

Comprehensive Risk Classification Table of Housing Construction Projects in Beijing

Risk Level	Building Classification	Engineering Function	Engineering Scale	Technical Requirements for Construction	Surrounding Environment	Intended Use and Density of Personnel	Number of Large Dangerous Divisional and Partial Projects that Exceed a Certain Size	Inspection Frequency and Inspection Procedure of the Construction Administrative Department
Low risk	Industrial buildings	Plant	Construction works with building height of less than 24 meters, with above-ground floor area of less than 10,000 square meters (with underground floor area of no more than 2,000 square meters)	1. Excavation depth of the foundation pit shall be less than 5 meters; 2. Span of the steel structure installation works shall be less than 36 meters; 3. Cantilever scaffold engineering (the section erection height shall be	Not in the capital function core zone or Beijing's sub-center, not within 30 meters of the cultural relic protection and construction control zone, underground cultural relics buried areas, confidential authorities or ancient and rare trees; there are no chemical plants, petrol stations, storage tanks for liquids of Class A, B and C and combustible gas or other buildings and structures within the surrounding area 2,000 meters away;	Plant shall not be used for producing flammable, explosive, toxic or hazardous materials, nor shall it have great impact on ecological environment; floor area of production and processing workshops of labor-intensive enterprises shall be no more than 2,500 square meters.	1	Inspection shall be carried out once during construction, with the inspection time of at most one day. Inspection procedure is after the ceiling of main structure and before the decoration construction. If the project participants fail to carry out technical inspection, the project quality and safety accidents occur, or there are illegal behaviors such as non-fulfillment of promises, frequency of random inspection shall be increased. (1) In case of work safety accident in the project, safety supervision
		Warehouse				Warehouse shall not be used for storing flammable, explosive, toxic or hazardous materials, nor shall have great impact on ecological environment; it shall not be in the personnel-intensive place.		

	Residential buildings and residential service buildings	Housing and ancillary services buildings	<p>less than 20m);</p> <p>4. Single-span span shall be less than 27m;</p> <p>5. Single point concentrated load of system used for steel structure installation such as full-hall formwork support system shall be less than 7kN;</p> <p>6. New technology, process, materials and equipment for which there are no current national, industrial and local technical standards are not adopted.</p>	<p>Not within 30m of the cultural relic protection and construction control zone, underground cultural relics buried areas, confidential authorities or ancient and rare trees; there are no chemical plants, petrol stations, storage tanks for liquids of Class A, B and C and combustible gas or other buildings and structures within the surrounding area 2,000m away.</p>	<p>Excluding contiguous development projects; floor area of employee dormitories of labor-intensive enterprises or school dormitories shall be no more than 1,000m²; floor area of interior activity space for children and the elderly care facilities of residential supporting service buildings shall be no more than 1,000m².</p>	<p>and inspection shall be carried out according to the major risk level of the project. (2) During the period of project construction, if one general work safety accident occurs in other projects participated by the project owner, general contractor and supervising entity in Beijing, safety supervision and inspection shall be carried out according to the general risk level of the project. (3) During the period of project construction, if two general work safety accidents or one major work safety accident occur in other projects participated by the project owner, general contractor and supervising entity in Beijing, safety supervision and inspection shall be carried out according to the high risk level of the project. (4) During the period of project construction, if three or more than three general work safety accidents or two or more than two major work safety accidents or one serious or more severe work safety accident occur in other projects participated by the project owner, general contractor and supervising entity in Beijing, safety supervision and inspection shall be</p>
	Public buildings	Commercial buildings			<p>Commercial buildings shall not be used for selling flammable, explosive, toxic or hazardous materials; floor area of interior activity space for children shall be no more than 1,000m²; dance halls, screening halls, KTVs, nightclubs, game rooms, sauna bathrooms, Internet cafes, bars, as well as the restaurants, teahouses, cafes with entertainment functions shall be no more than 500m².</p>	
		Office building			<p>Office buildings without chemical or biological laboratories; office buildings which are not belong to office buildings and power dispatching buildings of state organs, telecommunication buildings, post office buildings, disaster prevention commanding and dispatching buildings, radio and television buildings and archives buildings; floor area of restaurants, teahouses, cafes with entertainment functions shall be no more than 500m².</p>	
		Hotel buildings	<p>Floor area of supporting conference, fitness and other recreational facilities shall be no more than 2,500m²; floor area of restaurants, teahouses, cafes with entertainment functions shall be no more than 500m².</p>			

