

79

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GOVERNMENT OF NCT OF DELHI  
URBAN DEVELOPMENT DEPARTMENT  
9<sup>TH</sup> LEVEL, C-WING, DELHI SACHIVALAYA  
I.P. ESTATE, NEW DELHI-110002

No.F.7(87)/AD/LB/2016/CD.000389764/ 3355-64

Dated: 24/4/19

**Notification**

No.F.7(87)/AD/LB/2016/CD.000389764/3355-64 In exercise of the powers conferred under sub-section (1) of section 349A of the Delhi Municipal Corporation Act, 1957, the Government of National Capital Territory of Delhi adopts and makes following Action Plan to be applicable to the areas under jurisdiction of concerned local bodies i.e. South Delhi Municipal Corporation, North Delhi Municipal Corporation, East Delhi Municipal Corporation.

**ACTION PLAN FOR MAKING BUILDINGS IN DELHI SEISMICALLY COMPLIANT**

**BACKGROUND**

According to the latest Seismic Zone Map of India, about 59% of India's land area is vulnerable to moderate or severe seismic hazards. Delhi is located in Zone-IV which has fairly high seismicity where the general occurrence of earthquakes is of 5-6 magnitude, a few of magnitude 6-7 and occasionally of 7-8 magnitude is anticipated and thus lies among the high-risk areas.

The Hon'ble High Court of Delhi, in WP(C) No.4354/2015 titled "Arpit Bhargava & Another versus North DMC and others" has directed the GNCTD and the three Corporations to prepare and submit an Action Plan for making buildings compliant with National Buildings Code-2005 for Seismic Zone-IV.

The Unified Building Bye Laws-2016 (UBBL-2016) for Delhi were notified vide S.O.No.1191(E) dated 22.03.2016 and adopted by all the Local Bodies including three Municipal Corporations. The UBBL-2016 has further been modified by the Ministry of Urban Development vide Notification S.O.No.1053(E) dated 05.04.2017. Chapter-9 of the UBBL-2016 extensively deals with the issue of Structural Safety, Natural Disaster and Fire & Building Services. Based on the provisions of the UBBL-2016, the action plan proposed, with scope covering existing as well as new buildings, is as under:-

**ENSURING SEISMIC SAFETY IN CASE OF NEW BUILDINGS**

As already stated above, Chapter-9 of the UBBL-2016, dealing with the issue of 'Structural Safety, Natural Disaster, Fire & Building Services', stipulates that the structural design of various components of buildings be carried out as per the relevant sections of National Building Code of India and all relevant standards prescribed by BIS

721

including standards for seismic compliant structures. It further lays onus of ensuring compliance of structural, natural disaster & fire safety and quality of material used and construction on the owner as well as the professionals engaged by him / her in the designs / construction / supervision i.e. Architect, Structural Engineer, Site Supervisor / Site Engineer and construction company including contractors and sub-contractors. In order to ensure the above stipulations, Latent Defect Liability Clause (Clause 2.10) has also been introduced in the UBBL-2016. It further lays full responsibility on the owner for carrying out the work in accordance with the building bye-laws and in case of any violations; the owner shall be liable for action under the extant law.

As per Clause 2.1.3 of UBBL-16 (modified), the owner/applicant, at the time of submitting application for building permit, has to submit in Performa-1 of Common Application Form (CAF), a certificate of Structural Safety from a designated Structural Engineer that he has/shall follow Structural Safety requirements in accordance to National Building Code 2016 Part-IV. The Structural Engineer is required to certify that the structural design shall be based on National Building Code, including safety from natural hazards, based on soil conditions will be taken into consideration and would be duly incorporated in structural drawings of the buildings to be constructed.

The above provisions of the UBBL-2016 have been incorporated to ensure structural safety including safety from natural hazards like seismic safety as per National Building Code in new/upcoming buildings.

#### **ENSURING SEISMIC SAFETY IN CASE OF EXISTING BUILDINGS**

One aspect of the directions of the Hon'ble High Court in the matter is regarding the existing buildings. The general opinion is that it is the most difficult task to retrofit any existing building because of the following possible reasons:-

- i) Non-availability of the foundation designs, lay-out plan and super structure designs.
- ii) Unauthorized addition / alterations carried out in many cases and in some cases even encroachments have been done, rendering assessing structural elements very difficult.
- iii) The quality of construction cannot be assessed at this stage. Similarly, the level of deterioration in re-enforcement and any concrete elements are very difficult to assess.

a) **Master Plan Provisions:** The Clause 9.2.1 of UBBL-2016 provides for seismic Strengthening / Retrofitting of the existing buildings in regards to structural vulnerability in the wind/seismic hazards zone and stipulates the evaluation of the existing structure by a Structural Engineer for the same. It also stipulates that for evaluation and seismic retrofitting of RCC Buildings, relevant Indian standards and BIS Code should be followed.

