

# **DRAWING APPROVAL GUIDELINE**

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**(2023)**



**THIMPHU THROMDE**

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## **A. Introduction**

The Compliance and Enforcement Division (CoED) under Thimphu Thromde has been mandated with the responsibility of issuing development permission for construction of buildings or carrying out any additions and alterations to a building.

A building drawing proposal is usually vetted from the desk of architect, structural and electrical engineer. The scrutiny of the drawings are conducted in line with Development Control Regulations, Bhutan Building Regulation, Building Code of Bhutan, Bhutanese Architectural Guidelines and various other relevant building and engineering codes of practices. The process also includes making site visits whenever necessary.

Drawings for multi storey structures are issued approval within a maximum Turn-Around –Time (TAT) of 23 working days and 14 working days for single storey structures and other minor drawings.

This Guideline is prepared to streamline the drawing approval process and expedite the scrutiny process.

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## **B. Objective of the guideline**

In view of the above, this guideline on building drawing approval process is developed with the following objectives:

1. To provide the checklist and document requirements for designs/drawings for construction approval, and
2. Ensure building construction within Thimphu Thromde is in line with Thimphu Structural Plan (TSP), Development Control Regulation (DCR) and related construction regulations and policies.

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## C. Documents required

The application of building construction approval will be accepted only upon receiving the complete set of documents as follows:

1. Documents:
  - 1.1. Duly filled building approval form. (*Attached as annexure 1*)
  - 1.2. Latest Lagthram copy
  - 1.3. Designers certificates duly endorsed and signed
  
2. Architectural drawings (2 sets).
  - 2.1. Proposed site plan showing plot boundaries, proposed structures, plinth area, setback and coverage.
  - 2.2. Parking layout (feasible and practical).
  - 2.3. All floor plans and roof plans (overlaid on plot boundary).

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- 2.4. Elevation of all sides.
  - 2.5. Minimum of one section.
  - 2.6. Details for door/window/openings.
  - 2.7. Detailed mitigation plans and building section overlaid on topographic map in case of plot excavation more than 2m. (*Refer Excavation guidelines, attached as annexure 2*)
  - 2.8. Jamtho floor plan (if applicable), Jamtho dimension, use, coverage against plinth area.
3. Structural drawings (2 sets).
    - 3.1. Structural design note – design codes used, material properties, bearing capacity of soil, and other required design/construction instructions.
    - 3.2. Foundation details (footing plan and sections ) overlaid on the plot boundary.

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- 3.3. Plan and section details of column, beam, slab, staircase, shear wall, lintels, cornice, projections, lift, etc.
  - 3.4. Truss plan, elevation and connection details.
  - 3.5. In case of excavation more than 2 meters, detailed drawings of mitigation measures.
4. Plumbing and sewer drawings (2 sets).
    - 4.1. Kitchen, bathroom and WC outlets. layout plan of the internal plumbing system of each floor, with details of pipe sizes and material.
    - 4.2. The location of the septic tank and soak-pit or sanitary pipe layout to the nearest sewer line, including any manholes.
    - 4.3. drainage layout, showing connection to the nearest storm water drain.

- 
- 4.4. Plumbing and sewer design, showing compliance with applicable plumbing codes of practice.
  
  5. Electrical Drawings (2 sets).
    - 5.1. Provide for every floor (need not be reproduced for floors having identical/typical floor plans):
      - 5.1.1. Type and wattage of fixtures.
      - 5.1.2. Switching layout for light points.
      - 5.1.3. Circuit layout for light switchboards.
      - 5.1.4. Circuit layout for raw power socket outlets.
      - 5.1.5. Details of Distribution Boards (circuits, phases, switchgears & loads).
    - 5.2. Details of Main Distribution Panel (sub-main cable sizes, busbars, switchgears & metering).
    - 5.3. Load and phase distribution chart/table.

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- 5.4. TV/Telephone/Data network layouts.
  - 5.5. Electrical earthing details.
  - 5.6. For compound electrification work provide:
    - 5.6.1. specifications of fixtures;
    - 5.6.2. support pole foundation details;
    - 5.6.3. terminal box details;
    - 5.6.4. specifications of cables; and
    - 5.6.5. line diagram showing connections, phase distribution and circuitry.

Note 1. All drawing sheets should be in A3 size paper except for single storied and minor structures.

Note 2. Drawings should be legible.

Note 3. All drawing sheets should be signed by the owner and co-owner ( in case of joint ownership) and the designer.