		Cultural buildings				Floor area of cultural buildings of interior activity space for children shall be no more than 1,000m ² , excluding temples and churches; exhibitions halls other than public exhibition venues and museums; floor area of dance halls, screening halls, game rooms, etc. shall be no more than 500m ² ; floor area of theatres and reading rooms of public libraries shall be no more than 2,500m ² .	carried out according to the major risk of the project. (5) During the period of project construction, if the participating entities are subject to construction safety administrative punishments, are criticized in a circulated notice or have other illegal behaviors, or fail to strictly abide by the safety management regulations of the construction site, the frequency of supervision and inspection shall be appropriately increased.
		Educational buildings				Floor area of nurseries and children rooms of the kindergartens, interior activity space for children such as children's amusement arcade, teaching buildings, libraries and canteens of the primary and secondary schools shall be no more than 1,000m ² ; floor area of teaching buildings, libraries and canteens of the universities, etc. shall be no more than 2,500m ² .	
		Sports buildings				Floor area of commercial indoor fitness and leisure venues shall be no more than 2,500m ² .	
		Buildings for public health purposes				Buildings for public health purposes shall not be used for storing corrosive and radioactive medical drugs and devices or toxic and hazardous medical waste, and such buildings shall have single functions; floor area of inpatient buildings of the hospitals and nursing homes shall be no more than 1,000m ² ; floor area of hospital outpatient buildings shall be no more than 2,500m ² .	
		Radio film and television buildings				Not belong to radio and television buildings.	

		Transportation buildings				Not belong to factories, warehouses, special stations and wharfs, etc. producing, storing, loading and unloading inflammable and explosive dangerous goods.			
		Other buildings				Not belong to filling and loading stations, supply stations and pressure regulating stations of inflammable and explosive gases and liquids; not belong to large power generation, transformation and distribution projects, etc.			
General risk	Industrial buildings	Plant	Construction work with a height between 24m-54m; public buildings with a single-building area between 10,000m ² and 40,000m ² or group-building area of less than 100,000m ² ; residential areas with a floor area between 10,000m ² and 50,000m ²	1. Span of the steel structure installation works shall be less than 36m, and the span of space truss and cable-membrane structure installation project shall be less than 60m; 2. Cantilever scaffold engineering (the section erection height shall be less than 20m); 3. Single-span span shall be less than 27m; 4. Single point concentrated load of system used for steel structure installation such as full-hall formwork support system shall be less than 7kN; 5. New technology and process for	Not within 30m of the cultural relic protection and construction control zone, underground cultural relics buried areas, confidential authorities or ancient and rare trees; there are assembly occupancies within the surrounding area 200m to 2,000m away (large bus hubs, activity space for children, elderly care facilities, schools), large forests, chemical plants, petrol stations, storage tanks for liquids of Class A, B and C and combustible gas, and other buildings and structures.	Floor area of production and processing workshops of labor-intensive enterprises shall be no more than 2,500m ² .	2	At least three spot checks shall be implemented in principle (more than once for decoration works), and at least one spot check every three months, with a focus on the parts such as engineering foundation and main structure as well as the final inspection. If the project participants fail to carry out technical inspection, the project quality and safety accidents occur, or there are illegal behaviors such as non-fulfillment of promises, frequency of random inspection shall be increased. (1) In case of work safety accident in the project, safety supervision and inspection shall be carried out according to the major risk level of the project. (2) During the period of project construction, if one general work safety accident occurs in other projects participated by the project owner, general contractor and supervising entity in Beijing, safety supervision	
		Warehouse							
	Residential buildings and residential service buildings	Housing and ancillary services buildings				Not within 30m of the cultural relic protection and construction control zone, underground cultural relics buried areas, confidential authorities or ancient and rare trees; there are assembly occupancies			Floor area of interior activity space for children and elderly care facilities of residential areas shall be no more than 1,000m ² .
	Public buildings	Commercial buildings							Floor area of the shopping mall and market shall be no more than 10,000m ² ; floor area of interior activity space for children within the commercial buildings shall be

