



Government of Nepal
DUDBC



Japan International
Cooperation Agency

Day : 1

Session : 1.4

**BCWP DESIGN APPROVAL AND PERMIT
FOR BUILDING CONSTRUCTION (Section 4)
Designer's Responsibilities**

**The Project for
Promotion of Nepal National Building Code Compliance for Safer Building Construction**

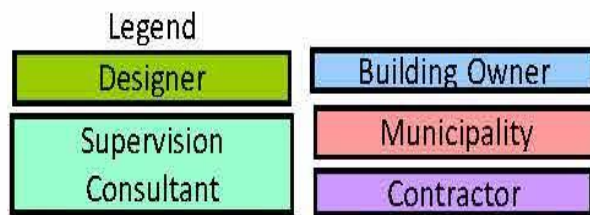
JICA EXPERT TEAM

OBJECTIVES

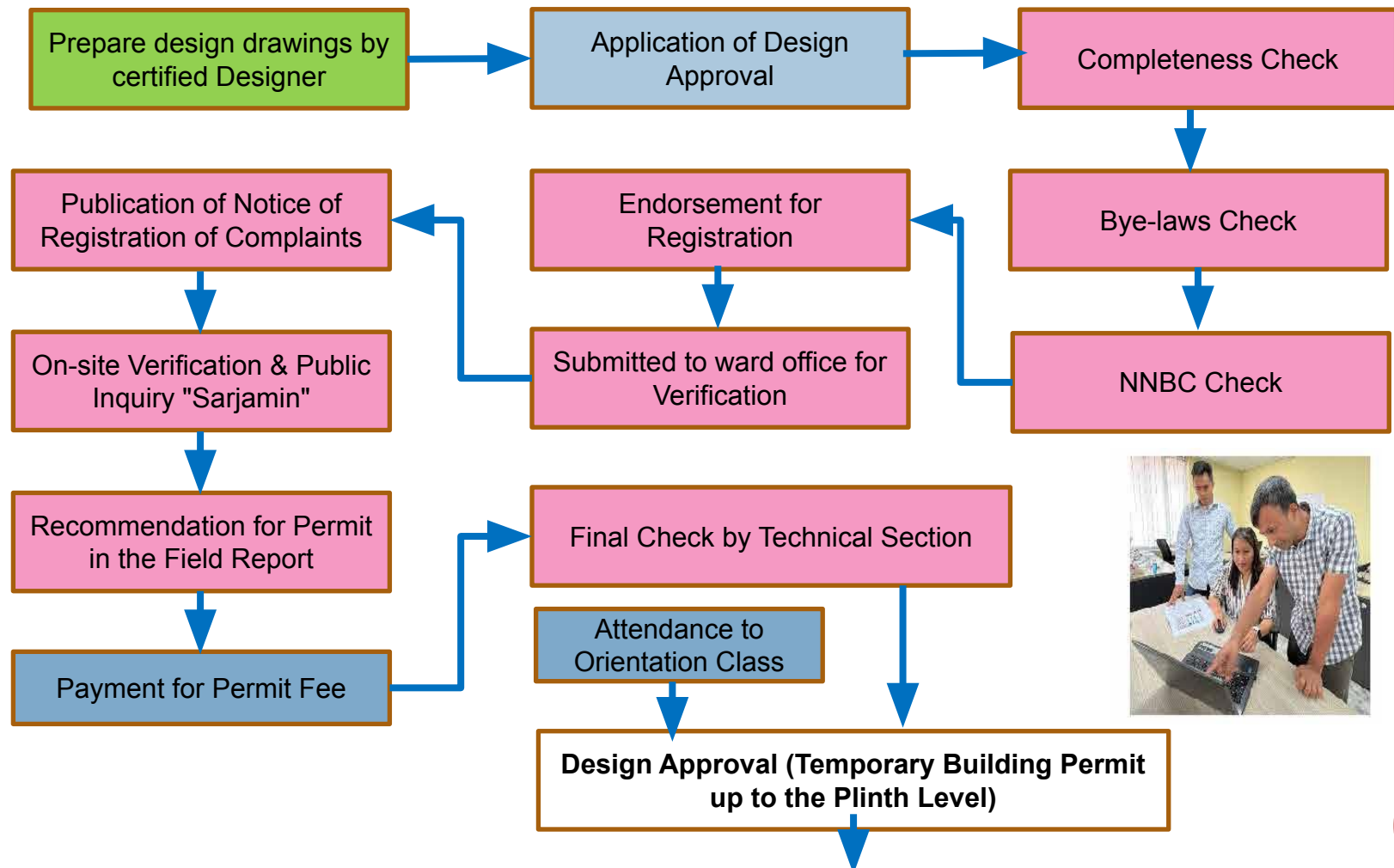
Upon Completion of the session, the participants will be able to