776

b) **Present status:** The existing buildings comprise of both, private as well as public including Govt. buildings and ensuring compliance of seismic safety provisions in all such buildings is a tedious and time consuming job. The built environment of Delhi comprises mainly of unauthorized / un-authorized-regularized / village abadis / re-settlement colonies etc., and Structural Safety Norms are very rarely followed therein, due to socio-economic reasons. Only a little percentage of it is planned plotted development.

c) **Existing Mechanism:** Every year, prior to Monsoon, physical survey of all the buildings under jurisdiction of Municipal Corporations is carried out in each Municipal Ward by the Engineering Staff. Accordingly, action against the dangerous building/s noticed during the survey is initiated under the DMC Act to either demolish or restore the dangerous portion, as per the requirement. This provision has also been laid out under Section 2.30 (Unsafe Buildings) of the UBBL-2016.

**ACTION PLAN:** Given the enormous number of existing buildings, both private & public including Govt., it is proposed to take up the Structural Safety Audit in phased manner.

a) **1st Phase:** In the first phase, Govt. buildings are proposed to be taken up for structural safety audit, to be prioritized as per the risk matrix. Accordingly, top priority shall be given to the Govt. buildings and private buildings falling in high risk matrix like hospitals, Institutional Buildings, School/Colleges etc. and those identified as unsafe for habitation during the pre-monsoon survey by the local bodies. Subsequently, buildings with lower risk matrix i.e. Moderate, low and very low shall be taken up. Services of qualified Structural Engineer shall be availed out of the empanelled Engineers. This proposed survey of the Govt. buildings shall be carried out by the Department/Agency concerned which owns the building.

As regards the private buildings, top priority is to be accorded to the buildings which have been found unsafe for habitation during the pre-monsoon survey and action on the same is to be taken under relevant Clause of DMC Act-1957. Simultaneously, the structural safety audit of private buildings falling in high risk matrix with maximum public use be accorded top priority. Accordingly, all private hospitals, shopping complexes/ malls, school / colleges and Cinema Halls etc. where public congregation is maximum, shall be taken up in first instance. Being private buildings, the owners shall be asked to get the structural safety audit done themselves and submit the report to the concerned local body. For the purpose, a public notice through print media shall be given, thereby advising the owners of all such buildings to submit structural safety certificate after getting the structures evaluated from structural engineers. In case the building is found deficient in the structural evaluation report, the owner will be bound to carry out the upgrading of the seismic resistance of the buildings as per applicable standard guidelines and submit to the Local Bodies the time frame within which they proposed to carry out the requisite strengthening/retrofitting. They shall be further required to submit, after completing the requisite strengthening/retrofitting, a certificate from the qualified / empanelled structural Engineer that the building is now compliant to the seismic guidelines.

76

b) **IInd Phase:**

i) In the second phase, the buildings coming under the lower risk matrix as well as those falling in the jurisdiction of unauthorized / un-authorized-regularized / village abadis / re-settlement colonies etc., shall be taken up. The methodology shall be the same as for private properties falling in the higher risk matrix as explained above i.e. the owners shall be asked to get the structural safety audit done themselves and submit the report to the concerned local body. In case the building is found deficient in the structural evaluation report, the owner will be bound to carry out the upgrading of the seismic resistance of the buildings as per applicable standard guidelines and submit to the Local Bodies the time frame within which they proposed to carry out the requisite strengthening/retrofitting. They shall be further required to submit, after completing the requisite strengthening/retrofitting, a certificate from the qualified / empanelled structural Engineer that the building is now compliant to the seismic guidelines.

ii) **Unauthorized colonies:** Unauthorized colonies deserve special consideration in the action plan as most of the buildings in these colonies are constructed without taking into consideration the provisions of building bye-laws as well structural safety norms. Most of these colonies are under the process of regularization. The process of regularization shall be carried out by the Government of NCT of Delhi as per the regulations/guidelines as are finalized by the Ministry of Housing and Urban Affairs, GOI. As most of the buildings in this area are belonging to the persons of economically weaker section of the society, the expected expenditure of the strengthening / retrofitting should be taken into account while making any policy in this regard.

**STRUCTURE AUDIT OF OLD BUILDINGS**

In order to make it a regular exercise and to ensure that the structures remain in good structural health, compulsory structure audit of private buildings more than 30 years old by the qualified Empanelled Structural Engineers and submission of structural fitness certificate from them by the owners/occupiers; on the lines of Municipal Corporation of Greater Mumbai (MCGM) be made mandatory.