				which there are no current national, industrial and local technical standards are not adopted.	within the surrounding area 200m to 2,000m away (large bus hubs, activity space for children, elderly care facilities, schools) , hospitals, residential areas, large forests, chemical plants, petrol stations, storage tanks for liquids of Class A, B and C and combustible gas, and other buildings and structures.	no more than 1,000m ² .		and inspection shall be carried out according to the high risk level of the project. (3) During the period of project construction, if two general work safety accidents or one major work safety accident occur in other projects participated by the project owner, general contractor and supervising entity in Beijing, safety supervision and inspection shall be carried out according to the major risk level of the project. (4) During the period of project construction, if the participating entities are subject to construction safety administrative punishments, are criticized in a circulated notice or have other illegal behaviors, or fail to strictly abide by the safety management regulations of the construction site, the frequency of supervision and inspection shall be appropriately increased.
		Office building				/		
		Hotel buildings				Floor area of hotels and restaurants shall be no more than 10,000m ² .		
		Cultural buildings				Floor area of auditoriums, public exhibition venues and exhibitions halls of the museums shall be no more than 20,000m ² ; floor area of interior activity space for children within the cultural buildings shall be no more than 1,000m ² .		
		Educational buildings				Floor area of nurseries and children rooms of the kindergartens, interior activity space for children such as the children's amusement arcade shall be no more than 1,000m ² ; floor area of libraries and canteens of the universities shall be no more than 2,500m ² .		
		Sports buildings				Floor area of stadiums shall be no more than 20,000m ² .		
		Buildings for public health purposes				Floor area of the inpatient buildings of the hospitals and nursing homes shall be no more than 1,000m ² .		
		Radio film and television buildings				/		
		Transportation buildings				Floor area of terminals of the civil airports, waiting rooms of the passenger stations, and waiting rooms of the passenger docks shall be no more than 15,000m ² .		

		Other buildings				Not belong to large power generation, transformation and distribution projects, etc..		
High risk	Industrial buildings	Plant	Construction work with a height between 54m-100m; public buildings with a single-building area between 40,000m ² and 100,000m ² or group-building area between 100,000m ² and 300,000m ² ; residential areas with a floor area of more than 50,000m ²	1. Span of the steel structure installation works shall be more than 36m, and the span of space truss and cable-membrane structure installation project shall be more than 60m; 2. Cantilever scaffold engineering (the section erection height shall be more than 20m); 3. Single-span span shall be more than 27m; 4. Single point concentrated load of system used for steel structure installation such as full-hall formwork support system shall be more than 7kN;	There are assembly occupancies within the surrounding area 200m away (large bus hubs, activity space for children, elderly care facilities, schools); there are no buildings and structures such as chemical plants, petrol stations, storage tanks for liquids of Class A, B and C and combustible gas within the surrounding area 200m away.	/	3	Spot checks shall be increased according to the <i>Provisions of Quality Supervision on the Housing Construction and Municipal Infrastructure Engineering in Beijing</i> , the frequency of onsite spot checks shall be appropriately increased, with a focus on the check of the control and treatment of risks. At least four spot checks shall be implemented in principle (no less than twice for decoration works), and at least one spot check every three months. If the project participants fail to carry out technical inspection, the project quality and safety accidents occur, or there are illegal behaviors such as non-fulfillment of promises, frequency of random inspection shall be increased. (1) In case of work safety accident in the project, safety supervision and inspection shall be carried out according to the major risk level of the project. (2) During the period of project construction, if one general work safety accident occurs in other projects
		Warehouse						
	Residential buildings and residential service buildings	Housing and ancillary services buildings						
	Public buildings	Commercial buildings						
		Office building						
		Hotel buildings						
		Cultural buildings						
		Educational buildings						
		Sports buildings						