- ☐ Know about Registration of Designers
- ☐ Know about the Responsibilities of the
- ☐ Know about process of getting temporary building permit

New Procedure of Building Permit - Design Approval



Building Construction Working Procedure Typical Flowchart (RC Structure)



Application for Inclusion in the List of Registered Designers

- The Designers shall get registered in the roster of approved designers for providing professional consulting service in the municipality in the field of planning, designing and preparation of drawings & details of buildings.
- These services may be related to survey works and designs works related to various technical fields such as architecture, structural design, sanitary and plumbing systems, electrical systems, HVAC, fire safety design, geotechnical investigations, disaster management, etc.

Contract Signing with the Building owner

Contract Signing with the Building Owner for providing service as a Designer

- Building Owner, who wishes to construct a new building or carry out extension or modifications of the existing building, has to select one of the registered Designer included in the list published by the municipality for the planning, designing and preparation of drawings.
- Once agreement has been reached between the Building Owner and the registered Designer, formal agreement shall be signed between the two parties.
- A copy of the contract paper shall be attached with the application form for building permit.
- Scope of consulting services to be provided to the Building Owner by the Designer and the fee for the same shall be discussed in detail and documented to avoid future dispute between the two parties.

Contract signing of Building Owner with Masons, Contractor & Supervision Consultant

Checking for Contract Signing of the Building Owner with the Masons, Contractors & Supervision Consultant

- The Designer shall check that the Building Owner has selected masons, contractors and supervision consultant from the list of corresponding registered service providers.
- Similar to the agreement paper signed with the Designer, Building Owner are also required to sign agreement papers with these service providers as well. A copy of the each of the contract papers shall be attached with the application form for building permit

Consultation with the Building Owner to know the Functional Requirements

- Once the Designer has signed contract with the Building Owner, he/she shall hold meeting with the building Owner to know the functional requirements of the Building Owner for the proposed building.
- Furthermore, the Building Owner may also have certain priority with regard to the choice of expected look of the building façade, orientation of the building, construction materials, finishing materials, etc.
- The Designer shall keep the record of all such details for future reference while preparing the architectural plans and drawings of the building.

Collection of Relevant Legal Documents from the Building Owner

- The Designer shall collect copies of the land ownership certificates, cadastral maps, citizenship certificates of the land & building Owners.

Site Visit to the Construction Site & Field Measurements

- The Designer shall make a joint visit to the construction site of the building to know the actual field situations in which following important points shall be noted:
 - a) Shape, depth & orientation of the land parcel
 - b) Demarcation of the land parcel
 - c) Structures adjoining to the land parcel
 - d) Actual area of the land parcel from the field measurement
 - e) Drainage condition of the site, e.g., water ponding, ground slopes, drainage outlets
 - f) Difference in level of the existing ground and the access road
 - g) Possible location of the tube well, underground water tanks, septic tanks, drainage lines, parking space, etc.
 - h) Locations of existing services such as electricity distribution lines and poles, telephone lines, water supply lines, roadside drains, etc.
 - i) Any possible problems in the field that may occur during the construction of the building

Preparation of Site Plan

- Based upon the site measurements, the Designer shall first prepare the site plan of the land parcel and determine the actual land area of the land parcel which may be different from the area given in the land ownership certificate or the area derived from the cadastral map.
- If there is a large difference in the actual area and those given in the land ownership certificate or derived from the cadastral map, the Building Owner shall be notified for the same who will then take necessary action for their correction & rectifications from the Land revenue Office and Land Survey office.

Preparation of Plans & Elevations

Preparation of Plan & Elevations of the Proposed Building

- The Designer shall first prepare the conceptual plan and discuss with the Building Owner for his/her feedback and comments.
- Once the Building Owner is satisfied with the conceptual plan, then the Designer shall then prepare detailed plans, elevations and details of the building. These should gain be discussed with the Building Owner to get his/her consensus.
- The Designer shall modify the drawings of the building to incorporate the comments and suggestions given by the Building Owner.
- However, the Designer has to keep in mind that the drawings and details shall be in full compliance with the existing building bye-laws, National Building Code and other prevailing laws.

