



**DEPARTMENT OF THE NAVY  
HEADQUARTERS UNITED STATES MARINE CORPS  
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WASHINGTON, DC 20380-1775**

IN REPLY REFER TO:  
5720  
ARSF/10U100420  
May 7, 2010

MR STEVEN AFTERGODD  
FEDERATION OF AMERICAN SCIENTISTS  
1725 DESALES STREET NW SUITE 600  
WASHINGTON DC 20036

Dear Mr. Aftergood:

Subj: FOIA FILE HQMC-201000301

This refers to your February 19, 2010, Freedom of Information Act (FOIA) request by which you seek to obtain a copy of the June 2003 version of publication MCIA-2700-002-03 entitled Urban Generic Intelligence Requirement Handbook (UGIRH). This also follows up my earlier correspondence to you of March 23, 2010, and April 19, 2010.

The requested UGIRH was provided to this office by personnel with the Marine Corps Intelligence Activity (MCIA) who also identified information within the UGIRH that, if publicly disclosed, would significantly risk circumvention of USMC personnel rules and practices. Specifically, disclosure would hinder ongoing operations/missions operating under military rules of engagement and would also facilitate circumvention by military enemies by providing them knowledge of how we would conduct operations. Accordingly, since this type of information is precluded from FOIA disclosure, the applicable portions have been redacted and are denied [see 5 U.S.C. § 552(b)(2), as amended]. A FOIA releasable copy of the responsive document can be found on the CD-ROM provided at the enclosure.

In view of the above, you may consider this an adverse determination that may be appealed to the Judge Advocate General (Code 14), 1322 Patterson Avenue SE, Suite 3000, Washington Navy Yard, DC 20374-5066. Your appeal must be postmarked within 60 calendar days from the date of this letter to be considered and should include a copy of your initial request letter plus a copy of this correspondence. Additionally, your appeal correspondence should include a statement indicating why you believe your appeal should be granted. I recommend that your appeal letter and its envelope both bear the notation, "Freedom of Information Act Appeal."

Be advised that I have categorized you as an "Other Requester" for the purpose of assessing FOIA fees. Additionally, based on the information provided in your letter, I am granting your request for a waiver of fees based on public interest in disclosure of the requested document and your ability to disseminate the provided data.

5720  
ARSF/10U100420  
May 7, 2010

Questions concerning this action may be directed to me at (703) 614-4008. I am the official responsible for this determination.

Sincerely,

A handwritten signature in black ink, appearing to read "Teresa D. Ross", with a large, stylized flourish extending to the right.

TERESA D. ROSS  
Head, FOIA/ PA Section  
Security Programs & Info Mgmt Branch  
Administration Resource Mgmt Division  
By direction of the  
Commandant of the Marine Corps

Enclosure

# Urban Generic Information Requirements Handbook (UGIRH)

## Foreword

The Generic Information Requirements Handbook (GIRH) promulgates frequently used Essential Elements of Information/Priority Intelligence Requirements (EEIs/PIRs) to facilitate rapid, time-sensitive, crisis planning for Marine Expeditionary Forces.

By providing the information requirements of urban operations, this GIRH also assists with intelligence preparation of the battlespace (IPB) and mission planning. Intelligence support for conventional combat operations focuses on identifying the enemy, assessing the terrain, and providing other relevant information. However, intelligence support to urban operations is unique due to the presence of large numbers of non-combatants, man-made terrain features, a highly canalized operational environment and the multidimensional aspect of urban threats. Intelligence staffs can use the GIRH in three ways:

- As a check list to determine gaps of information.
- As a quick reference to efficiently request information.
- As a baseline support tool for those organizations providing operational intelligence to forward deployed naval units.

Recipients are invited to provide comments as to its value as a reference guide. Address comments to:

UNITED STATES MARINE CORPS  
Marine Corps Intelligence Activity (MCIA)  
3300 Russell Road, Suite 250  
Quantico, VA 22134-5011  
DSN: 278-6146  
COMM: 703-784-6146



## Preface

The second edition of the Marine Corps Urban Generic Information Requirements Handbook (UGIRH) expands on information originally published in the first edition of the handbook-MCIA-1586-005-99.

The MCIA point of contact is Capt E.F. Dick at DSN 659-3332, commercial 301-669-3332 or e-mail: edick@nmic.navy.mil.








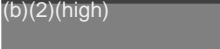
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## Introduction

The realities of the 21st century point to inevitability of military operations in urban terrain (MOUT). According to 2001 estimates by the United Nations, the global trend of migration to cities indicates that by 2030 more than 60 percent of the world's population (or roughly 5 billion) will live in the urban environment, with most of this growth occurring in the littoral. Rapid urbanization strains the infrastructure and service sectors of the ever-expanding cities of the developing world. Poverty, overcrowding, unemployment, and scarcity of resources can lead to violence, crime, religious extremism and political unrest. Crises erupt as resentment builds against regimes unable to satisfy the basic needs of the population.

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Urban areas are important military terrain. Cities are population centers, transportation hubs, seats of government, sources of wealth, centers of industry, and key nodes for communication and information networks.

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**Marines Patrolling Streets in Mogadishu**

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While the U.S. Marine Corps has not fought a high-intensity urban battle since Hue City in Vietnam, throughout the 1990s Marine forces participated in major urban operations in Panama City, Panama; Port-au-Prince, Haiti; and Mogadishu, Somalia, and conducted non-combatant evacuation operations (NEOs) in Tirana, Albania; Kinshasa, Zaire; Monrovia, Liberia; and Freetown, Sierra Leone.

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## Urban Challenges of Today and Tomorrow

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The future will not be the 'Son of Desert Storm', but rather the 'Stepchild of Somalia and Chechnya.

*General Charles C. Krulak, USMC (Ret.)*

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The term, "asymmetric" is defined as attacking an enemy's weaknesses with unexpected or innovative means while avoiding or nullifying the enemy's strengths. The United States faces threats from both state and non-state challengers who seek unconventional or unique approaches to

offset, deny, deter, or destroy American military, diplomatic, and economic power. Examples of asymmetric threats include the use of weapons of mass destruction and weapons of mass effect (WMD/WME), terrorism, and information operations, though the possibilities are limitless to a creative foe. The use of hijacked commercial aircraft to attack the Pentagon and World Trade Center on 11 September, 2001 is a dramatic example of an asymmetric attack.

Urban warfare is complicated by the intricacy of the urban landscape; urban areas are ideal environments in which to employ asymmetric tactics. Potential urban enemies have a multitude of courses of action open to them.

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## Today's Urban Environment

Prior to conducting operations in urban areas, understanding the terrain is critical to success. Urban topography is an elaborate combination of horizontal, vertical, interior, and exterior forms superimposed on a landscape's natural relief, drainage, and vegetation. Urban areas may range from a few dozen dwellings to major metropolitan areas. A city may be technologically advanced or developing. Most cities feature many construction styles and building materials, each with its own texture and strength. Concrete and steel high-rise structures stand alongside tin or wooden shacks. Additionally, lines of communication can consist of a confusing array of roads, alleys, bridges, elevated roadways, subway tunnels, rail systems, drainage canals, and sewer networks.

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Urban operations can radically alter the physical nature of the terrain. The walls and roofs may



**Example of an Advanced Urban Environment (Seoul, South Korea)**

collapse on some buildings, while others are razed completely, leaving only piles of rubble. (b)(2)(high)

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## Cultural Awareness as a Force Multiplier

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What we need is cultural intelligence. What I need to understand is how these societies function. What makes them tick? Who makes the decisions? What is it about their society that's so remarkably different in their values, in the way they think, compared to my values. . .

*General Anthony Zinni, USMC (Ret.)*

When indigenous support is necessary for success, (b)(2)(high) the population is central to accomplishing the mission. To effectively operate among an urban population and maintain their goodwill, it is important to develop a thorough understanding of the society and its culture t

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The history of a people

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Defining the structure of the social hierarchy is often key to understanding the population. Identifying those in positions of authority is important as well. These city officials, village elders, or tribal chieftains, are often the critical nodes of the society and influence the actions of the population at large. In many societies nominal titles do not equal power - influence does. Many leaders are figureheads and the true authority lies elsewhere. Some areas around the world are not governed by the rule of law. Often, ethnic loyalty, religious affiliation, and tribal mem-

bership provide societal cohesion. It is important to understand the complicated inner workings of a society rife with internecine conflict, although to do so is difficult and will require a thorough examination of a society's culture and history.

Every city has a discernible pattern of daily activity. The time of rush hour activity along a line of communication (LOC) is one case in point. Business transactions, market sales, religious practices, governmental functions, and criminal activity are other examples of daily behavior than can be analyzed for consistencies. Disruptions or irregularities in these patterns serve as a warning that something is amiss in the city. Identifying and understanding trends provide critical information for intelligence analysts and mission planners.


While certain patterns do exist, most urban centers are normally composed of a multitude of different peoples, each with their own standards



**Cultural Interaction Affects Operations in the Urban Environment**

of conduct. Individuals act independently and in their own best interest,

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## The Nature of Today's Threats


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Potential threats in the urban environment are generally asymmetric and


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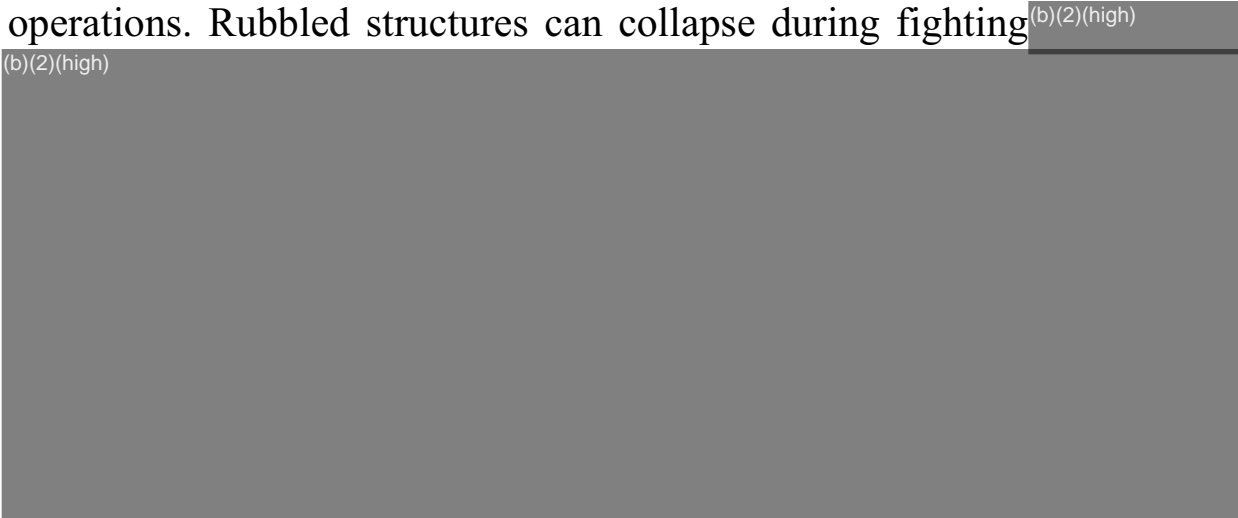
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## Health Issues

Urban centers often provide favorable conditions for the spread of debilitating or deadly diseases. Sanitation is often poor in urban areas. Local water and food may contain dangerous contaminants. Dilapidated structures can become extremely dangerous for troops engaging in urban operations. Rubbled structures can collapse during fighting<sup>(b)(2)(high)</sup>

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## Infrastructure


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A city's infrastructure is its foundation. It includes buildings, bridges, roads, airfields, ports, subways, sewers, power plants, industrial sectors, and similar physical structures. Infrastructure varies from city to city. In developed countries, the infrastructure and service sectors are highly sophisticated and well integrated. In developing cities, even basic infrastructure is lacking. To understand how the infrastructure of a city supports the population, it needs to be viewed as a system of systems. Each component affects the population, the normal operation of the city, and the potential long-term success of military operations conducted there.

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## Transportation

The transportation network is a critical component of a city's day-to-day activity. It facilitates the movement of material and personnel around the city. This network includes roads, railways, subways, bus systems, airports and harbors. In modern cities, the transportation network supports rapid international travel, often via several avenues. Developing cities often have little means of public transportation. Foot traffic, livestock, and bicycles represent main sources of travel in underdeveloped cities and compete for road space with more modern forms of transportation.

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## Communications

Communication facilities in modern cities are expansive and highly developed. Complicated networks of landlines, radio relay stations, fiber optics, cellular service, and the Internet provide a vast web of communication capabilities. This communication redundancy allows for the constant flow of information. Developing countries may have little in the way of communication infrastructure. Information flow can depend on primitive means — courier, smoke signals, or even hand signals. Even in countries with little communication infrastruc-

ture, radios, cell phones, and satellite communications offer quick ways to pass information. (b)(2)(high)

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(b)(2)(high)

## Fuel

All societies require fuel, such as wood, coal, oil, or natural gas for basic heating and cooking. Fuel is needed for industrial production (b)(2)(high)

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In fact, every sector of a city's infrastruc-

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## Electricity

Electricity is vital to city populations. Electric companies provide a

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Electricity services are not always available or reliable in the developing world. Interruptions in service are common occurrences in many cities due to a variety of factors. Decayed infrastructure, sabotage, and conflict can disrupt electrical service. (b)(2)(high)

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## Water

Water is an essential resource. As populations grow, demand for potable water increases. In some areas of the world, the supply of fresh water is inadequate to meet these demands. By 2025, between 2.7 and 3.5 billion people may live in water-deficient countries. In developed nations, water companies provide the population with clean water. In much of

the developing world, no formal water authorities exist.