		Buildings for public health purposes						participated by the project owner, general contractor and supervising entity in Beijing, safety supervision and inspection shall be carried out according to the major risk level of the project. (3) During the period of project construction, if the participating entities are subject to construction safety administrative punishments, are criticized in a circulated notice or have other illegal behaviors, or fail to strictly abide by the safety management regulations of the construction site, the frequency of supervision and inspection shall be appropriately increased.
		Radio film and television buildings						
		Transportation buildings						
		Other buildings						
Major risk	Industrial buildings	/	Projects exceeding the height and roof limit as well as certain regulations; construction work with a height of more than 100m; public buildings with a single-building area of more than 100,000m ² or group-building area of more than 300,000m ²	/	/	/	4 or more	For construction projects with major risks, spot checks shall be implemented according to the <i>Provisions of Quality Supervision on the Housing Construction and Municipal Infrastructure Engineering in Beijing</i> , the frequency of onsite spot checks shall be increased based on quality and safety control requirements of the construction site, and at least one spot check on each project shall be organized in principle on a monthly basis.
	Residential buildings and residential service buildings	/		/	/			
	Public buildings	/		/	/			

Note: 1. In the level of low risk, general risk and high risk, if the project simultaneously meets all risk factor requirements for the level, such level shall be the corresponding risk level of the project; 2. In the level of

major risk, if the project meets any of the risk factor requirements (except for those with “/” indicating that the risk factors are not restricted), it shall be the major risk; 3. In the level of low risk, general risk and high risk, if the project does not meet all the risk factor requirements simultaneously, the lowest risk level corresponding to each risk factor of the project shall be determined first, and then the highest risk level shall be the corresponding risk level of the project.

Comprehensive Risk Classification Table of Municipal Infrastructure Construction Projects in Beijing

Risk Level	Building Classification	Construction Scale		Complexity of Construction Technology	Application of Technology	Region	Surrounding Environment	Inspection Frequency of Construction Administrative Department
Low risk	Road engineering	Municipal works with an investment of less than RMB 30 million	Urban branch road	Involving no or less types of large dangerous projects that exceed a certain size (\leq one type) 1. The excavation depth of the foundation pit is not more than 3 meters, and the earthwork, slope protection and precipitation engineering have no impact on the adjacent buildings. 2. The erection height of the concrete formwork support engineering is less than 5 meters, or the erection span is less than 10 meters, or the total construction load is less than 10kN/square meters or	Not exceeding the relevant contents of national standards, trade standards and local standards; new technology, materials or equipment is not adopted.	Reconstruction, new or expansion project is not within the capital function core area or Beijing's sub-center; not located in specific areas such as rail transit protection area.	There are no buildings, residential areas, public places, etc. in the surrounding area or there are no party and government organs, military management areas, culture relic protection sites, schools, hospitals, assembly occupancies, residential areas, large bus hubs, large forests, chemical plants, petrol stations or otherwise within the surrounding area 2,000 meters away	Spot check shall be carried out once during construction, with the inspection time of at most one day. If the project participants fail to carry out technical inspection, the project quality and safety accidents occur, or there are illegal behaviors such as non-fulfillment of promises, frequency of random inspection shall be increased.
	Drainage works (rain, sewage)		Diameter of drainpipe \leq 1 meter					
	Water supply plant		Daily treatment capacity $<$ 30,000 tons					
	Water supply pipeline		Pipe diameter $<$ 0.8 meters					
	Gas source		Daily gas production $<$ 100,000 cubic meters					
	Gas pipeline		Piping below medium pressure					
	Gas reserve plant (station)		Design pressure $<$ 2.0MPa or total storage volume $<$ 500 cubic meters of liquefied petroleum gas or $<$ 200 cubic meters of liquefied natural gas storage tank plant (station) or gas supply scale $<$ 50,000 cubic meters /day					