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## **D. Checklist for scrutiny**

### **1. Architectural Drawings**

The architects in this unit will examine the ownership details and signs, review the permissibility of the proposed building use in the precinct, and most importantly the compliance as per the existing DCR, TSP and relevant building construction policies/regulations of the country. Building aesthetics and its appropriateness with the surrounding settlements, streets and /community will be reviewed. Feasibility of the designs in the proposed plot depending on the plot profiles will also be looked into by the architects in the division.

The scrutiny of the architectural drawings will be done based on the following checklist.

1. Permissibility of the proposed building use in the precinct as per the DCR. (*clause 3.0.1, pg.57-64*)
2. Setback, coverage and number of floors as per the DCR. (*clause 3.0.2, 3.3.3A, 3.0.3B, 3.0.3C, pg.67-91*)

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3. Parking space as per the DCR. (*clause 2.13, pg.52*)
  4. Building dimensions (room sizes, height, etc) and ventilation provisions as per BBR 2018.
  5. Jamthog and roofing heights/area as per DCR/Circular (*Attached as annexure 3*)
  6. Basement/Stilt as per DCR/Circular. (*Attached as annexure 4*)
  7. Compliance with Bhutanese Architectural Guideline 2014.

Qualification and experience of the architect : A person holding a minimum of bachelor's degree in architecture.

## 2. Structural Drawings

The engineers in the structure unit will examine the structural stability of the proposed structure and the feasibility of the proposed design depending on the site condition. The

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assessment of the structural drawings will be done based on the following checklist.

1. Structural drawings are in line with the corresponding architectural drawings.
2. Relevant codes of practices followed during the structural analysis and design.
3. Necessary ancillary structures (eg. retaining wall, mitigation measures ) are proposed based on site conditions..

Qualification and experience of the structural engineer: A person holding a minimum of bachelor's degree in civil engineering. The applicant should have at least three years' experience in structural design and be registered with the Bhutan Construction and Transport Authority (BCTA), until the certification from the Engineering Council.

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### 3. Electrical Drawings

The primary objective shall be to ensure due compliance with current safety/technical standards & guidelines prescribed by relevant regulatory bodies. The process shall involve review of drawings & recommendation of corrections covering the following parameters:

1. Verifying that floor plans match approved architectural drawings.
2. Verifying due compliance with Specifications of Electrical Works 2022 (MoWHS), Internal House Wiring Regulations 2016 (BEA) and DCR 2016 (Thimphu Thromde).
3. Assessing feasibility of execution & verifying presence of adequate failsafes & backups.
4. Clarity of presentation to facilitate ease of interpretation during implementation.

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5. Valuation/estimation of the installation's load requirement for obtaining Power Clearance from BPCL.

Qualification and experience of the electrical engineer: A person holding a minimum of diploma in electrical engineering.

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## **E. Annexures**

Annexure 1: Building application form



**ཐིམ་ཕུ་ཁྲོམ་གྲོང་ཁྲུང་།**  
**Thimphu Thromde**  
 220 Gongdzin Lam SE, Norzin  
 Thimphu -11001: Bhutan



**APPLICATION FOR BUILDING PERMIT WITHIN THIMPHU THROMDE** FORM (01)

- Applicants Name .....
- Contact No..... Email Id.....
- Application Registration No.....(To be filled by CSD, TT)
- Plot No.....
- Thram / LUC No.....
- No. of Floors Proposed ..... Location.....
- Application type
  - i. Single Storey Structure
  - ii. Multi-Storey Structure
  - iii. Revisions, Vertical/Horizontal Extensions
- Documents required:
  1. 2 sets of Architectural, Structural, Electrical and Plumbing Drawings duly signed by designer and owner / all the owners in case of joint ownership
  2. Copy of Lagthram / Land Use Certificate
  3. Copy of Land Lease Certificates/Agreements in case the applicant is not the legal owner of the plot
  4. Certificates of designer

- 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 responsible for any discrepancies for which I am prepared to face any disciplinary or legal consequences.

Date.....Signature.....



**ཐིམ་ཕུ་ཁྲོམ་གྲོ་**  
**Thimphu Thromde**  
**220 Gongdzin Lam SE, Norzin**  
**Thimphu -11001: Bhutan**



**UNDERTAKING**

FORM(02)

The applicant(s) and the designer(s) hereby undertake the following responsibilities pertaining to the proposal detailed in Form 01:

1. The design of the structure is performed only upon confirming the site feasibility for construction, conducted through proper site investigations and studying the plot profiles/conditions, surrounding infrastructures and its associated risks.
2. The design captures all necessary mitigation measures to ensure that the proposed structure is practicable for construction at site.
3. The Architectural designs have been carried out in accordance with the latest Development Control Regulation, Bhutan Building Regulation, Bhutanese Architectural Guidelines, Thromde's Excavation Guideline, and other relevant regulations.
4. The Structural analysis/designs have been carried out as per the latest IS codes and practices, and that the designer accepts full responsibility/liability for any design related failures.
5. The Electrical designs have been carried out as per current codes of practice/guidelines prescribed by Electricity Regulatory Authority (IHW Regulations 2016) & the Ministry of Infrastructure and Transport (Specification for Electrical works).
6. Comprehensive planning and feasibility assessments have been carried out concerning utility lines such as access roads, drainage, and sewer networks, ensuring that they are both considered and deemed feasible for connection to the Thromde lines during the construction phase without encountering any issues.
7. The applicant(s) shall execute the structure at site as per the approved drawings.