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## Medical Facilities

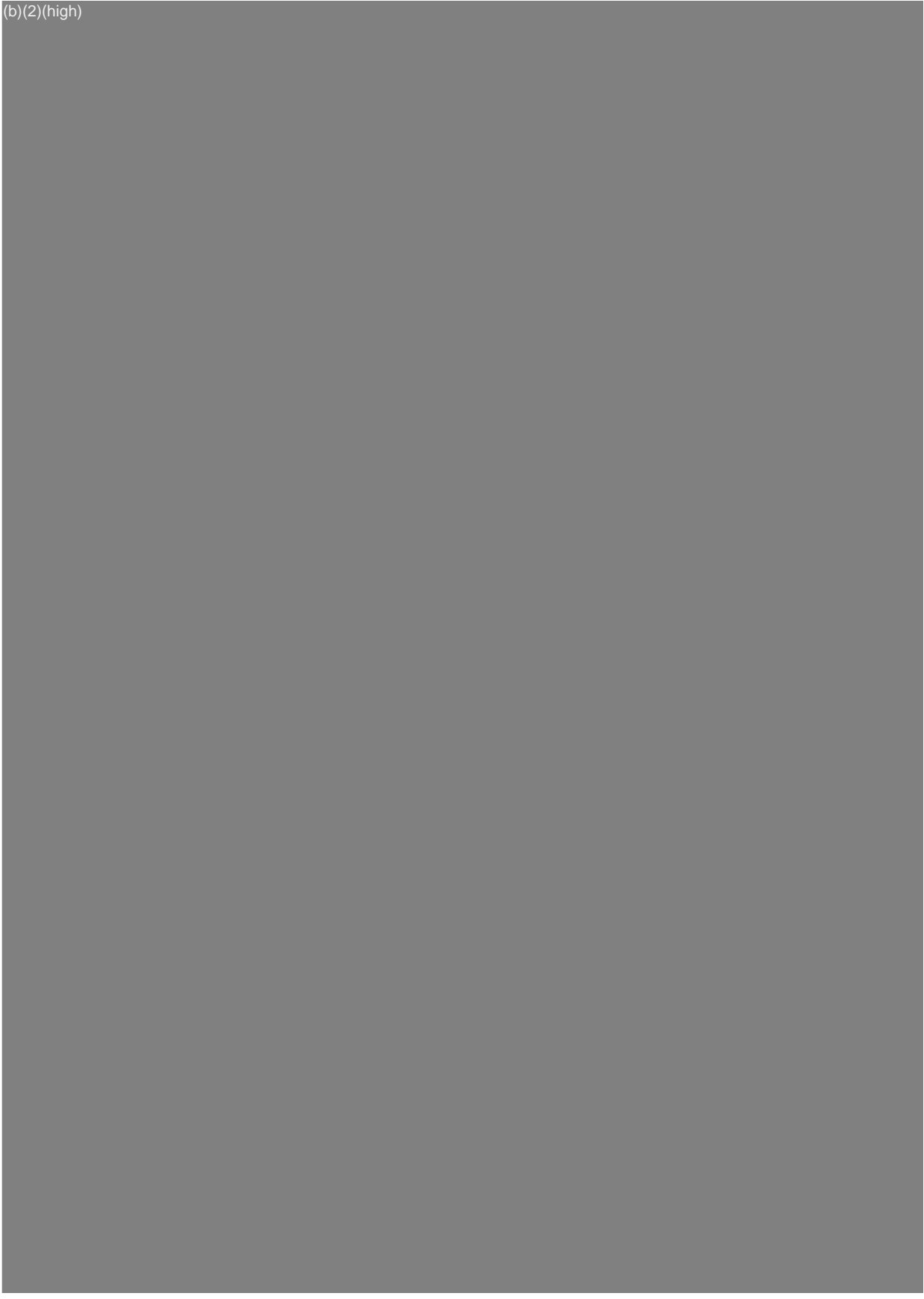
While the health services infrastructure of most developed cities is very advanced, medical facilities are deficient in many countries. International humanitarian organizations may represent the only viable medical care available. The rudimentary care provided in most developing world cities is not up to Western standards. Compounding this problem is the presence of deadly parasites and diseases. HIV is particularly devastating the urban centers of the developing world and therefore the local blood supply must be looked upon with great suspicion. Infectious disease, famine, and natural disasters can overwhelm a city's medical infrastructure and create immense suffering.

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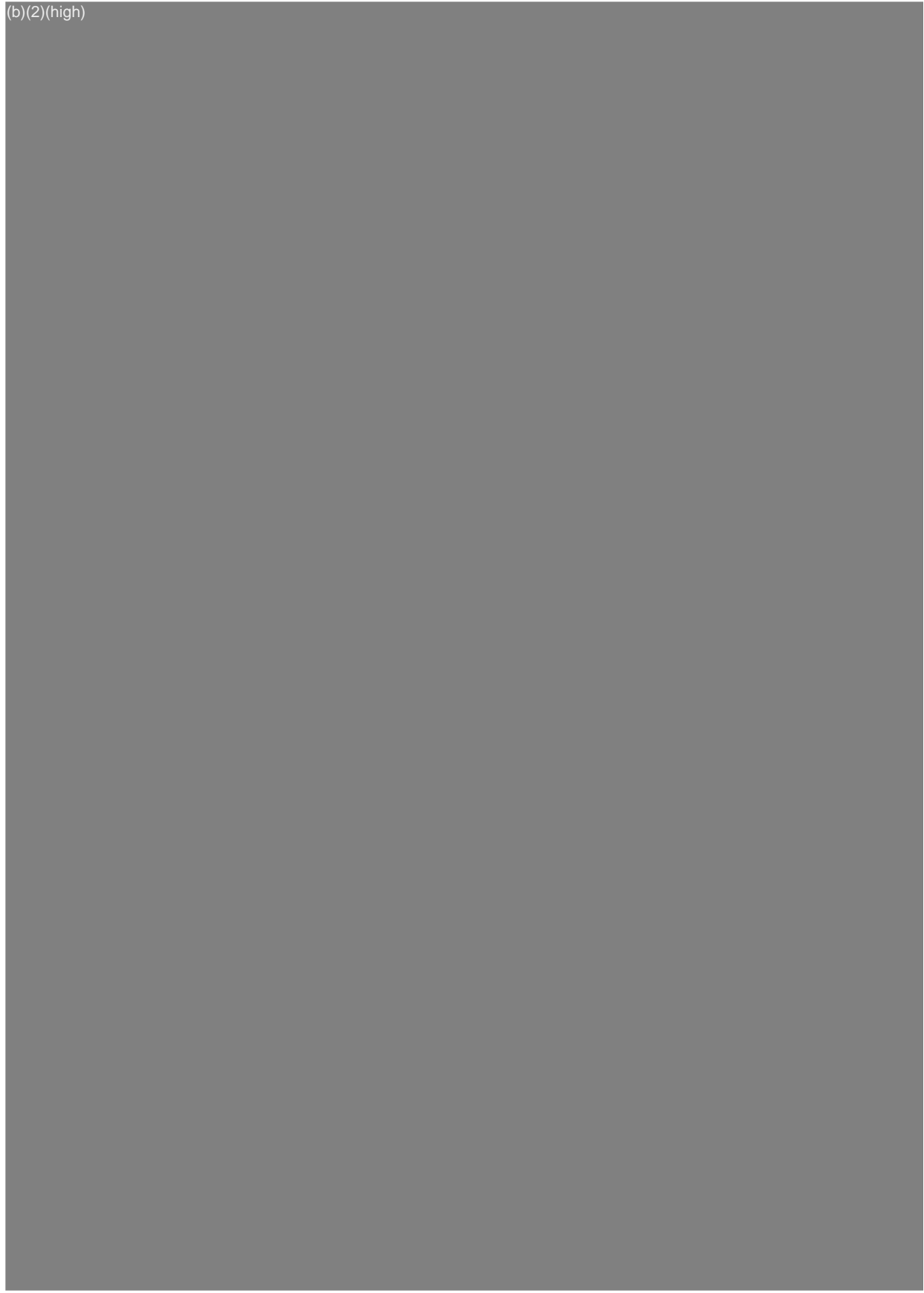
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**FOR OFFICIAL USE ONLY**

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## Outlook


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Rapid global urbanization has created cities unable to meet the basic needs of the populace. A vast population of unemployed, frustrated people has created societies rife with crime, terrorism, religious extremism,


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## Understanding the Urban Population

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### General Information

- Identify the values of the urban population.
  - Family relations
  - Religious values
  - Political views
  - Ethnic tribal ties
  - Nationalism
- Identify the current issues/problems facing the urban population.
  - Economics
  - Politics
  - Religious conflict
  - Crime
  - Drug/alcohol addiction
  - Ethnic strife
  - Housing
- Assess the history of conflict in the state.
  - Internal and external
  - Recent conflicts
- Describe the significance of the urban area.
  - International
  - National
  - Religious
  - Military

- Economic
- Historical
- Identify key figures in the society.
  - Government leaders
  - Religious leaders
  - Military leaders
  - Opposition leaders
  - Tribal chiefs/elders
  - Crime/drug figures
  - Other

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■ Evaluate the city by geographic locations.

- Slums/shanty-towns
- Areas where criminal gangs operate
- (b)(2)(high) [Redacted]
- Areas in the city where demonstrations/riots typically occur

■ Identify the social aspects/traits of the urban population.


- Family structure
- Role of elders
- Role of men
- Role of women
- Role of children

- Opposite sex interaction
- Same sex interaction
- Significance of pets and animals
- Eating habits
- Sanitary practices
- Alcohol/drug use
- (b)(2)(high)
- Identify the influence of the media.
  - By form (print, radio, television)
  - By origin (local, national, international)
  - (b)(2)(high)
  - 
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- Identify taboos or insulting social actions.
  - Verbal
  - Non-verbal (body gestures/manner of dress)
- Identify significant dates.
  - Importance
  - Dates or holidays significant to one portion of populace but offensive to another
  - Effect on city
  - Violence
  - Demonstrations
  - Types of celebrations
  - Number of participants
- Identify cultural landmarks and structures.
  - Location
  - Type
  - (b)(2)(high)
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- (b)(2)(high)
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## Demographics

- Assess the urban area's demographics.
  - Ethnicity
  - Race
  - Religion
  - Economic status
  - (b)(2)(high)
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- Identify languages spoken.
  - Official
  - Social
  - Business
  - Dialects
  - Slang
- Identify the urban population/population density.
  - Total
  - By city area
  - (b)(2)(high)
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- Identify the age structure.
  - (b)(2)(high)
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- Identify the trends in migration.
  - Number of migrants

- Cause(s) of migration
- Average age of migrants
- Refugee situation
- Origin of the refugees
- Size of the refugee population
- Size of the original population
- Describe the relationship between refugees and the city populace.
  - Supporting
  - Hostile
  - Indifferent
- Identify segments of the population that fled the city.
  - Cause
  - Region of resettlement
  - Circumstances that will afford their return
- Identify the population of the rural areas surrounding the urban area.
  - Numbers
  - Location and distance from urban area
  - Relationship to/with urban population
  - Travel
  - Employment
  - Interdependence
  - (b)(2)(high) 

## Social Structure

- Identify the ethnic structure.
  - Percent of population by ethnic group
  - (b)(2)(high) 
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■ Identify the religious structure.

- Beliefs
- Percentage of population
- Importance/influence in society
- Practices

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[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

■ Identify the tribal/clan structure.

- Basis of affiliation
- Percentage of population

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[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

■ Identify the economic class structure.

- Distribution of wealth

- Per capita income
- Percentage of population by economic sector (industry, service, etc.)
- Percentage of population living in poverty
- Percentage of population dependent on economic aid
- Type of aid
- Unemployment rate
- Underemployment rate

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- Role of economics in the conflict
- Identify the political structure.
  - Political parties (b)(2)(high)
  - Percent of population belonging to a political faction or party
  - Dominant political party (b)(2)(high)
  - Reason for dominance
  - Political factions, parties or beliefs
  - Voting practices
    - Suffrage
    - Election turnout
    - (b)(2)(high)

- (b)(2)(high)
- Physical boundaries based on political beliefs
- Boundary overlap/possible areas of friction

- (b)(2)(high)
- 
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■ Identify the city government structure.

- Executive branch
- Legislative branch
- Judicial branch
- (b)(2)(high)
- Administrative divisions
- Physical boundaries of administrative divisions
- Whether officials are elected or appointed
- (b)(2)(high)

■ Determine whether the urban area is the seat of the national government.

- Branches of the national government in the urban area
- Relationship between city and national governments
- (b)(2)(high)

■ Identify the educational structure.

- Literacy (b)(2)(high)
- (b)(2)(high)
- (b)(2)(high)
- (b)(2)(high)
- Education level by sex
- Education level by type (b)(2)(high)

- (b)(2)(high) [Redacted]
- [Redacted]

■ Identify the presence of non-governmental organizations (NGOs) in the urban area of operations.

- Organization name/country affiliation
- Type of services provided

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- [Redacted]
- [Redacted]
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- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
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- [Redacted]

- Relationships between NGOs

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■ Identify types of identification required or used in the urban area.

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■ Evaluate air/sea/land customs procedures.

Enforcement

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## Urban Threat

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### Conventional Threats

#### *Military*

- Identify the military orders of battle .

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- Assess the enemy experience in an urban environment.

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- Determine the enemy's center of gravity and critical vulnerability in urban warfare.

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■ Determine how the enemy will fight in the urban area.

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[Redacted]

■ Determine the relationship between the enemy and the local populace.

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■ [Redacted]

■ [Redacted]

■ [Redacted]

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***Paramilitary***

■ Determine the nature of the paramilitary force.

Name

Goals

Ideology

(b)(2)(high)

Identification features

Clothing/uniforms

(b)(2)(high)

Slogans/songs/chants

■ (b)(2)(high)

■ Determine if the paramilitary group is a threat

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■ Determine how the paramilitary group operates.

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(b)(2)(high)

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## Asymmetric Threats

### *Terrorists*

- Examine the background of the terrorist group.

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Goals/motivation

Ideology

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- (b)(2)(high)
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■ (b)(2)(high)

■ Determine the status of incarcerated group members (if any).

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■ Identify the targets of the violence.

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■ (b)(2)(high)

■ (b)(2)(high)

(b)(2)(high)


- Political
- Social
- Criminal
- Religious
- (b)(2)(high)

(b)(2)(high)

(b)(2)(high)

(b)(2)(high)

(b)(2)(high)




### **Guerrillas**

■ Assess the nature of the guerrilla force.

Name

Goals

(b)(2)(high)




Identification features


Clothing/uniforms

Propaganda

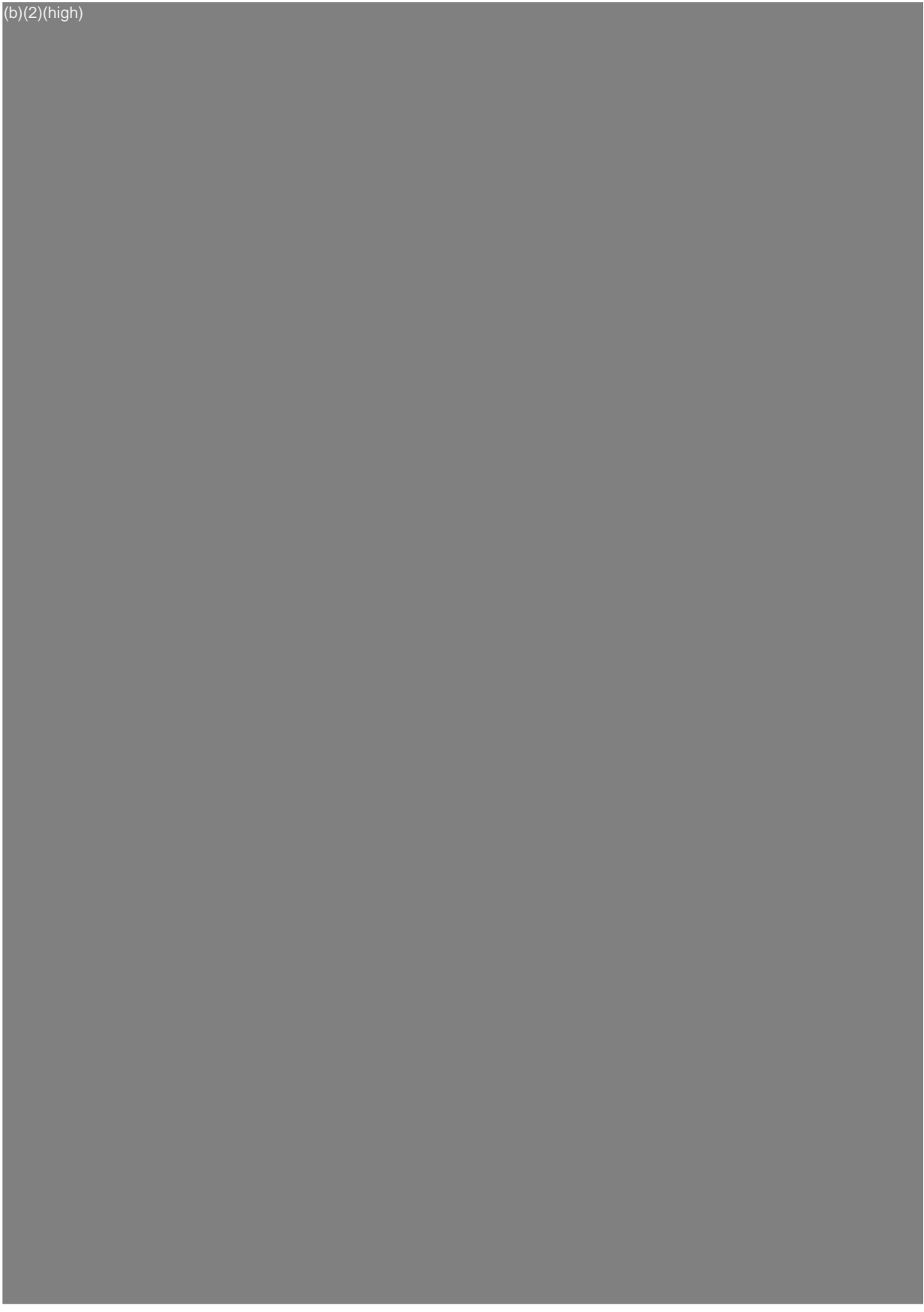
■ (b)(2)(high)



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(b)(2)(high)

***Crime/Criminal Organizations***

- Determine the urban area's crime rate.
- Identify criminal organizations in the area of operations.