	Heat source engineering		Heat production <80 tons/hour or heating area <100,000 square meters	the concentrated line load is less than 15kN/m.				
	Heat supply pipeline		Pipe diameter<200 milimeters	3. Lifting weight of a single piece is 10kN and below.				
	Landfills		Daily treatment capacity< 400 tons	4. Manual hole-digging pile engineering is not used.				
	Incineration plant		Daily treatment capacity< 100 tons	5. Shield method, incremental launching method or mining method is not used.				
	Other municipal works		/					
General risk	Road engineering	Municipal works with an investment between RMB 30 million and RMB 100 million	Urban secondary road	Generally involving some types of large dangerous projects that exceed a certain size (two types)	Not exceeding the relevant contents of national standards, trade standards and local standards; new technology, process, materials or equipment is not adopted.	Reconstruction, new or expansion project is not within the capital function core area or Beijing's sub-center; not located in specific areas such as rail transit protection area.	There are party and government organs, military management areas, culture relic protection sites, schools, hospitals, assembly occupancies, residential areas, large bus hubs, large forests, chemical plants, petrol stations and so on within the surrounding area 500m to 2,000m away.	At least three spot checks shall be implemented in principle, and at least one spot check every three months, with a focus on the parts such as key procedures and key parts as well as the final inspection. If the project participants fail to carry out technical inspection, the project quality and safety accidents occur, or there are illegal behaviors such as non-fulfillment of promises, frequency of random inspection shall be increased.
	Bridge engineering		Total porous span of bridge L (8 meters≤L<100 meters) or single-hole span L0 (5 meters≤L0<40 meters)	1. The excavation depth of the foundation pit does not exceed 5m, the civil, protection and sedimentation works have no influence on the neighboring building.				
	Drainage works (rain, sewage)		1meter<Diameter of drainpipe<1.5meters	2. The erection height of the concrete formwork support engineering is less than 8m, or the erection span is less than 18m, or the total construction load is less than 15kN/m ² , or the concentrated line load is less than 20kN/m.				
	Water supply plant		Daily treatment capacity 30,000-50,000 tons					
	Water supply pipeline		Pipe diameter 0.8-1.5 meters					

	Gas source		Daily gas production 100,000-300,000m ³	3. Lifting weight of a single piece is 100kN and below.				
	Gas pipeline		Sub-high pressure pipeline	4. Manual hole-digging pile engineering is not used.				
	Gas reserve plant (station)		Design pressure 2.0-2.5MPa or total storage volume 500-1,000 cubic meters of liquefied petroleum gas or 200-400 cubic meters of liquefied natural gas storage tank plant (station) or gas supply scale 50,000-150,000 cubic meters /day	5. Shield method, incremental launching method or mining method is not used.				
	Heat source engineering		Heat production 80-250 tons/hour or heating area 100,000-300,000 square meters					
	Heat supply pipeline		Pipe diameter 200-500 millimeters					
	Landfills		Daily treatment capacity 400-800 tons					
	Incineration plant		Daily treatment capacity 100-300 tons					
	Other municipal works		/					
High risk	Road engineering	Municipal works with an	Urban trunk road	Involving several types of large dangerous projects that exceed a	Not exceeding the relevant contents of	Reconstruction, new or expansion project is within	There are party and government organs, military management	Spot checks shall be increased according to the <i>Provisions of Quality</i>

	investment between RMB 100 million and RMB 200 million		certain size (three types):	national standards, trade standards and local standards; new technology, process, materials and equipment are adopted; high fill subgrade is involved.	the capital function core area or Beijing's sub-center; located in specific areas such as rail transit protection area.	areas, culture relic protection sites, schools, hospitals, assembly occupancies, residential areas, large bus hubs, large forests, chemical plants, petrol stations and so on within the surrounding area 200 meters to 500 meters away.	<i>Supervision on the Housing Construction and Municipal Infrastructure Engineering in Beijing</i> , the frequency of onsite spot checks shall be appropriately increased, with a focus on the check of the control and treatment of risks. If the project participants fail to carry out technical inspection, the project quality and safety accidents occur, or there are illegal behaviors such as non-fulfillment of promises, frequency of random inspection shall be increased.
Bridge engineering		Total porous span of bridge L(100m≤L≤1000m) or single-hole span L0 (40 meters ≤L0≤150 meters)	<p>1. The excavation depth of the foundation pit is more than 5 meters, and the earthwork, slope protection and precipitation engineering have impact on the adjacent buildings.</p> <p>2. The erection height of the concrete formwork support engineering is more than 8 meters, or the erection span is more than 18 meters, or the total construction load is more than 15kN/m², or the concentrated line load is more than 20kN/m.</p> <p>3. Lifting weight of a single piece is 100kN and above.</p> <p>4. Manual hole-digging pile engineering is used.</p> <p>5. Shield method, incremental launching method and mining method are used.</p>				
Drainage works (rain, sewage)		Diameter of drainpipe≥1.5 meters					
Water supply plant		Daily treatment capacity≥50,000 tons					
Water supply pipeline		Pipe diameter≥1.5 meters					
Gas source		Daily gas production≥300,000 cubic meters					
Gas pipeline		Pipeline above high pressure					
Gas reserve plant (station)		Design pressure > 2.5MPa or total storage volume > 1,000 cubic meters of liquefied petroleum gas or > 400 cubic meters of liquefied natural gas storage tank plant (station) or gas supply scale > 150,000 cubic meters/day					
Heat source engineering		Heat production≥250 tons/hour or heating area > 300,000 square meters					
Heat supply pipeline		Pipe diameter≥500 millimeters					
Landfills		Daily treatment capacity≥800 tons					