Owner  
Name:  
CID:  
Contact:

Affix legal stamp

Architect  
Name:  
CID:  
Contact:

Structural Engineer  
Name:  
CID:  
Contact:

Affix legal stamp

Electrical Engineer  
Name:  
CID:  
Contact:

Witness  
Name:  
CID:  
Contact:

Affix legal stamp

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## Annexure 2: Excavation Guidelines



**GUIDELINE  
FOR  
EXCAVATION DURING  
BUILDING CONSTRUCTION**

**COMPLIANCE AND ENFORCEMENT DIVISION**

**THIMPHU THROMDE**



TT/CoED/25/2022-2023/1465

01.07.2022

## GUIDELINES TO MITIGATE EXCESSIVE EXCAVATION

This guideline is developed in line with the deliberation and decision of the fifth management meeting held on 29/10/2021 at the conference hall of Thimphu Thromde.

### **Background and Rationale**

Ninety five percent of Thimphu thromde lies on sloping terrains, with less than five percent accounting for flat areas. The challenging landscape makes it difficult to construct without excavations. Amidst rapid development with more than a thousand construction in less than five years, immense pressure is mounted on the natural environment.

However necessary, excavation is very destructive to the natural environment. Due to the inherent destructive nature of excavation to the natural environment, there is an imminent need for regulations to be set forth to mitigate and curtail excessive excavation.

### **Objective**

The objective of this guideline is to understand the impact of excavation on the environment and how we can incorporate better measures to mitigate, minimize, regulate and monitor excavation during construction. In particular, it is aimed to:

1. Gain clarity and understanding on site context at the time of designing and approval
2. Strengthen existing approval and monitoring system with regard to excavation works.

### **Limitations**

Some of the constraints faced during approval and implementation of building construction are:

1. Limited design and planning guidelines/ regulation on excavation. Requirements such as topographic survey are not mandated by law. This has an impact on the accuracy and

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Phone: +975-2-336310/330001 Toll free-1009

[www.thimphucity.bt](http://www.thimphucity.bt)



precision of excavation. Majority of design and drawings submitted to Thromde are based upon the assumption that the proposed area is flat.

2. Inadequate information available at the time of drawing approval, leading to misrepresentation of site conditions.
3. Excessive excavation at site destabilizing the area and structures around.

#### Resolution and mitigation measures

1. Mandatory topographical survey should be carried out for excavations with more than 2 meters. This will give clarity on the extent of excavation and lead to precise and accurate excavation plans. Survey to be carried out by professional surveyors. This service can be availed from Thimphu Thromde or accredited private surveyors at the expense of the client.
2. Excavations more than two meters should be accompanied with remedial measures such as retaining walls, shoring, bracing, etc when submitting drawings of the proposed plan in the area.
3. Excavation with more than 4 meters height for plots on the slopes should be avoided and innovative solutions like split designs should be adopted. In case such excavations are unavoidable, technical proposals with measures to mitigate the risk of landslides, damages to public/private infrastructures must be submitted.
4. It is recommended that excavation be carried out only within the plinth area and not till the edge of the plot.
5. After the topographical survey results are analyzed, the designer must submit building plans overlaid on topographic map and complete sectional drawing of the entire length and width of the plot along with the structure.
6. Massive excavation will only be allowed in the dry season, especially avoiding the monsoon months of June, July and August.
7. A site engineer must be deployed at site to instruct/supervise during the excavation and reduce any associated risks.



8. The slope stabilization structures/measures should be implemented first at the site before the main structures.

**Responsibility and Accountability**

1. The excavating party resumes all responsibility for any damages caused to the neighboring plots and public properties such as road, drainage, retaining walls, etc, as a result of the excavation.
2. The excavating party shall bear responsibility of restoring the damages to its original conditions and ensure the stability of the area.