Preparation of Structural, Sanitary, Electrical & Other Details of the Building

- Once the plans and elevations have been finalized, the Designer shall give them to the relevant experts such as the structural designer, electrical engineers, sanitary engineers, HVAC experts, etc depending upon the size and scale of the building.
- If the building is two to three storeyed and relatively smaller in size, the bearing capacity of the soil may be assessed on the basis of physical investigation of soil in a pit of size 1 m x 1 m x 1.5 m depth dug at the site.
- But in the case of important buildings and for buildings more than 17 m in height or having more than 5 storeys, geo-technical investigation shall be carried out mandatorily for which the Building Owner shall engage the services of a separate geo-technical firm.

Structural Drawings & Report

- The Structural Engineer shall prepare the structural design of the building on the basis of architectural designs and drawings provided to him/ her in full compliance with the NBC.
- Foundation design must be done on the basis of geo-technical investigation report for important buildings & those buildings which are more than 17 m in height or having more than 5 storeys.
- The structural engineer shall then submit the structural drawings, structural design report and a copy of the analysis model file to the Designer.

Electrical and Sanitary Drawings

- The Electrical Engineer and the Sanitary Engineer also need to prepare the designs and drawings of the electrical system and sanitary system of the building.
- In case of large and important building, they should also prepare and submit the design report to the Designer for submission to the Municipality for getting building permit.
- The Designer also needs to prepare other details and drawings such as HVAC, drainage plan, disaster management plans, etc for large and important buildings.
- Once the drawings are ready, the Designer needs to make a presentation on the final drawings and designs to get his final feedback and consensus. Minor modifications may be required to be made at this stage to incorporate the suggestions of the Building Owner.

Detailed Cost Estimates & Tender Documents

Preparation of the Detailed Cost Estimates and Tender Documents

- If the Building Owner wishes to have prepared the detailed estimates and tender documents, the Designer may also prepare and submit them depending upon the agreement reached between the two while finalizing the scope of consulting services to be provided to the Building Owner.
- The Designer may need to collect the government norms, district rates of materials and labours and the prevailing local market rates for the preparation of the detailed estimates.
- Similarly, the Designer may use the standard bidding documents (SBD) prepared by the government agencies or projects. Use of the SBDs prepared by the Public Procurement Monitoring Office (PPMO) shall be mandatory in case the building is a government or public building.
- The Designer also shall prepare detailed specifications for the building for which the specification of building works prepared by DUDBC may be used.
- For items not covered by the standard specification document, the Designer shall prepare separate specifications for the same.

Preparation of the Application Document for Building Permit

- The Designer shall study the requirement of the municipality regarding the required documents for the application for getting building permit.
- Depending upon the type of construction such as new construction, addition of storeys, alterations to the existing buildings, repair & maintenance, different sets of documents may be required.

Building Permit Application Document

- In case of municipalities where e-BPS system is not yet implemented, hard copy of the application form needs to be purchased. Hence the Designer needs to inform the Building Owner to get the hard copy of the application form from the Technical Section of the municipality after paying the specified fee.
- The application forms are generally published in two copies- one for the municipality record and another one for the Building Owner's record.
- The designer shall fill in all the required details in the application forms in both the copies.
- Then he/she shall attach all legal and supporting documents as described above and then submit the application document to the Registration Section of the municipality.

Preparation of Application Document

- In municipalities with e-BPS implemented fully, application document is to be submitted online. Hence the complete set of legal & supporting documents shall be scanned to convert them to pdf versions.
- Similarly, the reports on structural design, geo-technical design, electrical and sanitary design, HVAC design, etc. shall be converted into pdf versions.
- The architectural, structural, sanitary, electrical, HVAC drawings should be in AutoCAD dwg format.

Application in e-BPS system

- The Designer then needs to log on in the e-BPS portal of the municipality. Then he/she shall fill in the application form with all necessary details.
- The digital versions of all relevant drawings in dwg format, the pdf versions of legal and supporting documents shall then be uploaded online in the Registration Desk as per the online instruction.
- Once the online application is completed, the Designer shall also save the online application in pdf format. Then he/she shall print a complete set of the application document along with legal & supporting documents in two copies. The printed copies shall be enclosed in to a folder and then submitted to the Registration Desk.