- Name
- Type
- Local/regional/international
- Activities

(b)(2)(high)

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(b)(2)(high)

- Determine criminal territorial divisions.
- Determine the relationship between criminal organizations.

(b)(2)(high)

■ (b)(2)(high)

- Determine the extent of illegal narcotics in the urban area.

(b)(2)(high)


■ (b)(2)(high)

- Describe any prior civilian riot activity.

- Issue or event that sparked riots
- Location
- Level of violence

(b)(2)(high)

(b)(2)(high)



(b)(2)(high)

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## Urban Infrastructure

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### Services

#### ***Police or Military Units with Police Authority/Mission***

■ Describe police or military units with police authority/mission.

- Station locations
- Substation locations
- Headquarters location
- Organizational structure
- (b)(2)(high)
- Operating borders
- Jurisdiction borders

- (b)(2)(high)
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### ***Firefighting Units***

■ Describe the firefighting units.

Station locations

Substation locations

Operating borders

(b)(2)(high)

Full-time or volunteer

(b)(2)(high)

Location and condition of fire hydrants

(b)(2)(high)

### ***Crisis Management Procedures***

■ Describe crisis management procedures within the urban area.

(b)(2)(high)

Status of the civil alert system

Procedures

(b)(2)(high)

## **Medical Facilities**

### ■ Identify medical facilities.

- Location
- Staff
  - (b)(2)(high) [REDACTED]
  - [REDACTED]
  - Number of staff members who speak English
  - (b)(2)(high) [REDACTED]
  - [REDACTED]
- Number of patients
- Number of beds
- Number of surgical operating rooms
- Number of intensive care rooms
- Quality of the medical care provided
- Quality and quantity of medical supplies
- Availability of private medical facilities
- Quality and quantity of local blood supply
  - Location of blood banks
  - Amount of blood stored
  - Blood screening process and its ability to adequately screens for infectious diseases
- Environmental health risk
  - Predicted infectious disease risk and occurrence
  - Acquired immune deficiency syndrome (AIDS) risk
- Availability of medical capable transport from the host nation
- Local mortuary facilities
  - Morgues
  - Cemeteries

## **Civil Defense Structure**

### ■ Describe the civil defense structure.

- (b)(2)(high)
- Organization of the civil defense agency
- Location of the facilities available for civil defense

(b)(2)(high)

(b)(2)(high)

## Utilities

### ***Water Systems***

- Identify the water control center.
  - Size/output
  - Method of purification
  - Grid/pipe layout
- Identify substations.
  - Pumping stations
  - Water filtration plant
  - Water supply towers
  - Wells
- Evaluate the water quality of local streams, rivers, lakes, and oceans.
  - Health risks of contact with untreated water
- (b)(2)(high)
- Determine whether the urban area is experiencing water shortage.
- Evaluate the local irrigation system and practices.
- Determine reliability of the engineering and environmental testing.

- Determine whether water treatment is privatized.
- Identify the types of pipes installed.
- Determine the types of security present at the facility.
- Identify rivers/canals that run through the city.
  - Location
  - Depth
  - Width
  - Tide
  - Current
  - Seasonal changes (time frozen, flooded, dried out)
  - Dams

***Sewage and Waste Disposal***

- Determine the adequacy of the sewage and waste disposal system.
  - Collection
  - Transport
  - Incinerators
  - Dumps/landfills
  - Toxic waste
  - Medical waste

- Identify actions that would lead to the breakdown of the waste disposal system.

■ (b)(2)(high) [Redacted]

- Locate the control center of the sewage system.

- Determine procedures for the facility.

■ (b)(2)(high) [Redacted]

■ [Redacted]

***Resources and Material Production***

- Identify the urban area's resources.
  - Natural

Manmade

■ Evaluate the available fuel resources.

(b)(2)(high)



■ Evaluate the region's mineral resources.

Types

Use

Storage

Extraction

■ Locate active mining operations.

Hard

Liquid

■ (b)(2)(high)

■ (b)(2)(high)



■ Locate the manufacturer's resource centers.

Location

Types

Transportation routes in and out

Types of transportation

■ Locate the (b)(2)(high) factories.

Location

- Material produced
- Size of factory
- Number of employees
- Sector of production

(b)(2)(high)

(b)(2)(high)

- Identify the main supply of materials.

### ***Food Distribution***

- Evaluate food production and distribution.
  - Distribution point locations
  - Production center locations
  - Ability to feed population
  - Extent of the urban area's reliance on outside food sources
- Determine the involvement of non-governmental organizations (NGOs) in food distribution.
  - Organization
  - Number of personnel
  - Type of support

### **Ports and Harbors**

#### ***General Information***

- Identify the local name and military designation.
- Identify the port/harbor type.
- Assess the general condition of the port/harbor.
- Determine the importance of the port/harbor.

- Identify operating data.
  - Average tonnage
  - Administration
  - Labor resources
- Provide the total harbor area in acres.
- Provide pilotage data.
- Evaluate the importance of the port to the urban area.

(b)(2)(high)



- Assess the adjacent terrain.
  - Assess port specifications/layout.
    - Port capacity in metric tons per day
      - Civil/commercial
- (b)(2)(high)
- Determine the largest vessel that can be accommodated.
    - Approaches (depth and width)
    - Alongside berths
    - Anchorage
    - Free swinging berths
    - Vertical clearance

***Harbor Characteristics***

- Identify approaches and entrances to the harbor.
  - Location
  - Width
  - Depth
  - Vertical clearance
- Identify harbor divisions
  - Designation

- Location
- Dimensions
- Principal use
- Characteristics
- Controlling depth
- Identify harbor fairways.
  - Location
  - Alignment
  - Radius of tightest turn
  - Shortest tangent
  - Controlling depth
  - Width
  - Overhead clearance
  - Susceptibility to silting
- Identify turning basins.
  - Locations
  - Dimensions
  - Controlling depth
- Identify anchorages and free swinging moors.
  - Locations
  - Depth range
  - Holding ground
  - Protection afforded
  - Type and number of berths
- Identify fixed mooring berths.
  - Locations
  - Numbers
  - Types
  - Buoys
  - General commercial berths
  - Tanker berths

- Naval berths
- Identify obstructions.
  - Overhead obstructions
  - Surface obstructions
  - Underwater obstructions
- Identify navigational aids.
  - Location
  - Type
  - Condition

### ***Physical/Hydrographic Conditions***

- Identify the tides.
- Identify tidal ranges.
- Identify currents.
- (b)(2)(high)
- Identify breakwaters, moles, jetties, or sea walls.
- Evaluate unusual geophysical conditions.
  - Location
  - Type
- Determine the meteorological considerations.
- Evaluate the debris in the water.
  - Type
  - Volume


### ***Freight Handling Facilities/Equipment***

- Identify the principal wharf.
  - Identification
  - Location
  - Normal use
  - Type and construction
  - Berth length

- Depth
- Depth alongside
- Height of deck
- Total length
- Standard berth class
- Transit sheds
- Fueling sheds
- Cargo handling sheds
- Specialized handling equipment
- Clearance
- Utilities
- Identify cargo handling cranes.
  - Specialized handling equipment
  - Clearance
  - Utilities
- Identify general cargo wharves.
  - Location
  - Number
  - Linear meters
- Identify bulk cargo wharves.
  - Type
  - Location
  - Use
  - Numbers
  - Linear meters
- Identify supplementary wharves.
  - Type
  - Location
  - Normal use
  - Number
  - Linear meters

- Identify offshore pipeline berths.
  - Location
  - Number
- Identify mooring and berth facilities.
  - Maximum safe draft
  - Hard and unimproved sites usable for cargo
  - Identification
  - Location
  - Length
  - Width
  - Surface composition
- Identify stevedore gear (gear used for unloading and loading cargo).
  - Type
  - Location
  - Quantity
  - Condition
- Identify cranes.
  - Type
  - Locations
  - Number
  - Normal use
  - Owner
  - Motive power
  - Size
- Identify storage facilities.

(b)(2)(high)



(b)(2)(high)

■ Provide miscellaneous information.

- Clearance facilities
- Railroads
- Roads
- Inland waterways
- Pipelines

***Ship Building and Repair Facilities***

■ Identify ship building and repair facilities.

(b)(2)(high)

■ Identify dry-docks.

- Location
- Type
- Condition
- Type of dock
- Crane service
- Power required

■ Identify floating dry-docks.

- Location
- Dimensions
- Crane service
- (b)(2)(high)

■ Identify shipbuilding ways.

- Location

- Type
- Condition
- Length
- Width
- Identify machine shops.
  - Location
  - Capacity
  - Normal activity
  - (b)(2)(high)
- Identify foundries.
  - Location
  - Capacity
  - Normal activity
  - Condition
  - (b)(2)(high)

***Other Considerations***

- Assess any improvements planned or underway.
  - (b)(2)(high)
- Identify the protective works of the harbor.
  - Type
  - Location
  - Alignment
  - Dimensions
  - Construction design
- Identify the fire protection.
  - Fire boats (type, power, location, number, pumping capacity, condition)
  - Shore fire-fighting equipment (location, type, number, condition)
  - Water supply (source, adequacy, distribution system)
- (b)(2)(high)

(b)(2)(high)

- [REDACTED]
- Evaluate the port's utilities.
  - Water supply
    - Location
    - Potability
    - Distribution
    - Capacity
    - Adequacy
    - Storage (location, type, capacity)
  - Electricity source
    - Location
    - Current characteristics
    - Substations
  - Source of fuel
    - Type
    - Storage.
- Evaluate the port's support facilities.
  - Communication facilities
  - (b)(2)(high)
  - Marine railroads
    - Location
    - Owner
    - Type
    - Track length
    - Gauge
    - Hauling capacity
    - Power system


- Handling equipment
  - General condition
- (b)(2)(high)

## Airfields

### ***General Airfield Information***


- Provide airfield location.
- Provide airfield size.
- Identify airfield type.
  - Civilian
  - Military
  - Joint
- Identify principal use.
- Describe the construction.
  - (b)(2)(high)
  -
- Provide status of the airfield.
  - Operational
  - Non-operational
  - Auxiliary
- Identify the controlling authority.
  - (b)(2)(high)
- Identify key terrain.
  - (b)(2)(high)
- Assess the airfield specifications/layout.
  - (b)(2)(high)

(b)(2)(high)




- Evaluate taxiways.

(b)(2)(high)




- Evaluate parking and warm-up aprons.

(b)(2)(high)



- Identify hardstands.

(b)(2)(high)



- Identify hangars.

(b)(2)(high)



- Locate terminals.
- Identify control tower and ground control approach.

(b)(2)(high)



- Evaluate navigational aids.

(b)(2)(high)



- Identify lighting aids.

- Runways
- Flight-line
- Taxiway
- Terminal building

- Assess underground drainage system.

- Location
- Condition

- Evaluate the airfield utility system.

- Electrical power source
  - (b)(2)(high)
  - Current characteristics
  - Availability of emergency power
  - (b)(2)(high)

- Natural gas source
- Jet starting units or auxiliary power units

(b)(2)(high)



(b)(2)(high)

■ (b)(2)(high)

- Assess the airfield's daily operating procedures.
  - Normal operating hours of the airfield
  - Most commonly used approach path
  - Control procedures
  - Primary language used by air traffic control personnel, ground support personnel, back-up personnel
  - Flight schedules of airlines using the airfield

***Airfield Support Facilities***

- Identify communications facilities.
  - Location
  - 
  - (b)(2)(high)
  -
- Identify fuel storage facilities.
  - Location
  - Jet fuel
  - Aviation gas
  - Jet oil
  - Aviation oil
  - Lubricants, manifolds, and filters
  - Pipelines
  - (b)(2)(high) storage and capacity

- Pumps
- Fuel trucks

■ (b)(2)(high)



■ Identify emergency facilities.

- Location
- Type

- (b)(2)(high)
- 



■ Identify maintenance facilities.

■ Identify meteorological support facilities.

■ Identify administration buildings.

■ Identify housing facilities.

- Type, location, and number
- Capability and condition
- Construction materials

(b)(2)(high)



### **Other Considerations**

- Describe new construction at the airfield.
- Locate obstructions to flight.

(b)(2)(high)

(b)(2)(high)

### **Helicopter Landing Zones (HLZs)**

- Assess the LZ characteristics.
  - Location
  - Dimensions
  - Landing points
  - Capacity by type of aircraft
  - Surface material
  - Soil trafficability
  - Obstacles (existing, reinforcing)
  - Slope (direction, degree)
  - Lighting conditions
  - Prevailing winds
  - Seasonal variations
  - Thermal/updrafts
  - Altitude above sea level
- Determine the characteristics of the approach and retirement lanes.
  - Altitude and heading
  - Check and control points
  - Obstacles
  - (b)(2)(high)
- Determine the characteristics of the adjacent terrain and exits.

- Dominant buildings and terrain
- Routes of ingress/egress
- Relief and drainage
- Obstacles (b)(2)(high)

■ Identify landmarks that can be used as navigation aids.

■ (b)(2)(high)

■ (b)(2)(high)

■ (b)(2)(high)

■ Identify buildings with rooftops that can be used for HLZs.

- Location
- Dimensions
- Landing points
- Capacity by type
- Obstacles
- Building entrances (location, quantity)

■ (b)(2)(high)

**Roadways**


■ Identify the routes in the urban area.

