

TMG Initiatives of Accessibility in the development of the metropolitan competition venues for Tokyo 2020

~Accessibility Workshop joined by persons with impairments and academic experts~












Bureau of Olympic and Paralympic Games Tokyo 2020 Preparation

For the Olympic and Paralympic Games in 2020, the Tokyo Metropolitan Government (TMG) has established 11 venues in accordance with the Tokyo 2020 Accessibility Guidelines formulated by the Tokyo Organising Committee of the Olympic and Paralympic Games. In addition, in order to effectively utilize the competition venues after the Games, we have established "Accessibility Workshop" consisting of persons with impairments and academic experts so that anyone can use them easily. At this Accessibility Workshop, we examined various items and summarized the installation policy, based on which we constructed new venues and renovated the existing venues.

As for new venues, the Tokyo Aquatics Centre was completed in February 2020, and as for the existing venues, the renovation of the Tokyo Stadium was completed in May 2020. As a result, the construction of all 11 metropolitan venues was finally completed. Therefore, we have made this summary regarding accessibility efforts in the competition venues over the past four years.

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1 Competition venues developed by TMG

Tokyo Aquatics Centre	Ariake Arena	Sea Forest Waterway	New Venues
			Existing Venues
Kasai Canoe Slalom Centre	Oi Hockey Stadium	Yumenoshima Park Archery Field	Ariake Tennis Park
			
Tokyo Metropolitan Gymnasium	Tatsumi Water Polo Centre	Tokyo Stadium	Musashino Forest Sport Plaza
			

2 Tokyo 2020 Accessibility Guidelines



【Issued by】

The Tokyo Organising Committee of the Olympic and Paralympic Games (Tokyo 2020 Organising Committee)

【Date of publication】

24 March 2017

【Outline】

- The Guidelines are developed by the Tokyo 2020 Organizing Committee on the request of the IPC (International Paralympic Committee) in order to achieve barrier-free in terms of both tangible and intangible aspects in the management of the Games.
- Since the “Accessibility Council” was co-organized by the Japanese Government, TMG and the Tokyo 2020 Organising Committee in November 2014, three working groups have been established and comments & opinions have been received from 20 groups, including those organisations of persons with impairments, to develop the Guidelines.

<Reference> available to download from the link below:
<https://tokyo2020.org/en/organising-committee/accessibility/>

3 Accessibility Workshop

<Outline>

The Accessibility Workshop is established to hear opinions directly from persons with impairments and academic experts at the stage of designing the metropolitan competition venues for the Tokyo 2020 Games so that these venues can properly reflect the Tokyo 2020 Accessibility Guidelines, and also that persons with impairments can get access to and utilize them more easily. (It consists of nine external members and TMG officials.)



The Workshop is aimed at bringing facilities that are easy to use for people with or without impairments not only during the Games but also after the Games.



