i) Connections
- ii) Phase distribution
- iii) Circuitry

Proposals involving additional or alterations should in addition to the above also show

- a. Polarity test results for the existing installation
- b. Insulation test result
- c. Earth continuity result
- d. Earthing test result
- e. Capacity, condition and specification of existing spare show
- f. Rating, Specification and condition of existing incoming mains control gear
- g. Composite (existing and proposed) layout plans for all floors

Checklist for Telephone supply connection

1. Three sets of drawings showing the following points are required.
2. One telephone point for each apartment is required.
3. Telephone points must be easily accessible.
4. Connection points shall be standard sockets for a modular jack plug.
5. Telephone wiring shall be PVC insulated 0.5mm copper paired telephone wire.
6. Cable ducting shall be 25mm dia. PVC/M.S conduit and shall contain a maximum of five pairs of telephone wires.
7. Ducting to be at least 500mm away from electrical cable route
8. Proper bridging must be provided where electrical and telephone cable cross.
9. Telephone Terminal Cabinets (TTC's) should be mounted at least 1500mm above floor level and constructed to be moisture resistant of either timber or mild steel to a standard size of 300X300X150mm deep with hole punches to receive 25mm dia. Conduit on all sides.
10. For Large installations TTC's are to be provided on a floor by floor basis. Plans showing wiring routes and telephone points for each floor are to be provided. Incoming cable duct route are also to be shown.



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Checklist for Sewerage Connections

1. Three sets of drawing showing the following points are required.
2. All kitchen, bathroom and WC outlet.
3. Size and location of septic tank, soak pits and all inspection chambers.
4. All ground levels, invert levels and distances between all inspection chambers.
5. Septic tanks to be within the site boundary.
6. Materials and sizes of pipes.
7. Pipe works falls to be max. 1 to 10mm and 1 in 100mm, benching falls to be same as for connecting pipe work.
8. Minimum chamber size of 600 X 600 X 600mm
9. A site feasibility study will be required where connection to the municipal sewer is required.
10. A fee of Nu. 3000/- for connection and supervision is required for connection to municipal sewer.

Checklist for Water Supply Connections

1. Three sets of drawings showing the following points are required.
 - a. Location of water meters.
 - b. Size, location and materials specification for inlet pipes.
 - c. Capacity and location of water tanks (to be in the roof space wherever possible).
 - d. Layout, fixture, fittings and materials for the internal plumbing installation.
2. A deposit of Nu. 500/- as water meter security charge is required.
3. A fee of Nu. 500/- for pressure testing and connection/re-connection to municipal water supply will be required.