- Highways

- Streets
- Alleys
- Trails
- Bike paths
- Pedestrian paths
- Identify street patterns.
  - Radial
  - Rectangular
  - Concentric
  - Contour conforming
  - Medieval irregular
  - Planned irregular
  - Numbering and mailing system
  - Traffic control system
- (b)(2)(high)
- Evaluate roadway use.
  - Traffic patterns
  - Rush hour times
  - Types
  - Importance to economy
  - Possible rerouting
  - (b)(2)(high)
- Verify that the maps correspond with the routes.
- Analyze critical roadways.
  - Roadway characteristics
    - Width
    - Surface material
    - Base course
    - Subgrade material
    - Maximum wheel load
    - Crown


- Maximum elevation
- Drainage
- Length
  - Kilometers
  - Miles
- Grades

(b)(2)(high)



- Shoulders
  - Material
  - Width
  - Slope
  - Condition
- Curves
  - Location
  - Radius
  - Slope
- Bridges

(b)(2)(high)



- Culverts
  - Location
  - Type and number
  - Construction material
- Ditches
  - Depth
  - Width
  - Side slope
  - Condition
- Median strips or dividers

- Material
- Width
- Height
- Obstructions
- Vegetation
- Fords and ferries
  - Location
  - Dimensions
- Tunnels, underpasses, and snowsheds
  - Location
  - Dimensions
- Road parking areas
  - Location
  - Vehicle capacity
  - Facilities
  - Surface materials
- Junctions or grade crossings
  - Identification
  - Location
- Checkpoints (b)(2)(high)

(b)(2)(high)

## Railroads

### ***General Railway Information***

- Identify the number of trains that run daily.
  - Type
    - Passenger
    - Livestock
  - Fuel
  - Direction of travel

- Destinations
- Cargo and capacity
- Rolling stock
- Types of railcars and carrying capacity
- Schedules
- Special equipment

■ (b)(2)(high)

■ (b)(2)(high)

■ Locate and describe fixed installations.

- Classification yards
- Service yards
- Freight/loading yards
- Passenger stations
- Freight stations

■ Analyze the track specifications and railway layout.

- Total length
  - Urban
  - Rural
- Type
  - Gauge
  - Rails
  - Roadway
  - Width
  - Spacing
- Axle load limit
- Minimum clearances
  - Horizontal

- Vertical
- Maximum grades
  - Direction of travel
  - Location
- Radius of the tightest curve
  - Location
  - Radius measurement
- Roadbed
  - Material
  - Total width
  - Width of shoulders
- Ballast/sub-ballast
  - Material
  - Size
  - Condition
  - Thickness
- Railheads
  - Supply transfer points
  - (b)(2)(high)
  - (b)(2)(high)
- End points
  - System
  - Route
  - Segment
  - Reason for end (change in number of tracks, change in gauge, crossing point, construction type and load bearing capacity, international borders)
- Ties
  - Material
  - Length
  - Width

- Depth
- Spacing
- Ditches
  - Depth
  - Width
  - Side slope
  - Lining
  - Conditions
  - Cross sections
  - Structures
- Stations
- Location
- Functions
- Facilities
- (b)(2)(high)
- (b)(2)(high)
- Bridges
  - Dimensions
  - Characteristics
- Culverts
  - Characteristics
  - Dimensions
- Ferries
  - Dimensions
  - Characteristics
- Tunnels, underpasses, and snowsheds
  - Characteristics
  - Dimensions
  - Mainline junctions
  - Location
  - Identification of connecting lines

- Switch type
- Crossovers
  - Location
  - Type switch
- Evaluate the railway support facilities
  - Freight handling facilities
    - Location
    - Side loading platforms
    - End loading bays
    - Sidings with access roads
    - Freight sheds
    - Turntables (number and diameter)
    - Cranes (number, type, and capacity)
  - Repair shops/locomotive terminals.
    - Location
    - Engine house and turntable
  - Manpower
  - Service facilities
  - Fuel facilities
    - Location
    - Type of fuel
    - Storage and capacity
    - Quantity of fuel on hand
    - Method of loading
  - Electrical facilities
    - End point of electrified sections
    - Power feed
    - Current characteristics
    - Source of power
  - (b)(2)(high)
  - Water facilities

- Location
- Service
- Type of storage
- Evaluate track maintenance.
  - Maintenance and construction standards
  - Maintenance schedule
  - Sections in need of repair
    - Location
    - Nature of repair
    - Effort required to repair
  - Planned extensions or improvements
    - Type
    - Location
    - Characteristics
- Identify signals and train control.
  - Location
  - Type
- Determine whether the railroad follows any terrain features.
  - Roadways
  - Waterways
  - Terrain
- Assess the safety <sup>(b)(2)(high)</sup> features of the railroad.

## Bridges

- Identify general characteristics of the bridge.
  - Location
  - Name <sup>(b)(2)(high)</sup>
  - Structural type
  - General condition
  - Obstacle crossed
  - Significance

- Bridge specifications
  - Length and width
  - Capacity
  - (b)(2)(high)
  - Under bridge clearance
  - Horizontal and vertical clearance

(b)(2)(high)

- Evaluate alternate routes.

(b)(2)(high)

- Analyze the bridge layout.

- Approaches
- Banks
- Bypasses
- Abutments/piers
- Spans
- Suspension system
- Intermediate supports
- Walkways
- Number of spans
  - Type of control (mechanical, electronic)
  - Time required to move
- Characteristics of any movable spans
- Safety (b)(2)(high) features
- Traffic control markings

## Subways

- Assess the general layout of the subway system.

(b)(2)(high)

- Evaluate the general condition of the subway system.

- Maintenance

Safety

(b)(2)(high)

■ Identify the train schedule.

(b)(2)(high)

■

(b)(2)(high)

■

■ Evaluate the subway specifications.

Entrances and exits to the system

Pedestrian traffic routes

Stairs, escalators, elevators

(b)(2)(high)

Maintenance and utility tunnels

Drains

Terminals

Tunnels

Dimensions

Construction

■ Describe rails.

Dimensions

Construction

■ Describe trains.

Type

Speed

Size and capacity of cars

■ Describe rail bed.

Grade

Subgrade

Rail embedding

- Crossover sections
- Location
- Location of controls
- Turn and corner locations
- Manhole locations
- Electric source location
- Evaluate traffic patterns.
  - Daily number of passengers
    - Weekday
    - Weekend
    - Holiday
    - Rush hour
  - Stations that receive the most traffic
- Evaluate the subway construction.
  - Type
    - Typical subway near surface with flat roof and I-beams for roof and sides, supported between tracks with steel bulb-angle columns
    - Flat-roof subway of reinforced concrete construction supported between tracks by steel bulb-angle columns, used for short distances
    - Concrete-lined tunnel of open cutwork and rock tunnel work
    - Elevated track on steel viaduct
    - Cast iron tubes used under water
  - Layers of the inner subway construction
  - Construction of beams and shafts
  - Reinforcements that are part of the construction to add support and waterproofing (b)(2)(high)
  - Soil, rock, or compound that the tunnels are cut through
  - Ventilation system

(b)(2)(high)


■ (b)(2)(high)

- Evaluate the decibel level around the trains.

### Other Subterranean Features

- Locate other subterranean features.
- Describe the type of feature.
  - Maintenance access tunnel
  - Electric grid/utility line
  - Pedestrian passageway
  - Sewer drainage systems and waterways
  - Natural underground passageway
- Evaluate the characteristics of the feature.
  - Shape
  - Dimensions
  - Rise of arch
- Assess the significance of the feature.
  - Connections to the tunnel/passage
  - (b)(2)(high)
  - Alternate routes
- Describe the adjacent terrain.
- Examine the surface features over the tunnel.

## ***Subterranean Layout***

- Identify the alignment.
  - Horizontal (position, curve, radius, curve location)
  - Vertical (grade percent, length, location)
- Identify man-ways.
  - Dimension
  - Spacing
- Identify portals.
  - Design
  - Materials
  - Dimensions
- Identify bypasses.
  - Location
  - Condition
  - Effort required to establish
- (b)(2)(high)  

- Describe the sewer/drainage system.
  - Location
  - Power source
  - Cross section
  - Sides
  - Bottom
  - Normal depth
  - Normal current velocity
- Identify the ventilation system.
  - Description
  - Adequacy
- Describe the lighting facilities.

- Type
- Location
- Power source
- Locate traffic control markings.


***Subterranean Construction***

- Locate the horizontal and vertical constructions.
  - Type
  - Minimum clearance
  - Location from portal
- Evaluate the shoring and bracing.
  - Spacing location
  - Design
  - Materials
  - Dimensions
  - Arrangements
- Assess the overburden.
  - Material
  - Depth
- Evaluate the features of the lining materials.
  - Type
  - Thickness
  - Condition
  - Point of change
- Identify the year of construction.
- Evaluate the effects of climate and weather on the structure.
- Provide pertinent geological data.

■ (b)(2)(high)

■ (b)(2)(high)

(b)(2)(high)




## Power Plants

### *General Information*

- Describe the type of power plant.

(b)(2)(high)





- Assess the significance of the power plant.

- Economic

- Social

- (b)(2)(high)



- (b)(2)(high)
- 

- Determine the fuel source.


- Type

- Location


- Available reserve

- Usage rate


- (b)(2)(high)




(b)(2)(high)



(b)(2)(high)



(b)(2)(high)




## Petroleum and Natural Gas Facilities

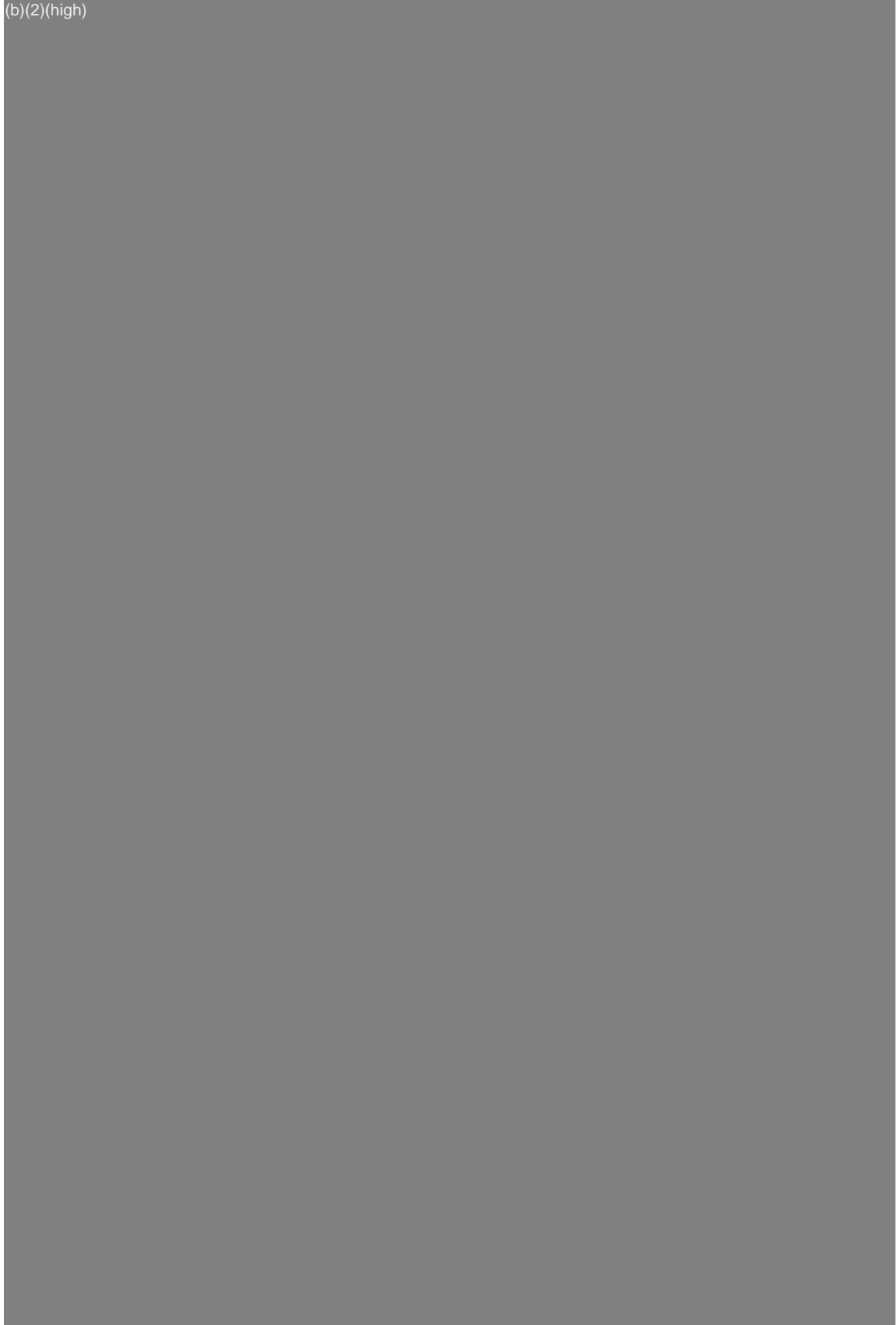
### *Facility Description*

- Identify the facility location.
- Identify the facility type.
- Identify the facility product.
- Identify the size of the facility.

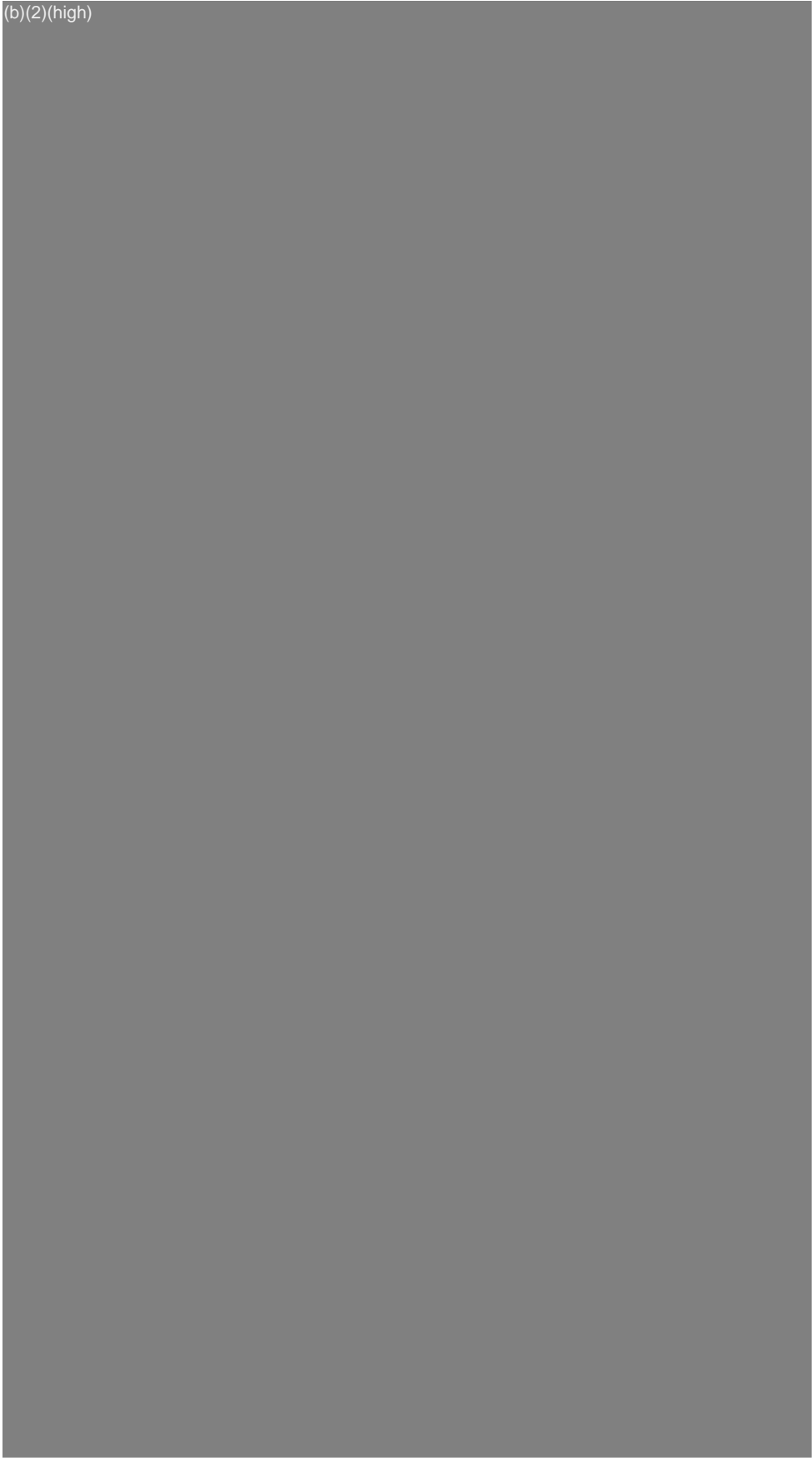
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## Communications

- Determine the status of the communication facilities.