**Additional applicable rules and regulation**

1. Land Act of Bhutan 2007
2. Development Control Regulation 2016 (Section 5, Site slope and plot coverage)
3. National Environment Protection Act of Bhutan 2007
4. Environment Assessment Act 2000
5. Forest and Nature Conservation Act of Bhutan 1995

The above guidelines have been endorsed during the 5<sup>th</sup> Management meeting and will come into immediate effect upon announcement on the media and Thromde website.

Thrompon  
Thimphu Thromde

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## Annexure 3: Jamtho Regulations



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 ROYAL GOVERNMENT OF BHUTAN  
 MINISTRY OF WORKS AND HUMAN SETTLEMENT  
 DEPARTMENT OF HUMAN SETTLEMENT  
 THIMPHU : BHUTAN



"Construction Industry: Solution through innovation and improved technology"

MoWHS/DHS/CDRD/Adm/2021-2022/2538

August 20, 2021

CIRCULAR

**Subject: Construction of Jamthog and its Use.**

The Ministry of Works and Human Settlement vide its 37<sup>th</sup> Policy and Planning Coordination Meeting held on 3<sup>rd</sup> May, 2021 has made the following decisions regarding the construction of Jamthog and its Use for uniform implementation throughout the country:

1. The use of the Jamthog space shall be determined by the functions of the building and its permissible use in both planned and un-planned areas.
2. The construction of Jamthog shall be approved and implemented based on the following technical requirements;
  - 2.1 The prop heights of peripheral columns to be maintained at maximum of 1500mm.
  - 2.2. Notwithstanding the above criteria 2.1, the maximum vertical distance between Phana Kheb and the edge of the main roof shall be maintained at 850mm.
  - 2.3. The maximum vertical distance between main roof and the Jamthog roof shall be maintained at 1000mm. The vertical distance shall be calculated from the edge of the Jamthog roof to the top of the main roof.
  - 2.4. The maximum permissible coverage area of the Jamthog roof shall be 2/3 of the main roof area.
  - 2.5 The technical requirements and standards for architectural proportions, structural safety and integrity, lighting and ventilation, room sizes and heights, fire safety, etc shall be as per the Bhutan Building Regulations 2018, Building Code of Bhutan 2018, Bhutanese Architectural Guidelines 2015 and other relevant rules and regulations.

Issued for strict compliance with immediate effect.

Dorji Tshering,  
(Zhabtog Lyonpo)

*Architects / DMG/IS  
 For Update by  
 Compliance*

- Copy to:
1. Dasho Secretaries, 10 Ministries for kind information.
  2. Dasho Dzongdas, 20 Dzongkhags for kind information and necessary actions.
  3. Dasho Thrompons, 4 Thromdes for kind information and necessary actions.
  4. Director, DHS & DES, MoWHS for necessary actions.

*[Signature]*  
 29/8/21

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Architects, Engineers, etc

དཔལ་ལྷན་འབྲེལ་གཞུང་། ལྷན་འབྲེལ་འཛུལ་ཁུངས།

ROYAL GOVERNMENT OF BHUTAN  
MINISTRY OF WORKS AND HUMAN SETTLEMENT  
DEPARTMENT OF HUMAN SETTLEMENT  
THIMPHU : BHUTAN

"Construction Industry: Solution through innovation and improved technology"

Pl. follow as per the circular the being drawn approval & site inspection.

Date: 08/06/2022

MoWHS/DHS/C&DRD-35/ADM/2021-2022/2593

To,  
Dasho Dzongdag, 20 Dzongkhags  
Executive Secretaries, 4 Thromdes (List attached)

Subject: Clarification on the Jamthog Circular

Dasho(s)/Sir(s)/Madam(s)

This is in continuation to the earlier circular on the Jamthog provision wide letter No. MoWHS/DHS/CDRD/Adm/2021-2022/2538 dated August 20, 2021. While the respective Local Government Agencies are effectively implementing the circular issued, it has come to the notice of the Department that the criteria stated under 2.4 in the circular is found to be grossly interpreted differently by the respective Implementing Agencies. This has led ambiguities while according the approval for Jamthog construction. Henceforth, the following sub-requirements for the Jamthog proportion under criteria 2.4 shall be fulfilled during the implementation of the circular.

Existing Criteria 2.4: The maximum permissible coverage area of the Jamthog roof shall be 2/3 of the main roof area.

Sub-requirements: Notwithstanding the above criteria, maximum length and breadth of the Jamthog plinth shall be 2/3 of the main building plinth respectively. Concurrently, the maximum permissible area of the Jamthog plinth shall be 45% of the main building plinth area.

In addition to above, the provision of Roof Cut-Out for any building shall not be allowed to maintain the proportion of the building with respect to its roof area.

Therefore, the Department requests the Local Governments to strictly follow the above conditions while issuing the construction approval for any building.