**<Site visit for the 5th Workshop
(at Tokyo Metropolitan Gymnasium)>**



<The 7th Workshop>

4 Accessibility Workshop members

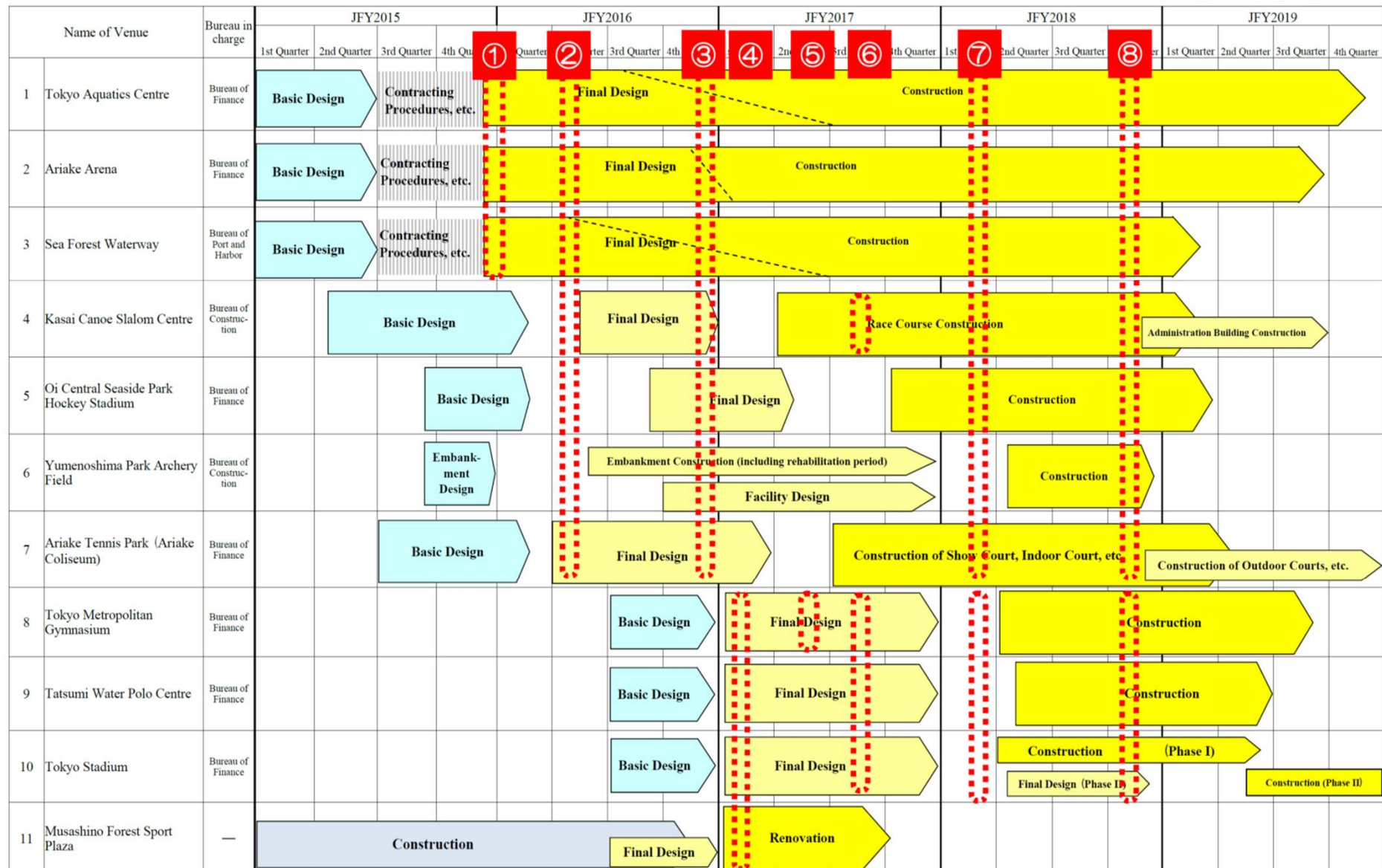
	Members	Organisation and Title
Organisations for persons with impairments (Tokyo Metropolitan Promotion Committee for Welfare City Creation)	Mr. Ichihashi Hiroshi	Chairman of Tokyo Conference to Support the Life and Right of Persons with impairments and the Families
	Mr. Ochi Daisuke	Executive Director of Tokyo Deaf Comprehensive Support Organisation Tokyo Federation of Deaf
	Ms. Yoshida Mina	Vice-President of Tokyo Welfare Association of Vision Impaired
	Mr. Kikuchi Takashi	Secretary-General of Tokyo Federation of Persons with intellectual Impairments
	Ms. Nagata Naoko	Vice-Chairperson of Tokyo Parent's Association for Intellectual Disabilities
Academic experts (Tokyo Metropolitan Promotion Committee for Welfare City Creation)	Mr. Takahashi Gihei	Professor of Faculty of Human Life Design, Tokyo University
	Mr. Kawauchi Yoshihiko	Professor of Faculty of Human Life Design, Tokyo University
	Mr. Nakano Yasushi	Faculty of Economics, Keio University
Para-Sports Association	Mr. Yashiki Yusuke	Manager of Supporting Section, Athletes Support Department, Japanese Para-Sports Association (Secretariat of Japanese Paralympic Committee)

※Committee members as of the 8th Accessibility Workshop in February 2019

5 Records of Workshop sessions

(Sessions have been held in accordance with the progress of design and construction of facilities.)

* Circled numbers show Workshops held



6 Details of Studies and Discussions at Workshop

6 Details of studies and discussions at Workshop

The Workshop was held eight times from March 2016 to February 2019. TMG listened to the Workshop members' opinions throughout.

*WS stands for Accessibility Workshop.

