

ICS 35.240
CCS L 73



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 47678.6-2026

**Urban operation, management and service platforms - Part 6:
Monitoring components and events**

城市运行管理服务平台 第6部分：监测部件和事件

Issued on: May 25, 2026

Implemented on: July 1, 2026

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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Foreword

GB/T 47678.6-2026 | Urban operation, management and services platform - Part 6:
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GB/T 47678.6-2026 English version. Urban operation, management and services platform -
Part

6. Monitoring component and event National Standards of the People's Republic of China
ICS 35.240CCS L

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4.1 Classification of Monitoring Components

4.1.1 The monitoring components are divided into major categories, intermediate categories, and minor categories. Major categories consist of several intermediate categories, and intermediate categories consist of several minor categories.

4.1.2 The major categories of monitoring components include municipal facilities, buildings, transportation facilities, and densely populated areas.

4.1.3 Municipal facilities include the following subcategories. --Gas. including gas plants, gas pipelines, gas pipeline ancillary facilities, gas pressure regulating facilities, and underground spaces adjacent to gas pipeline networks. Indoor gas pipelines and ancillary facilities for commercial users, indoor gas pipelines and ancillary facilities for residential users, liquefied petroleum gas cylinders, etc. --Water supply. including water source, water intake, water intake pumping station, water treatment plant, water supply pipeline, water supply pipeline ancillary facilities, secondary pumping station, and water storage structure.

Buildings, secondary water supply pump rooms, fire hydrants, etc.; --Drainage. including rainwater pipes, rainwater pipe ancillary structures, rainwater pumping stations, rainwater outlets, rainwater storage facilities, and underpasses. Roads, flood-prone areas, waterways, sewage pipelines, sewage pipeline ancillary structures, sewage pumping stations, sewage treatment plants, sewage outlets, and sewage... Receiving water bodies, etc.; --Heating. including heat source, heating pipeline, heating pipeline ancillary facilities, heating station, heat user inlet device, etc.; --Integrated utility tunnel. including tunnel structure, internal environment, ancillary facilities, ancillary structures, etc.; --Urban roads. including the road body and road soil of urban roads; --Underground confined spaces. including culverts, tunnels, manholes, etc.; --Sanitation facilities. including landfills, waste incineration plants, waste transfer stations, and septic tanks, etc.

4.1.4 Building construction includes the following subcategories. --Construction site. including construction sites, high formwork, deep foundation pits, large lifting machinery, etc.; --Building structure and foundation. including superstructure, foundation and ground, building exterior walls and appurtenances, external attachments to the building, etc.; --Elevators and escalators. including elevators, escalators, etc.; --Building fire protection facilities. including fire monitoring systems, fire control rooms, automatic sprinkler systems, fire extinguishers, emergency power supplies for fire protection equipment. Systems, fire escape routes, etc.; --Residential community. including building units, public areas, etc.

4.1.5 Transportation facilities include the following subcategories. --Bridges. including the bridge structure itself and external environmental monitoring facilities; --Tunnel. including entrance, portal, lining, road surface, maintenance access road, drainage facilities, interior decoration, etc.

4.1.6 Densely populated areas include the following subcategories. --Personnel flow. including personnel density, passenger flow, etc.; --Key areas. including safety exits, evacuation routes, etc.

4.2 Monitoring Component Identification Code The monitoring component identification code should consist of

18 Arabic numerals in 5 segments, in the following order. 6 digits representing the county-level or higher administrative division. The structure consists of a main category code, a secondary category code, a minor category code, and a 6-digit sequence code, as follows: The codes for major, intermediate, and minor categories of monitored components should comply with the provisions of Appendix A, and the arrangement rules should meet the following requirements. --The administrative division codes at the county level and above shall be implemented in accordance with the regulations of the competent department in charge of administrative division codes; --The category code represents the category of the monitored component, and is numbered sequentially starting from 01; --Class codes represent classes within the monitored components, numbered sequentially starting from 01; --Subclass codes represent monitoring component subclasses, numbered

sequentially starting from 01; --The sequence code indicates the sequence number of the monitoring component's location map, starting from 000001 and proceeding in ascending order. Arrangement.

4.3 Spatial Data Requirements for Monitoring Components

4.3.1 Spatial data of monitoring components shall be based on the 2000 National Geodetic Coordinate System, and elevation datum shall be based on the 1985 Elevation System.