**Time Frame:** It is further proposed that the above said exercise of structural safety audit of high risk buildings, belonging to both, Govt. as well as private, to be completed in two years time and thereafter, the buildings falling in moderate and lower risk matrix shall be taken up. The time limit for those areas shall be three years.

**Public Awareness and facilitation:** In order to facilitate the general public, guidelines for seismic compatibility of the structures as well as their retrofitting are required to be made available. CPWD/NIDM/NDMA etc. have done a lot of retrofitting work. They shall be requested to come up with some guidelines for retrofitting of buildings in Delhi. They may also be requested to come up with the list of agencies that have carried out the retrofitting work for them in the past and therefore, have requisite experience in the field.

782

The names of these agencies can be displayed on the web-site of various agencies and can act as a reference for the general public searching for the agencies having requisite experience in the field.

A committee comprising of officials from the three Corporations, New Delhi Municipal Council, CPWD, NIDM, NDMA, BMTPC and two experts from IITs or such other premier Institutes in the field is also proposed to be constituted for guiding the general public as well as the professionals.

Awareness campaign through print/electronic media shall be launched wherein the owners shall be requested to get their building structurally evaluated and submit Structural Safety Certificate at the earliest. However, the time limit will be as per time frame above.

Capacity building of the concerned staff is must to ensure effective implementation of this Action Plan, disaster management training for all Municipal engineers and registered structural Engineers shall be provided on regular basis by NIDM.

Further, in order to encourage general public for going in for structural safety audit of their buildings and subsequent retrofitting, if required, Government can consider offering them the incentive in the form of soft loans for carrying out the requisite retrofitting and subsequently, rebate in house tax/electricity bill/DJB bills, after successful completion of the retrofitting, may be considered. Similarly, by adopting effective measures like water / electricity disconnection by DJB / DISCOMS and putting up a ban on Sale / Purchase by way of Registry, GPS, SPA, Will etc. by Revenue Deptt. of all such buildings / properties, the owner / occupier can be enforced for effective implementation of this provision.

#### **STRUCTURAL ENGINEERS**

a) **Empanelment:** The Structural Engineers empanelled in Local Bodies are available on the website of MCD. The list is only to facilitate the general public. The owner of the buildings can get the retrofitting done either from the Structural Engineers listed on the MCD's website or any other reputed Structural Engineers from premier institutions.

b) **Eligibility for Structural Engineers:** Qualification & Competence of Professionals i.e. Architect, Structural Engineer, Engineer etc. has been detailed in "Annexure-I" of the UBBL-2016 which may be referred to. Municipal Corporation, on their part, has already empanelled about 75 Engineers for this purpose. However, given the enormity of the task at hand, it is suggested to increase their number. It is also suggested that Structural Engineers empanelled in other departments like PWD, DDA shall also be eligible for carrying out Structural Stability studies on inter-departmental basis.

73

**Fees:** The consultation fee for fresh design will be as per provisions of CPWD Manual. As regards the consultation fee for retrofitting, a committee comprising of officials from the three Corporations, New Delhi Municipal Council, CPWD, NIDM, NDMA, BMTPC and two experts from IITs or such other premier Institute in the field is proposed to be constituted for the purpose will decide.

This issues with the approval of Hon'ble Minister (Urban Development), GNCTD.

By order and in the name of Government  
of the National Capital Territory of Delhi,



(Pawan Chopra)  
Deputy Director (Local Bodies)

Copy for information and necessary action to:-

1. Vice Chairman, Delhi Development Authority, Vikas Sadan, INA, New Delhi
2. Chairman, New Delhi Municipal Council, Palika Kendra, Sansad Marg, New Delhi
3. Commissioner, South Delhi Municipal Corporation, Dr. SPM Civic Centre, Delhi.
4. Commissioner, North Delhi Municipal Corporation, Dr. SPM Civic Centre, Delhi.
5. Commissioner, East Delhi Municipal Corporation, Udyog Sadan, Patparganj, Delhi
6. The Chief Executive Officer, Delhi Cantonment Board, Sadar Bazar, Delhi Cantt., New Delhi
7. Divisional Commissioner, Revenue Department, 5 Sham Nath Marg, Delhi
8. Pr.Secretary, Public Works Department, 5<sup>th</sup> Level, Delhi Secretariat, I.P.Estate, New Delhi
9. Vice Chairman, National Disaster Management Authority, NDMA Bhawan, A-1, Safdarjung Enclave, New Delhi – 110029
10. Secretary (DDMA)



(Pawan Chopra)  
Deputy Director (Local Bodies)