- Location

- Type (b)(2)(high)

- (b)(2)(high)

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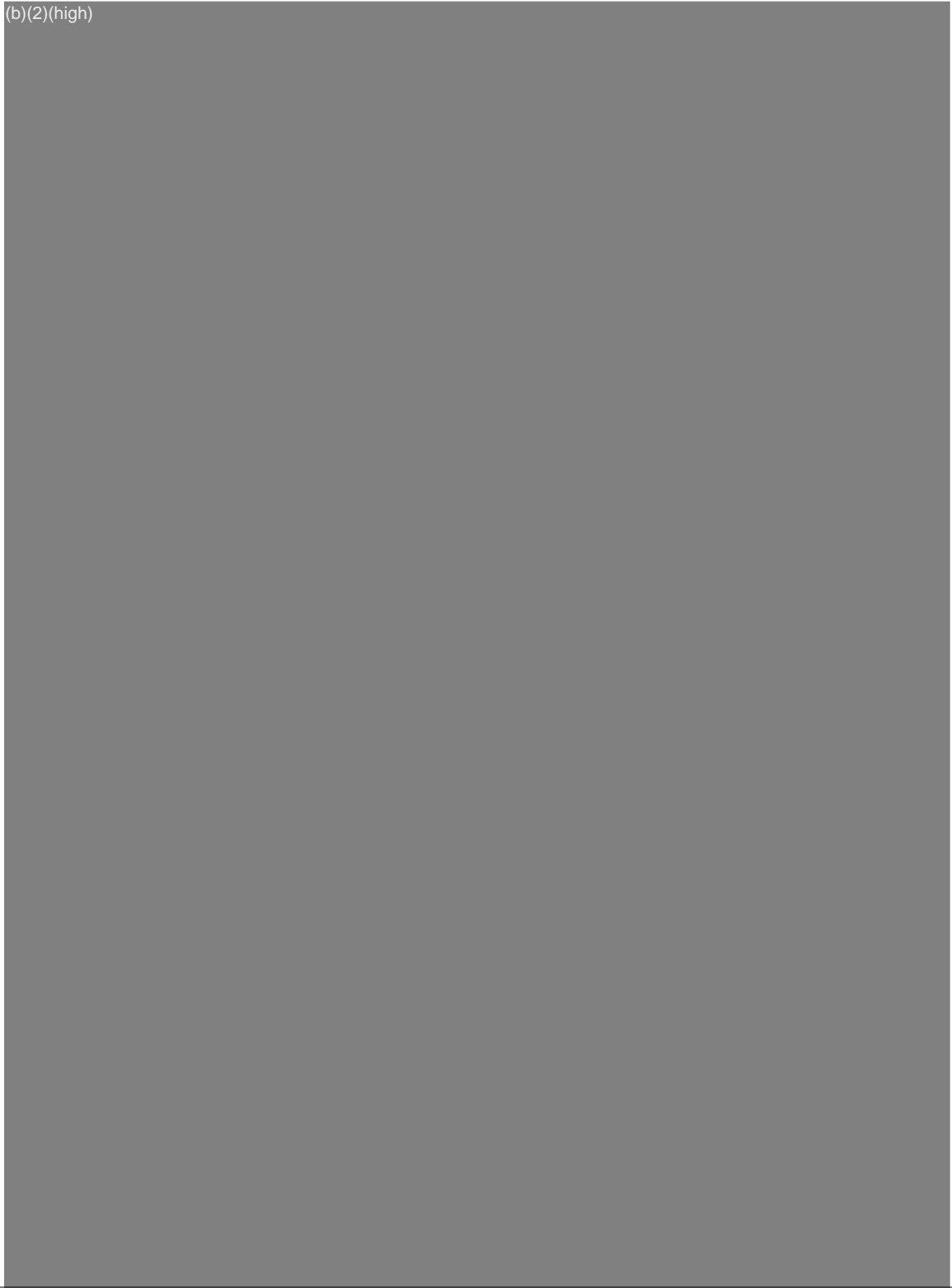


- Evaluate the facility's layout.

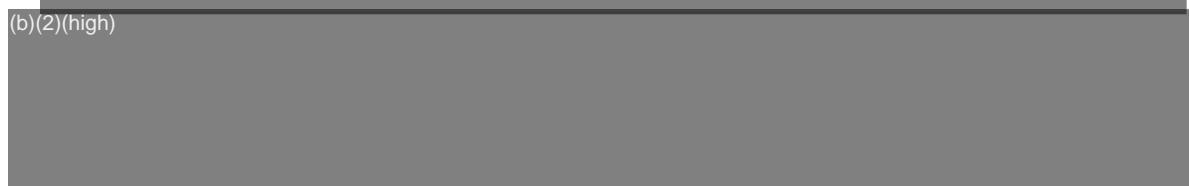
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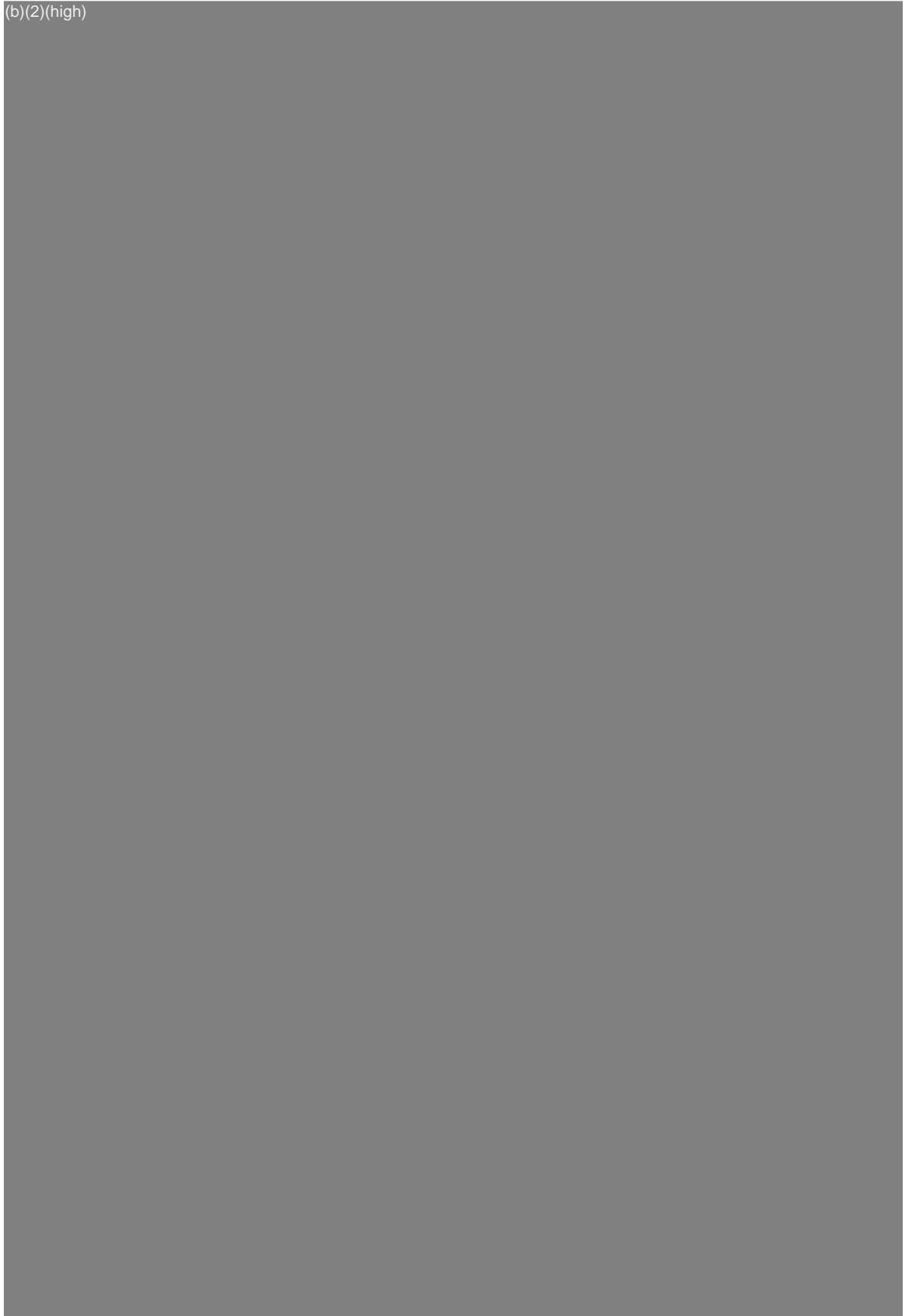
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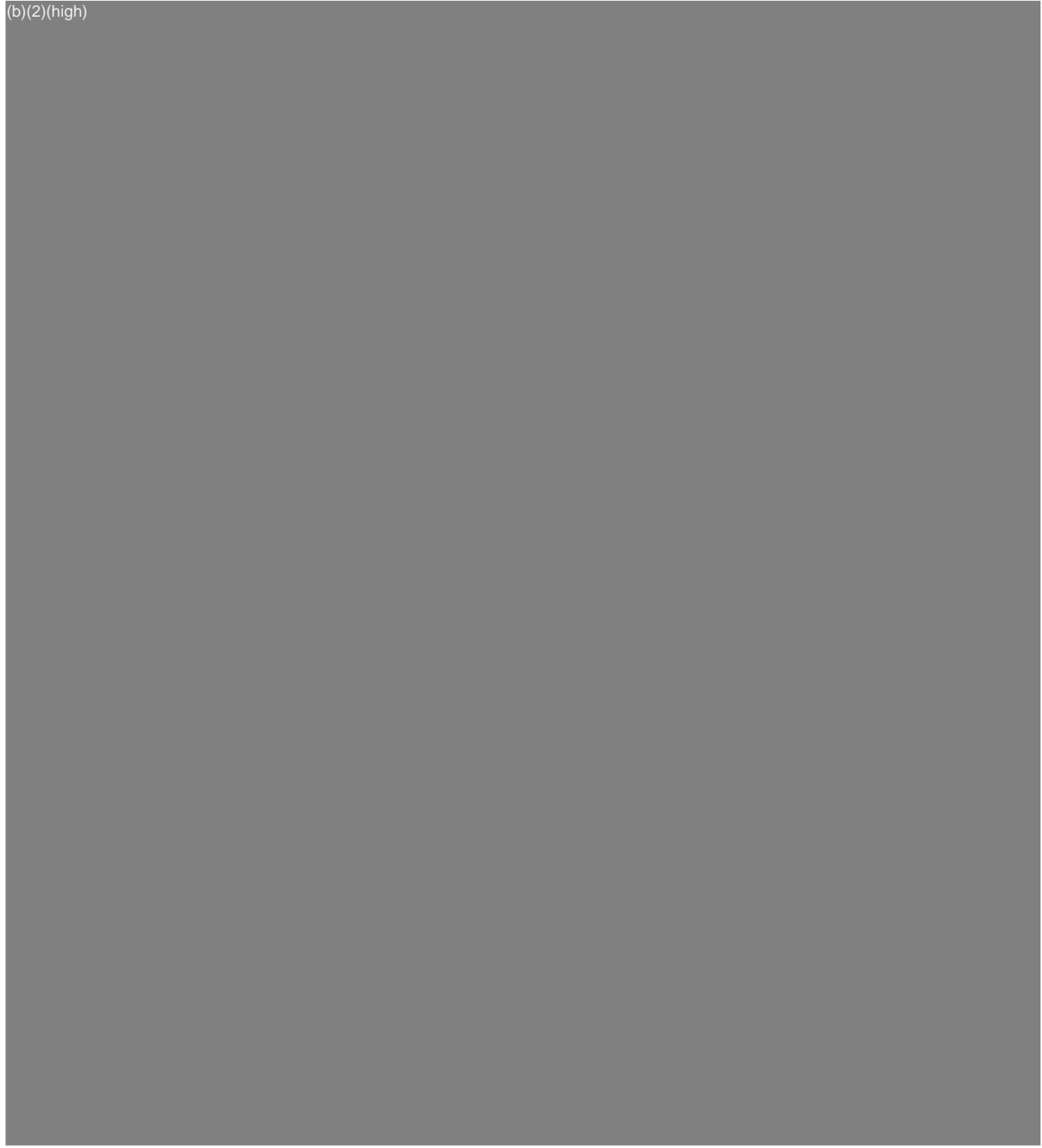