Follow-up with the Registration Desk for Completeness Check

- After receiving the application document for building permit from the Building Owner through the Designer, the Registration Desk/ Section checks the document for its completeness. In case any information or document is missing, the Registration Desk will inform the Building Owner & the Designer to submit the same. In that case, the Designer shall provide the same to the Registration Desk so that the application document is complete in all respect as per the requirement of the municipality and it is forwarded to the Technical Desk/Section for further checking.

Follow-up with the Technical Desk for BBL Check

- The Bye-laws unit of the Technical Desk/ Section checks the application document for the compliance of BBL. In case any omission or error is found during the checking, it is notified to the Building Owner & the Designer. In such case, the Designer shall immediately review the comments provided by the BBL unit and provide clarifications on the same through the Building Owner. In case any modifications or alterations of the drawing is required, the Designer shall prepare amended drawing and submit to the BBL unit through the Building Owner.

Follow-up with the Technical Desk for NBC Check

- Once the check for BBL is complete, the application document is then checked by the Building Code unit (BCU) of the Technical Desk/ Section of the municipality.
- During this process, BCU may ask for further information and clarifications on the submitted drawings, designs and reports.
- The Designer shall thoroughly review the comments and requests made by the BCU and provide necessary information and clarifications.
- In the event of requiring revision of the drawings and reports, the Designer shall promptly prepare revised drawings and reports and then submit the same to the BCU through the Building Owner.

Follow-up with the Registration Desk for the Formal registration of the Application Document

- The BCU completes its check of the application document and then forwards the same to the CAO for the endorsement of formal registration of the application document. Then the Registration Desk/ Section formally registers the application document. Notification about the formal registration is sent to the Building Owner & the Designer. The application document is then forwarded to the Ward Desk/ Section.

Follow-up with the Ward Desk for sending to the Ward Office

- The Ward Desk/Section sends the application document to the local ward office for carrying out on-site verification and field investigation. The Designer has to monitor that the application document is forwarded to the ward office in time.

Follow-up with the Ward Office during On-site Verification and Field Investigation

- The local ward office publishes 15-day notice for filing complaint against the construction of the building, if any, from the owners of land parcels abutting to the land parcel of the Building Owner and other neighbours.
- After the expiry of the complaint filing period, the ward office will review the complaint received, if any.
- At this stage, the ward office may seek further information from the Building Owner. The Designer shall assist the Building Owner to provide further information to the satisfaction of the ward office.

Follow-up with the Ward Office during On-site Verification and Field Investigation

- Municipality office will depute a technician to carry out on-site verification and field investigation after the expiry of the 15-day period. The technician will carry out public hearing and then prepare the deed of public hearing.
- It is recommended that the Designer shall be present at the construction site along with the Building Owner at the time of public hearing so that any confusion with regard to the proposed construction is made clear to all those present to avoid any further compliant and that the proposed construction meets all prevailing laws.
- The technician also prepares field investigation report and submits them to the Technical Desk/Section of the municipality through the Ward Office.

Follow-up contact with the Technical Section for Final Check

- The Technical Desk/Section scrutinizes the deed of public inquiry and the field investigation report for any issues against the building construction.
- Any issues that can be solved at the Technical Desk/Section level will be resolved by the Desk/Section itself and while doing so, the Desk/Section may seek further clarifications from the Building Owner for which the Designer shall provide necessary support.

Follow-up with the Technical Section for the Issue of Temporary Building Permit

- The Technical Desk/Section sends the application document the Revenue Desk/Section where the Building Owner has to pay the necessary building permit fee as per the prevailing laws of the municipality. Then the application document comes back to the Technical Section/ Desk.
- The Technical Desk/ Section makes final checking of the application document against any omissions or errors.
- Finally, the name of the Building Owner is sent to the instructor taking the orientation class on Earthquake Resistant Construction and NBC. After taking the orientation class, the Building Owner has to submit the voucher of the payment of Building permit fee to the Technical Desk/ Section.

Follow-up with the Technical Section for the Issue of Temporary Building Permit

- Finally, the Technical Desk/ Section submits the application document to the CAO with its recommendation for issuance of temporary building permit.
- The CAO will review the application document and the recommendation from the technical Desk/ Section and then issue the temporary building permit.
- At this stage the responsibility of the Designer is completed.

THANK YOU !