Thank you for your continued support and looking forward for the same.

Yours sincerely,

Director, DHS.

Copy to:

- Hon'ble Zhabtog Lyonpo for kind information, please.
- Dasho Secretary for kind information, please
- Director, DES, MoWHS for information and necessary actions.

Chief COFO  
for me M  
13/6/22

Received  
Date... 10/6/2022  
Dairy No... 32

000841  
13/6/2022

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## Annexure 4: Basement/Stilt Circular



**ཐིམ་ཕུ་རྫོང་གི་**  
**Thimphu Thromde**  
 Building No. 08  
 Gongdzin Lam  
 Thimphu -11001: Bhutan



TT/DRD/02/2021-2022... 758.....

Date: 24/11/2021

**OFFICE ORDER**

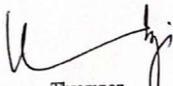
Most of the plots in Thimphu Thromde are on a sloping terrain and around 60-70% of plots have net area less than 10 decimals. While the circular from MoWHS states that the basements must be completely below the lowest natural ground level, it is practically difficult to accommodate parking and maneuver vehicles from the basements on these plots. Further, the spaces in the building setbacks are not enough to accommodate the vehicles for all the tenants of the building.

Hence, in view of this, Thimphu Thromde shall approve the following two proposals as **STILT FLOOR**:

1. For plots on lower level than the access road, *stilt floor* shall be approved to bring habitable/ ground floor to the level of access road.
2. For plot above the access road level, *stilt floor* shall be approved to facilitate adequate parking spaces and to prevent parking along roadside.

Stilt floors shall be approved with the following conditions:

- The clear height for stilt floors on plots above access roads shall be restricted to 2.5m.
- Proposal for stilt floor must be reflected clearly as Stilt in the drawings.
- The usage of the stilt floors shall be limited to parking only.
- The area of the stilt floors shall be restricted to building footprint.
- Stilt floors must not be considered for conversion to other purposes from the approved parking usage
- Owners must give legal undertaking during approval time adhering to approved usage.

  
 Thrompon  
 ཐིམ་ཕུ་རྫོང་གི་ཐུག་ཕྱོགས་ལྷན་ཁག་གི་  
 Thrompon

*Chief / DRD  
 Dzung sentiny, pl  
 ensure that structure design  
 are reviewed accordingly  
 all above in accordance with  
 structural safety  
 without fail.*

- Copy to :
- i. Executive Secretary, TT for kind information.
  - ii. Chief, DRD for strict implementation.

Dasho Thrompon: +975-2-323665, Executive Secretary: +975-2-340355  
 Phone: +975-2-336310/330001 Toll Free Number: 1009  
[www.thimphucity.bt](http://www.thimphucity.bt)

*Handwritten signature*

*Handwritten signature and date*  
 25/11



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ROYAL GOVERNMENT OF BHUTAN  
MINISTRY OF WORKS AND HUMAN  
SETTLEMENT

DEPARTMENT OF HUMAN SETTLEMENT  
THIMPHU: BHUTAN



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MoWHS/DHS/CDRD/Adm/2020-2021/2966

Date: October 28, 2020

## CIRCULAR

### Subject: Construction of Basements in Areas with Spatial Plans

The Ministry of Works and Human Settlement vide its 28th Policy and Planning Coordination Meeting held on October 07, 2020 has made the following decisions regarding the construction of basements in areas with spatial plans such as Valley Development Plan, Structure Plan, Local Area Plan and Action Area Plan:

1. The basement shall be completely below the lowest natural ground level irrespective of the topographical conditions of the site.
2. The maximum number of the basement floor is two for commercial buildings and one for residential buildings provided the technical requirements are fulfilled and assessment of risks to the adjacent plots and structures are carried out. However, restrictions as reflected in the Spatial Plan and its Development Control Regulations (DCR) will continue to be imposed.
3. The basement shall be within the building footprint.
4. The height of basement shall be determined by its functions.
5. The use of the basement shall be determined by the function of the building and permissible uses in the Spatial Plan and its DCR. However, it shall not be permitted for residential/dwelling units".

Issued for strict compliance with immediate effect.



Dorji Tshering  
(Zhabtog Lyonpo)

Copy to:

1. Hon'ble Secretaries, 10 Ministries for kind information.
2. Dasho Dzungdas, 20 Dzongkhags for kind information and necessary actions.
3. Dasho Thrompons, 4 Thromdes for kind information and necessary actions.
4. Director, DHS & DES, MoWHS for necessary actions.

Telephone No:- 322620/335799/323441/329946/326451/325206/330335/332686/322920

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