	Incineration plant		Daily treatment capacity≥300 tons					
	Other municipal works		/					
Major risk	Road engineering	Municipal works with an investment of more than RMB 200 million	Urban expressway	Involving many types of large dangerous projects that exceed a certain size (four types and above).	Exceeding the relevant contents of national standards, trade standards and local standards; new technology, process, materials and equipment are adopted; high fill subgrade is involved.	Reconstruction, new or expansion project is within the capital function core area or Beijing's sub-center; located in specific areas such as rail transit protection area.	There are buildings (structures), underground pipelines (water, electricity, gas, heat, etc.) and important public facilities within a safe distance; within 200m from both sides of Chang'an Avenue and its extension (extending from the east to west with Tiananmen Square as the center. The distance from Fuxingmen to Jianguomen is about 7km, extending westward to Shougang Park, Yongding River's water system and Xishan Mountain, and eastward to Beijing's sub-center as well as the water system of North Canal and Chaobai River); There are party and	Spot checks shall be implemented according to the <i>Provisions of Quality Supervision on the Housing Construction and Municipal Infrastructure Engineering in Beijing</i> , the frequency of onsite spot checks shall be increased based on quality and safety control requirements of the construction site, and at least one spot check on each project shall be organized in principle on a monthly basis. If the project participants fail to carry out technical inspection, the project quality and safety accidents occur, or there are illegal behaviors such as non-fulfillment of promises, frequency of random inspection shall be increased.
	Bridge engineering		Total porous span of bridge L (L > 1,000 meters) or single-hole span L0 (L0 > 150 meters)					
	Drainage works (rain, sewage)		Diameter of drainpipe≥1.5 meters					
	Comprehensive pipeline works		/					
	Water supply plant		Daily treatment capacity≥50,000 tons					
	Water supply pipeline		Pipe diameter≥1.5 meters					
	Gas source		Daily gas production≥300,000 cubic meters					
	Gas pipeline		Pipeline above high pressure					

	Gas reserve plant (station)		Design pressure > 2.5MPa or total storage volume > 1,000 cubic meters of liquefied petroleum gas or > 400 cubic meters of liquefied natural gas storage tank plant (station) or gas supply scale > 150,000 cubic meters /day					government organs, military management areas, culture relic protection sites, schools, hospitals, assembly occupancies, residential areas, large bus hubs, large forests, chemical plants, petrol stations and so on within the surrounding area 200 meters away; There are residents and public areas in operation within or near the construction area (reconstruction and expansion works that are operated normally in part or in whole); Within the scope where the guarantee for major activities is provided by Beijing Municipality.
	Heat source engineering		Heat production≥250 tons/hour or heating area> 300,000 square meters					
	Heat supply pipeline		Pipe diameter≥500 millimeters					
	Landfills		Daily treatment capacity≥800 tons					
	Incineration plant		Daily treatment capacity≥300 tons					
	Other municipal works		/					

Note: 1. Risk factors refer to "construction scale, complexity of construction technology, application of technology, region, surrounding environment"; 2. When judging the risk levels, the principle of choosing whichever is higher shall be adopted if different risk factors meet different risk levels, and the principle of choosing whichever is lower shall be adopted if the same risk factor meets different risk levels; 3. If the same project contains works of different engineering functions, the project shall be defined based on the highest risk level.