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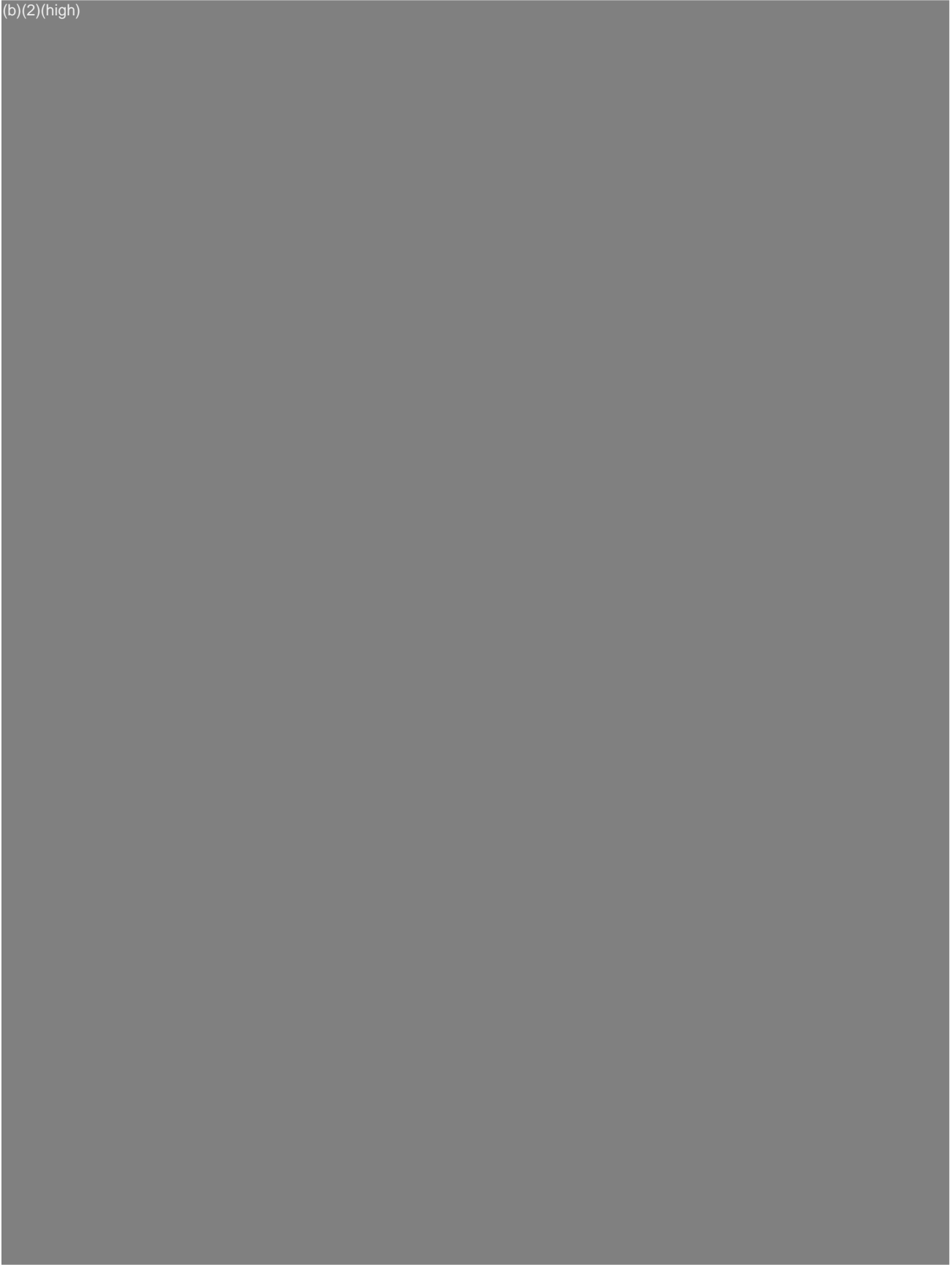




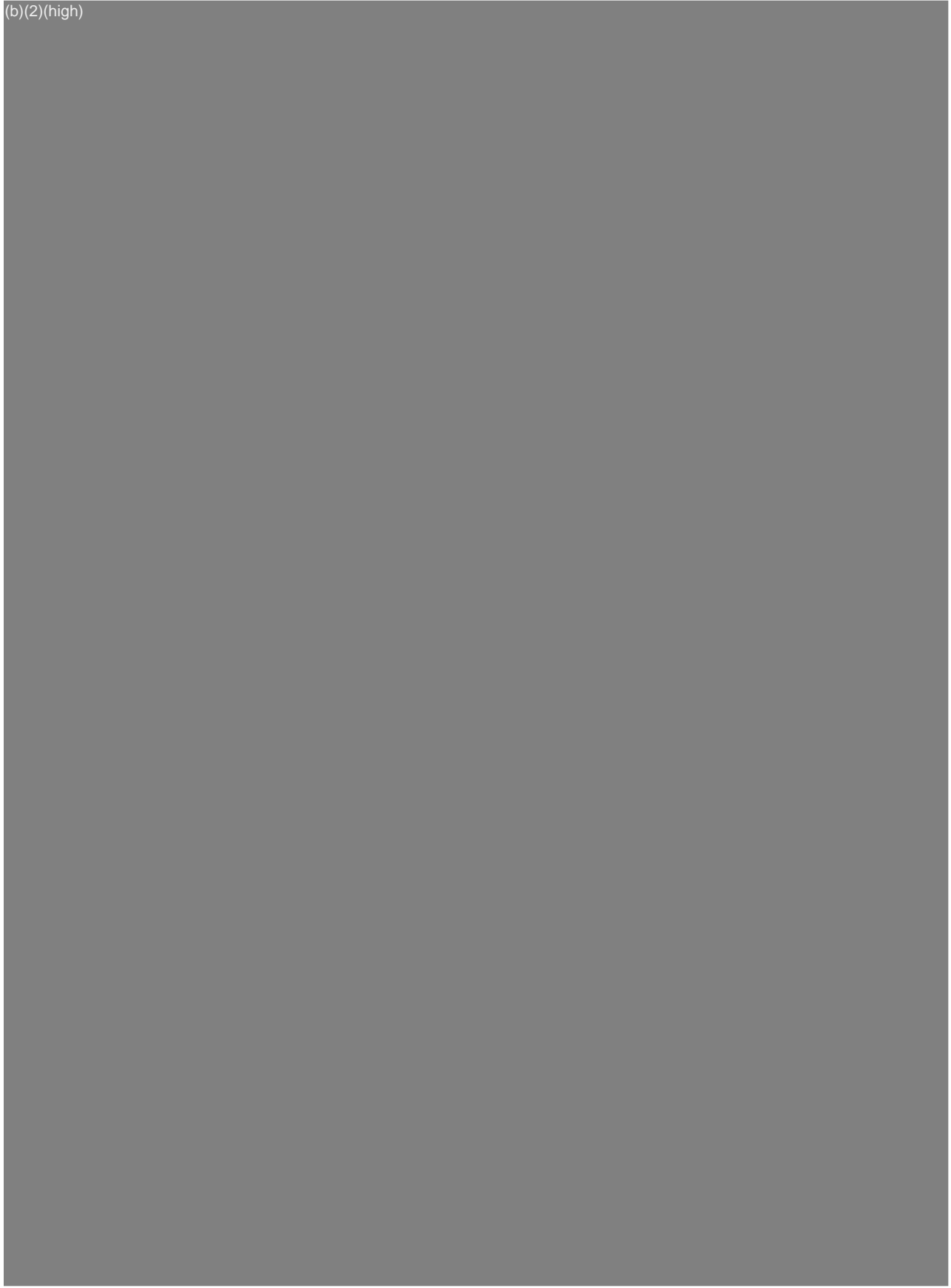
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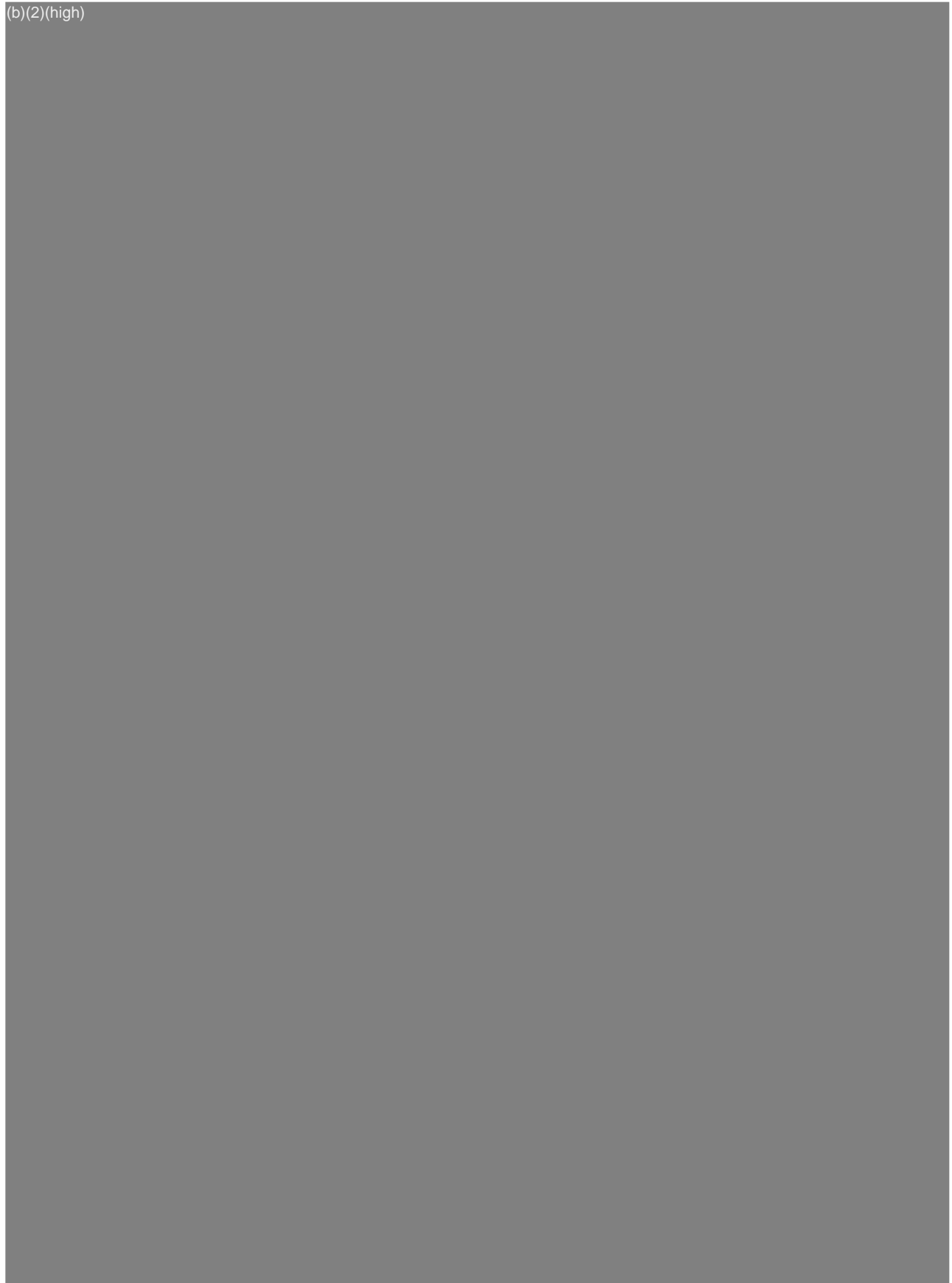
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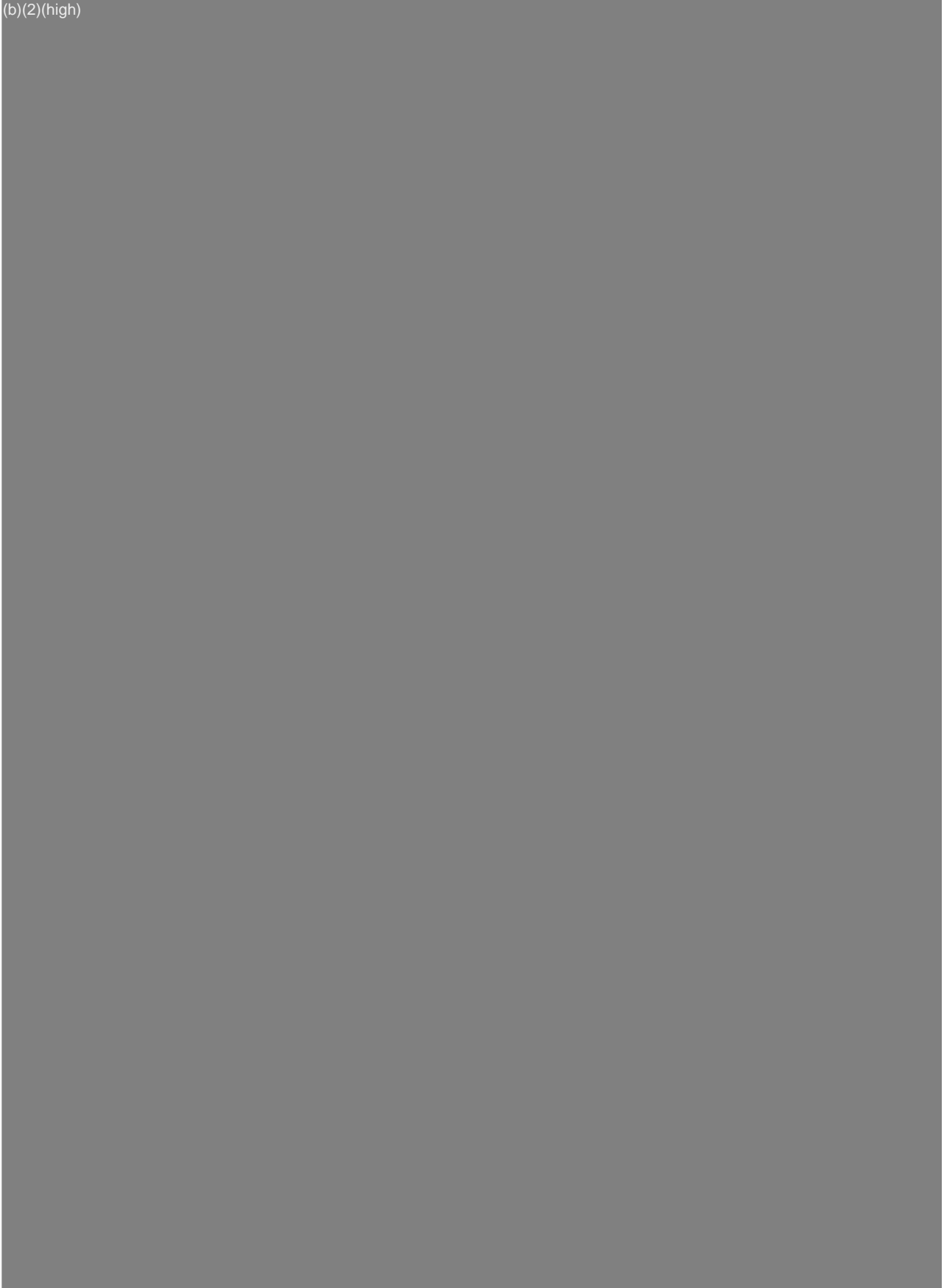
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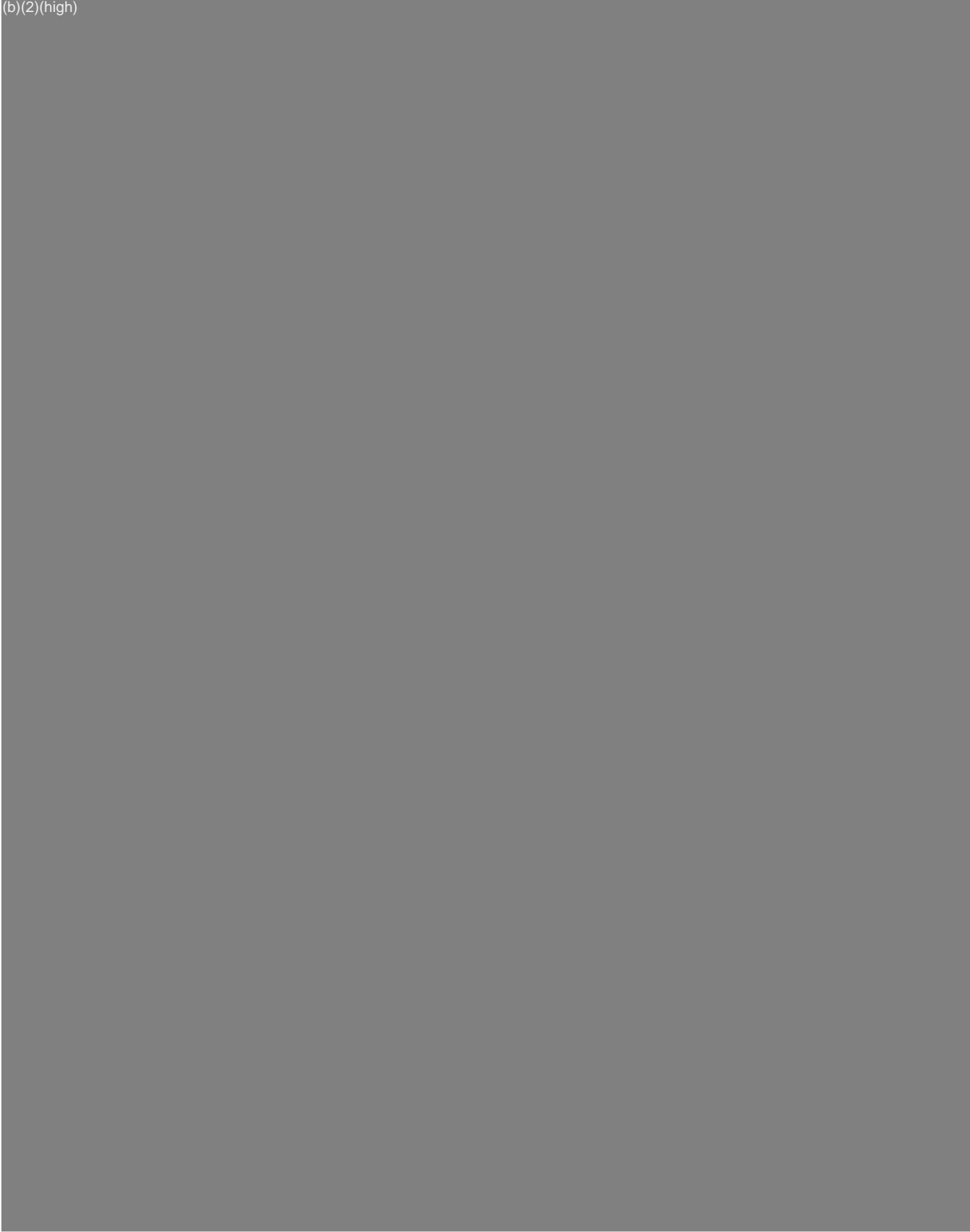