4.3.2 The planar positioning accuracy of the monitoring components shall conform to the requirements of Table 1.

4.3.3 The survey and mapping geographic information data of monitoring components should ensure the completeness, timeliness and accuracy of the data.

4.4 Requirements for Monitoring Component Attribute Data

4.4.1 The monitoring component attribute data shall comply with the provisions of Table 2.

4.4.2 Attribute items can be expanded according to business needs. Expanded attribute items should be arranged sequentially after the monitoring component attribute items specified in Table 2. It conforms to the attribute data writing rules of GB/T 47678.7.

4.5 Data Survey and Update of Monitoring Components

4.5.1 The baseline data of monitoring components should be obtained based on urban facility surveys, risk surveys, risk assessments, urban health checks, and other related work.

4.5.2 The urban operation management service platform should update the number of monitoring components in conjunction with urban planning, construction, governance, and renovation. It is said that this should be done once a year.

4.5.3 The survey and mapping geographic information results of monitoring components shall be accepted in accordance with the relevant technical requirements of this document. (Survey and mapping of monitoring components) The main contents of the results acceptance should include the correctness of the classification code of the monitored components, the completeness and accuracy of the attribute data, and the flatness of the monitored components. Surface positioning accuracy, monitoring component integrity, etc.

5.1 Event Classification

5.1.1 Events are divided into major categories, intermediate categories, and minor categories. A major category consists of several intermediate categories, and an intermediate category consists of several minor categories.

5.1.2 The major categories of events include municipal facilities events, building

construction events, transportation facilities events, and densely populated areas events.

5.1.3 Municipal facilities incidents include the following subcategories and minor categories.

--Gas incidents. including gas leaks, insufficient gas reserves, and substandard gas quality;
 --Water supply incidents. including water pipe ruptures, bursts, leaks, abnormal water quality, pressure, and flow, shutdown of water intake facilities and water plants, and water source pollution. Dyeing, depletion, fire hydrants lacking water, low pressure, leaking, freezing and ineffective; --Drainage incidents. including mixed connection of storm and sewage pipes, damage, leakage, and siltation of storm drain pipes, storm overflow, backflow of storm drain outlets, and storm drain issues. Abnormal water quality, waterlogging, damaged, leaking, or silted sewage pipes, sewage overflow, backflow from sewage outlets, and abnormal sewage quality; --Heating incidents. including leaks, bursts, and blockages in heating pipes, insulation failure, water hammer risk, equipment malfunctions, etc.; --Incidents involving integrated utility tunnels. including damage to the tunnel structure, damage to ancillary facilities, substandard air quality inside the tunnel, fires involving cables inside the tunnel, and other issues related to the utility tunnel itself. Flooding, damage to ancillary structures, etc.; --Urban road incidents. including collapses, cracks, cavities, voids, subsidence, deformation, landslides, etc.; --Incidents in underground confined spaces. including fires, flooding, structural deformation, poisoning and asphyxiation, and substandard air quality in underground spaces. Poor water flow in culverts and other structures; --Sanitation facility incidents. including landfill leachate leakage and pollution, landslides, odor pollution, and excessive emissions from waste incineration plants. Standard emissions, leachate leakage, leachate pollution at large waste transfer stations, excessive methane and hydrogen sulfide in septic tanks, and sewage leakage. Dyeing, etc.

5.1.4 Building construction-related events include the following subcategories and sub-categories. --Construction site incidents. including excessive noise, displacement, and overloading of cranes; --Building structural and foundation events. including deformation, cracking, overturning, foundation settlement, falls, water damage, vibration, pest infestation, illegal construction, and alterations. Construction, etc.; --Elevator and escalator incidents. including elevator door malfunctions, elevator overshooting/undershooting, electric scooters entering the elevator car, and escalator safety inspections. Test for switch malfunctions, people or objects getting stuck, etc. --Incidents involving building fire protection facilities. including malfunctions in fire detection and monitoring systems, insufficient water pressure or level, emergency power system failures, and unauthorized encroachment. Use emergency exits, etc.; --Residential community incidents. including illegal construction of buildings and structures, throwing objects, overcrowded rental properties, and illegal parking and charging of electric bicycles. Electricity, etc.

5.1.5 Traffic facility incidents include the following subcategories. --Bridge incidents. including bridge collapses, traffic overload, abnormal settlement, vehicle and vessel collisions, structural damage, water accumulation, etc.; --Tunnel incidents. including water