New venues

1st WS in March 2016: Hearing opinions on basic designs

Ariake Arena, Tokyo Aquatics Centre, Sea Forest Waterway

2nd WS in July 2016: Hearing opinions on the final designs

- Dispersing toilet functions
- Allocation of spectator seats (wheelchair-accessible seats, companion seats, enhanced amenity seats)
- Allocation of resting rooms, resting corners (calm down, cool down)

3rd WS in March 2017: Hearing opinions on the final designs

- Specifications of spectator stands (hand rails, electric outlets for wheelchair battery charging, etc.)
- Specifications of toilet facilities (flash lamps, placement of JIS button, etc.)
- Countermeasure against being trapped in an elevator, audio guidance system

7th WS in June 2018: Hearing opinions on signage, and venue visit at Tokyo Stadium

- Signage installation policy
- Full-sized sign samples
- Site visit at Tokyo Stadium

8th WS in February 2019: Summary of the detailed specifications of signage and study results

Existing Venues

4th WS in May 2017: Hearing opinions about the basic designs and follow-up situation of dealing with opinions heard

- Explanation of the renovation policies for the existing facilities based on the preparation policies for the new facilities discussed between the 1st and 3rd WSs. (dispensing toilet functions, and plan for renovation and distribution of wheelchair-accessible seats)

5th WS in August 2017: Hearing opinions by visiting sites

Tokyo Metropolitan Gymnasium

6th WS in October 2017: Hearing opinions on the final designs and follow-up situation of dealing with opinions heard

- Explanation of follow-up situation of final designs based on opinions heard at the 4th and 5th WSs. (dispensing toilet functions, spectator stands specifications, and so on)

6 Details of studies and discussions at Workshop

The Workshop studied the following items for each venue:

Main Study Items	
(1) Spectator seats <ul style="list-style-type: none">▪ Vertically and horizontally dispersing wheelchair-accessible seats and priority seats▪ Securing sightline for wheelchair users▪ Installing handrails▪ Specifications of wheelchair-accessible seats and priority seats <p>*Priority seats are for those who do not use a wheelchair but cannot walk smoothly, users of assistant dogs, and those who need seats with care due to some problems with limbs, tallness, size of body and so on.</p>	
(2) Toilets <ul style="list-style-type: none">▪ Dispersing toilet functions▪ Disaster alarm in compartment▪ Accessible by an assistant of opposite sex▪ Specifications and size of stalls	
(3) Signage <ul style="list-style-type: none">▪ Location, size, typeface, contrast▪ Pictograms▪ Multilingual support	
(4) Others <ul style="list-style-type: none">▪ Audio guidance system▪ First aid station or room▪ Large-sized screen▪ Guidance blocks for the visually impaired▪ Countermeasures for a trap in elevators▪ Group assistive hearing facilities	

7 Summary of the Study Results

7 Summary of the Study Results (Main installation policies)

The study results have been summarized as installation policies, based on the opinions heard at the Accessibility Workshop, regarding various facilities such as spectator stands, toilets, signage and so on.

Spectator stands	
Specifications	<ul style="list-style-type: none">• “Wheelchair-accessible seats,” “companion seats,” “priority seats with enhanced amenity seats” are set in easily accessible places. The companion seats and priority seats are basically movable and flexibly applicable to various ways of usage with bigger space around them.• In principle, handrails are set up at the stairs of the stands unless the stairs are narrow.• With regard to the guiding blocks on the stairs of the stands, at least one line of the blocks is set in cases where two lines cannot be set because the space for two lines is not secured (excluding the narrower area).• Visibility is secured with clear contrast at the stair nosings.• In principle at least one electrical outlet for wheelchair battery charging is set on the side of either wheelchair-accessible seat or companion seat.
Sightline	<ul style="list-style-type: none">• Sightline is secured for wheelchair-accessible seating to keep the sight of a wheelchair user even in cases where a person in the front seat stands.
Dispersing (wheelchair-accessible seats)	<ul style="list-style-type: none">• The wheelchair-accessible seats are horizontally and vertically distributed considering the sightline in venues. In cases where it is difficult to set evacuation routes at the existing venues, horizontal dispersed installation of seats should be adopted.