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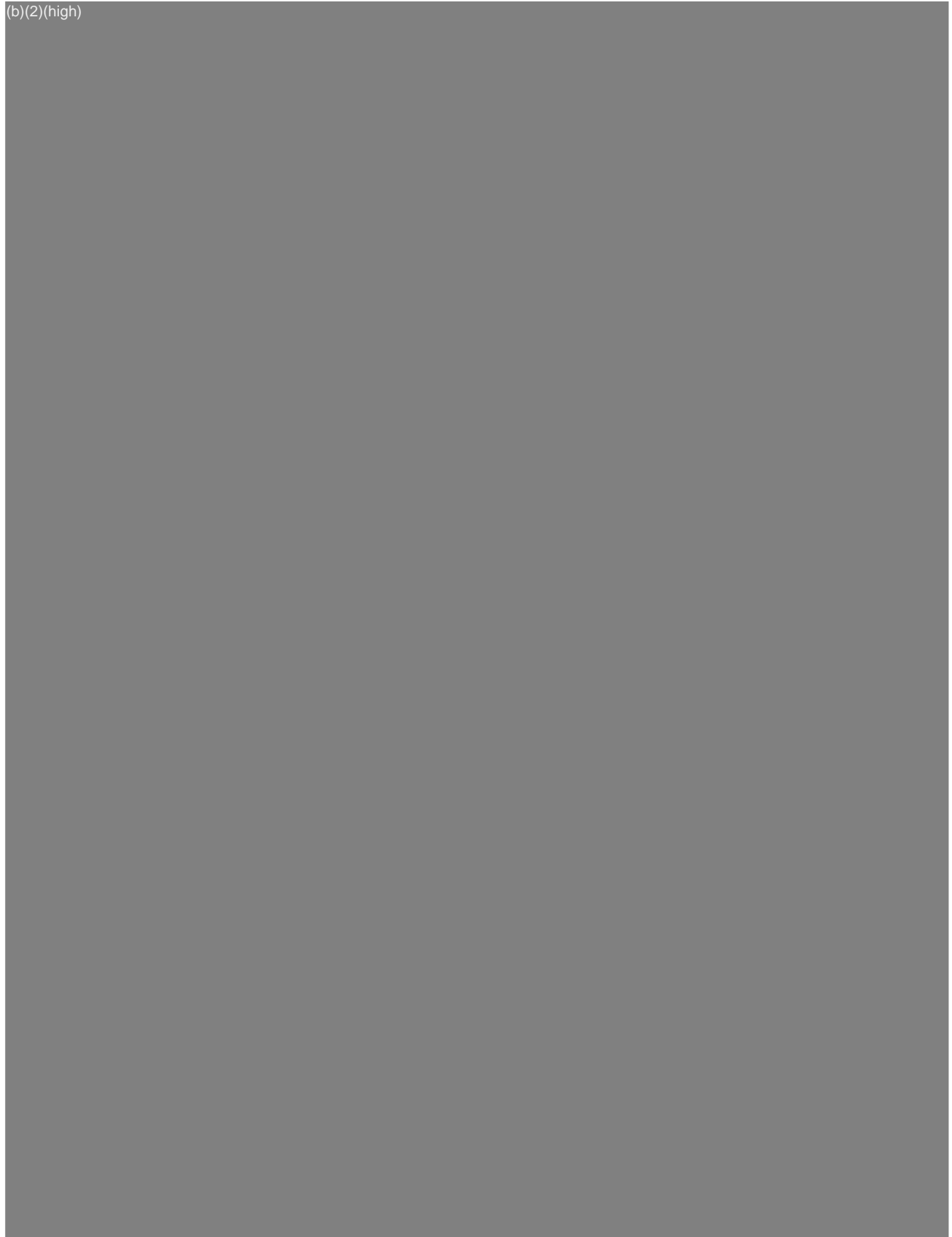
**FOR OFFICIAL USE ONLY**

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**FOR OFFICIAL USE ONLY**


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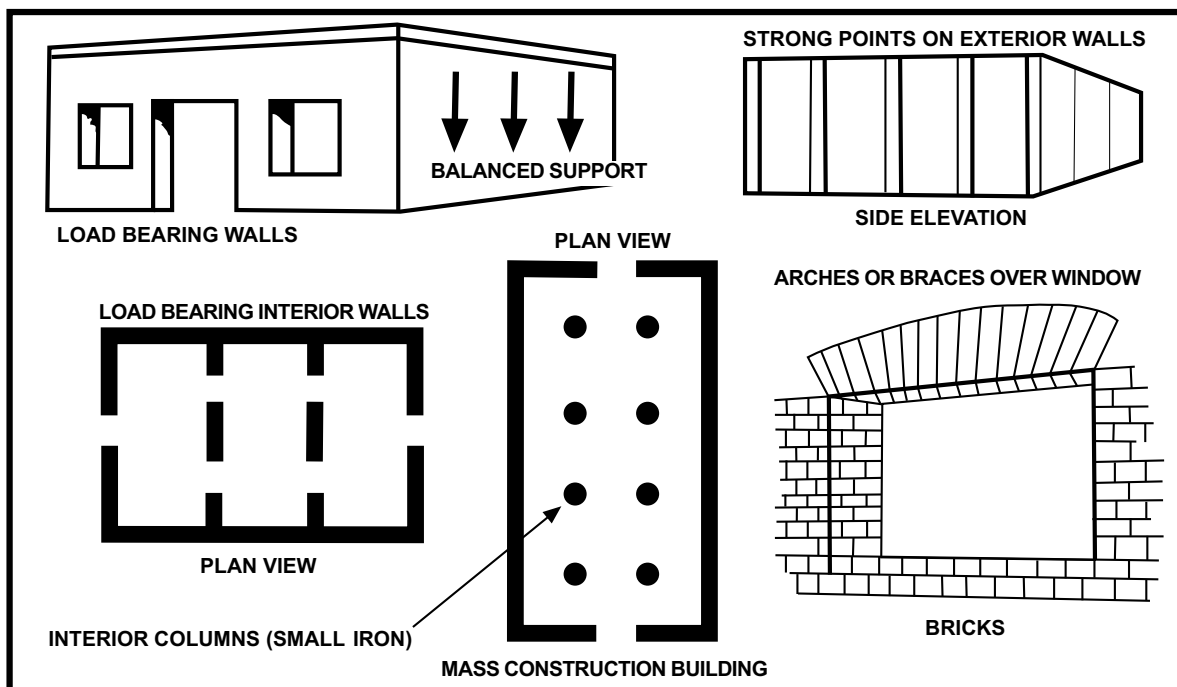


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## Urban Building Analysis

Mass-construction buildings have outside walls that support the building's weight and contents. Additional support, especially in wide buildings, comes from using load-bearing interior walls, strong-points (called pilasters) on the exterior walls, cast-iron interior columns, and arches or braces over the windows and doors. Modern types of mass-construction buildings are wall and slab structures, such as many modern apartments and hotels, and "tilt-up" structures commonly used for industry or storage. Mass-construction buildings are built in many ways:

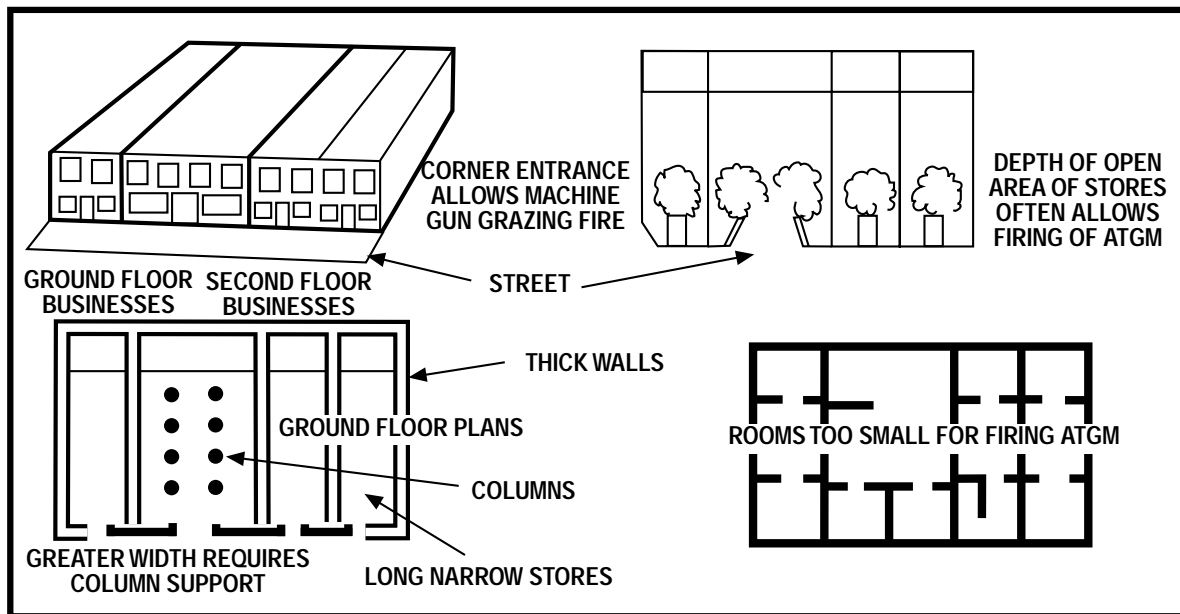
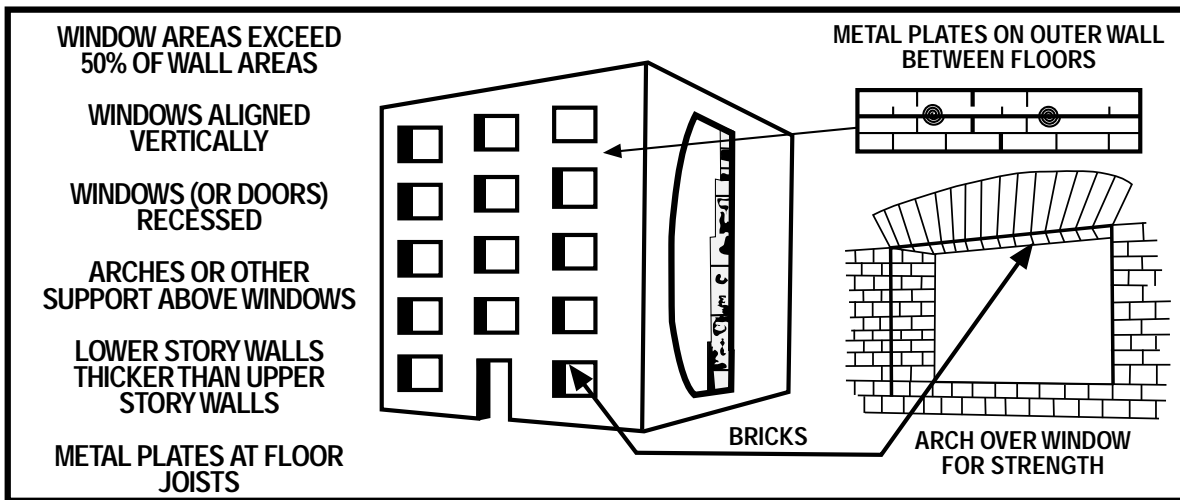
- Walls can be built in place by using bricks, block or poured-in-place concrete.



### Mass-Construction Buildings

- Walls can be prefabricated and then tilted up, or be reinforced concrete panels.
- Walls can be prefabricated and assembled like boxes.

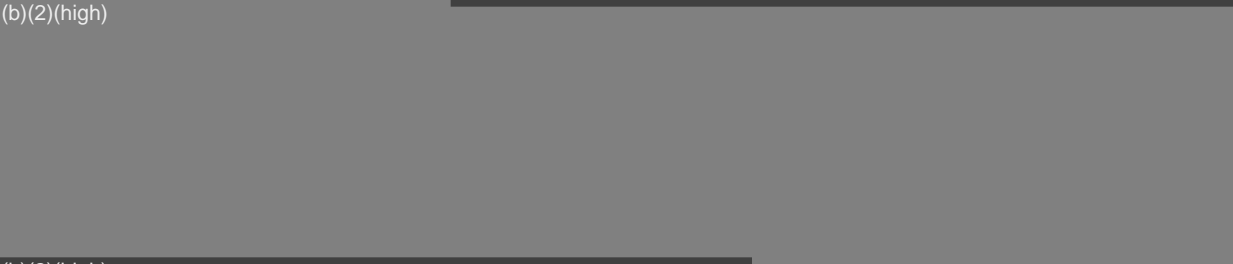
In some regions, brick buildings are the most common and most important of the mass-construction buildings. In Europe, brick buildings are commonly covered with a stucco veneer. One of the most common brick buildings is the small store. These buildings are found in all built-up



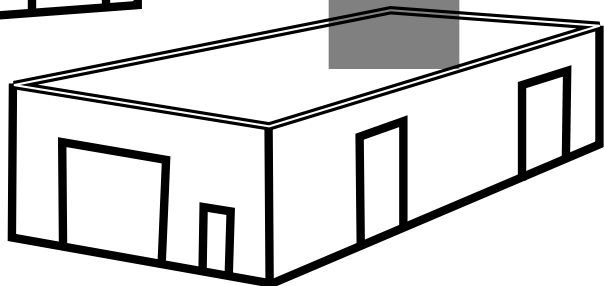
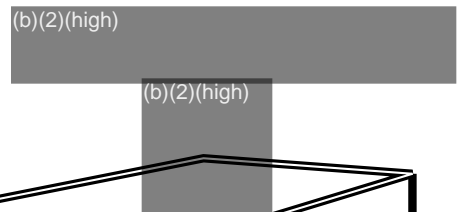
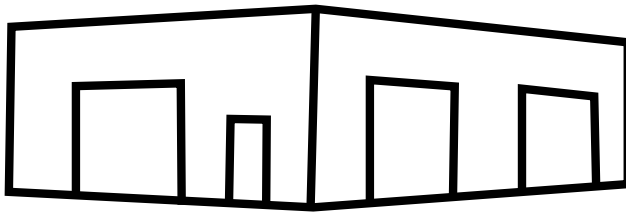
Brick Buildings (above) and Brick Stores (below)

areas but are most common in the core periphery. Another common, mass-construction building found mainly in industrial areas and along commercial ribbons is the warehouse.

It is built of poured-in-place concrete reinforced with steel bars or of prefabricated tilt-up walls.



Another mass-construction building is the box-wall principle type. It is constructed from prefabri-



- LARGE WALLS AND FEWWINDOWS
- THICK WALLS (8 10 )
- ANGULAR SHAFT
- LOW ROOF PROFILE
- USUALLY ONE STORY



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Warehouse

cated panels of 6-to-8-inch-thick, reinforced concrete. The outside wall

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(b)(2)(high)

(b)(2)(high)

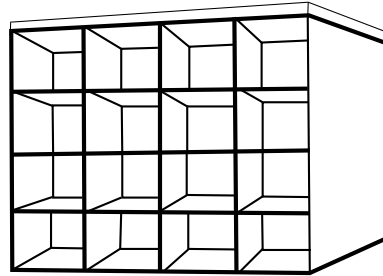
A good circulation pattern exists from room

to room and floor to floor. These buildings are commonly used as hotels or apartments and are located in residential and outlying areas.

Public gathering places (churches, theaters) are mass-construction buildings with large, open interiors.

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UNIFORM SIZE CELLS  
OFTEN FULLY VENTED  
THICK (6 - 8) FLOORS,  
WALLS, AND CEILINGS  
(NOT ALWAYS VISIBLE)  
WINDOWLESS END  
WALLS

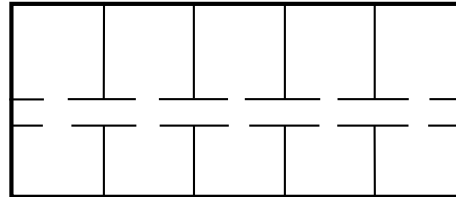


FULL WINDOW TO OUTSIDE

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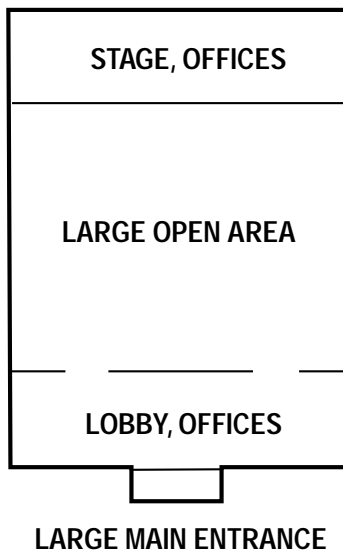
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EACH ROOM HAS THICK  
(6 - 8) WALLS, FLOORS,  
AND CEILINGS



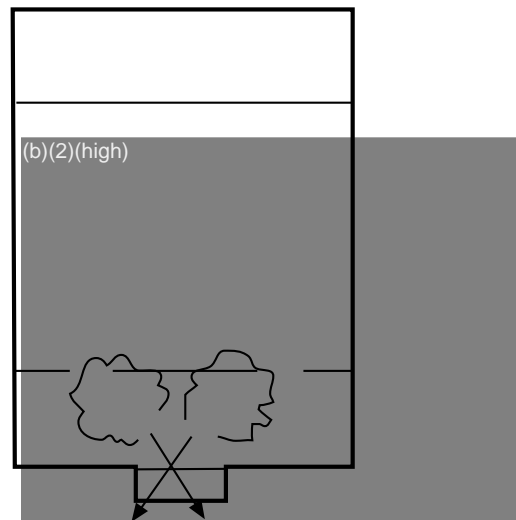
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### Box-Wall Principle



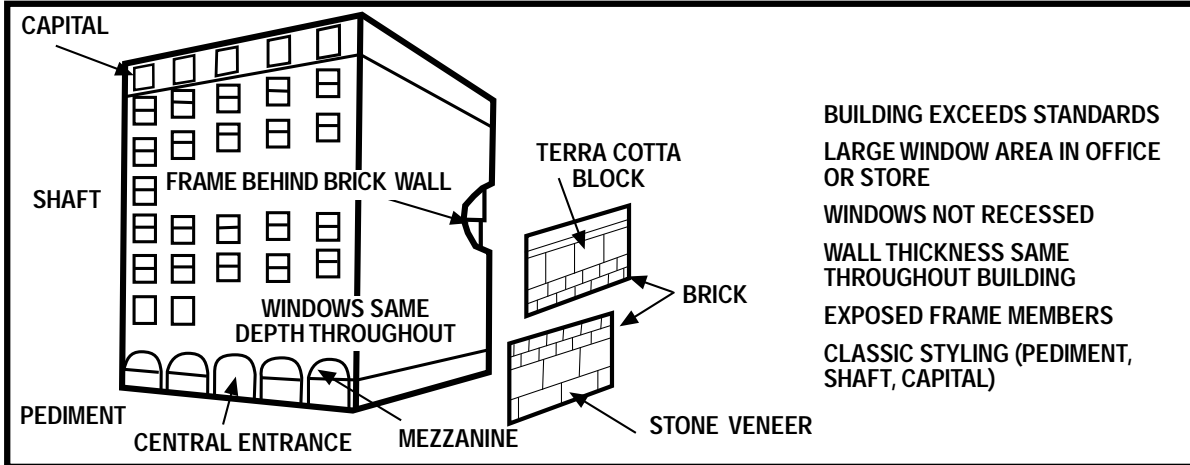
FEW IF ANY  
WINDOWS

THICK WALLS TO  
SUPPORT LONG  
ROOF SPANS

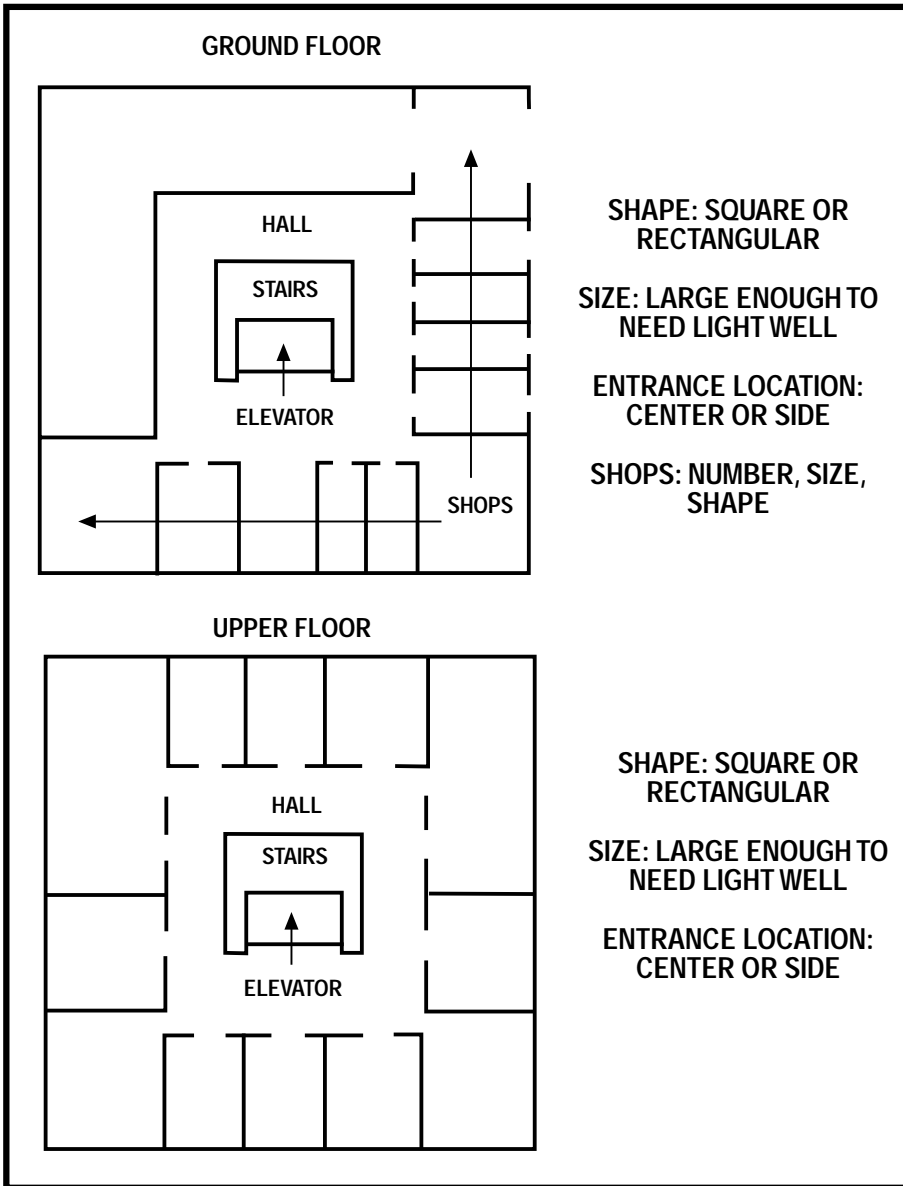


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### Public Gathering Place



**Heavy-Clad  
Framed  
Building and  
Floor Plan**



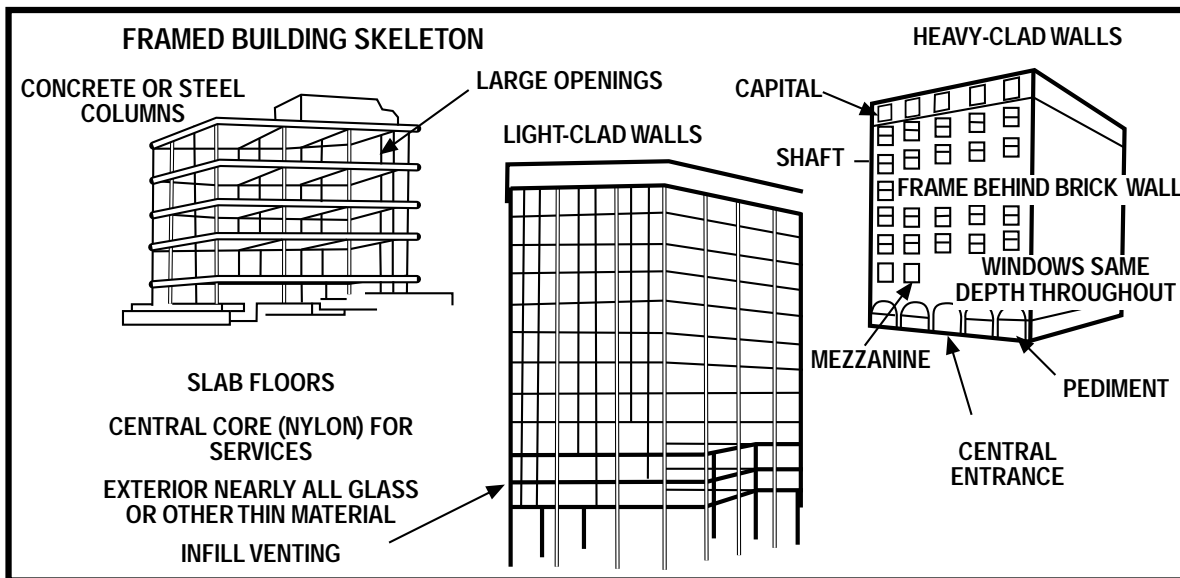
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(b)(2)(high)

They are often located next to parks or other open areas (b)(2)(high) Public gathering places are most common in core, core periphery, residential, and outlying high-rise areas.

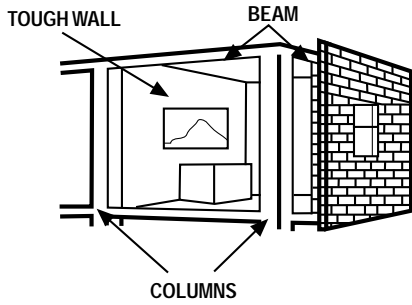
Framed buildings are supported by a skeleton of columns and beams and are usually taller than frameless buildings. The exterior walls are not load-bearing and are referred to as either heavy clad or light clad. Another type of framed building often found in cities is the garage, which generally has no cladding.

Heavy-clad buildings were common when framed buildings were first introduced. Their walls are made of brick and block that are sometimes almost as thick as frameless brick walls (b)(2)(high) Heavy-clad framed buildings are found in core and core periphery areas. They can be recognized by a classic style of architecture in which each building is designed with three sections: the pediment, shaft, and capital. Unlike the brick building, the walls are the same thickness on all floors, and the windows are set at the same depth throughout. Often the frame members (columns) can be seen, especially at the ground floor. The

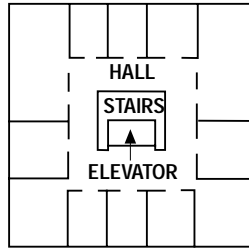


## Framed Buildings

(b)(2)(high)



ONE OFFICE PER CELL BETWEEN FRAME MEMBERS



(b)(2)(high)

The floor plans of these buildings depend on their functions. Office buildings normally have small offices surrounding an interior hall. These offices have the same dimensions as the distance between columns (some large offices are twice the distance between columns).

(b)(2)(high)

The last category of heavy-clad framed building is the department store. They normally have large, open interiors.

(b)(2)(high)

### Heavy-Clad Framed Building

(b)(2)(high)

Steel fire doors, activated by heat, often exist

between sections of the store.

(b)(2)(high)