7 Summary of the Study Results (Main installation policies)

Toilets

Dispersing toilet functions

- At new venues the following toilets corresponding to various needs of users should be prepared: “Accessible toilet (including equipped with large beds),” “All gender toilet for assistance of opposite sex,” “Toilet equipped with handrails,” “Toilet for ostomy,” and “Toilet for persons with infants.”
- At the existing venues the following facilities are allocated as dispersedly as possible to toilets for men and for ladies so as to avoid congestion in the accessible toilets: “Hand rails,” “Facilities for ostomy,” “Baby chairs,” and “Diaper changing tables.”
- In cases where it is difficult to set up all gender toilets for assistance of opposite sex at the existing venues due to such reasons as lack of space, accessible toilets may also be used as all gender toilets, with a curtain installed in as many accessible toilets as possible to secure privacy.

Specifications of equipment

- Each toilet is equipped with a flashing light which informs of disaster occurrence.
- Buttons to be set newly or for renovation are installed uniformly in compliance with the layout designated by JIS.
- An indicator lock is installed on toilet doors to be set newly or for renovation to show whether the toilet is in use or not.
- Pictograms are indicated on the toilet door to show functions equipped inside.
- A handrail to be set newly in toilets should be outstanding in color, for example, with enough contrast against the wall and compartment.
- A curtain is installed in accessible toilets and all gender toilets at new venues.

7 Summary of the Study Results (Main installation policies)

Signage

Installation Size Typeface	<ul style="list-style-type: none">• Signs are set considering the size of venue so that guidance can be seen in sequence from the entrance to the spectator stand.• Facilities limitedly allocated at venues, such as “calm down / cool down,” are shown on as many general information boards as possible.• Dispersed toilet functions such as baby chairs are also indicated and guided in sequence with pictograms shown in various places so that the information can be noticed as promptly as possible.• The size of letters and other marks on the sign which people read standing still or have difficult to see should be bigger than that as provided by the Guidelines.• The character spacing is adjusted considering the meaning so that the information can be easily understood by anybody.• The typeface is selected considering easier visibility for the persons of weak sight.
Multilingual Pictogram Contrast	<ul style="list-style-type: none">• Facilities and other information are indicated in Japanese, English and pictograms, and names and English translations are unified among venues and facilities (see slide 14, “7 Summary of the Study Results (Pictograms and facility names)”).• JIS standard pictograms are used. For pictograms undefined by the JIS standard, the graphic symbols for standard guidance set in October 2018 are uniformly used among facilities. The pictograms are worked out in consideration of contrast with surroundings by such method as black and white inversion.• In the case of guiding using letters and colors, proper contrast is secured for the partially color-blind.• The pictograms showing toilet and dressing room location are made with colors and letters.

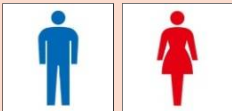





7 Summary of the Study Results (Main installation policies)

Others	
Audio guidance and others	<ul style="list-style-type: none"> • Induction bells are set at the entrance and exit of each building, and brief audio guidance is set at the entrance of general toilets (to the extent that does not affect sports watching). • Guide-light with emergency sound guidance and blinking guide devices are installed at exits of stairs of each floor and exits of the building in new venues (except places where they cannot be installed because of firefighting).
Guidance blocks for the visually impaired	<ul style="list-style-type: none"> • The guidance blocks for the visually impaired are installed up to the entrances of venue buildings, such as a main entrance. Beyond them, the staff is supposed to guide them inside.
Group assistive hearing facilities	<ul style="list-style-type: none"> • The group assistive hearing facilities (hearing loop or FM hearing system) are installed as dispersedly as possible in the spectator stands area.
Calm Down / Cool down	<ul style="list-style-type: none"> • In cases where a first aid room is not prepared at the new venues, calm down / cool down is set up where patients can calm down for a moment. • In cases where it is difficult to establish a permanent calm down / cool down at the existing venues, meeting room or some other space is utilized as a temporal calm down / cool down at the time of events.
Countermeasures against being trapped in elevators	<ul style="list-style-type: none"> • New passenger elevators are equipped with glass window on the door, (except some difficulty for firefighting), security camera and device, like a panel board for sharing information in between inside and outside of an elevator car.
Large-sized monitor	<ul style="list-style-type: none"> • Regarding the large-sized monitors to be newly introduced, the installation places and number of the places are secured so that they can be seen clearly from all the spectator seats.





*Regarding difficulties in the preparation of tangible aspects, persons concerned will share information and cooperate with each other in order to overcome those by pushing forward the relevant administrators and staff's proper consideration, and initiatives of intangible aspects such as sending accessibility information via homepages and other medias.

7 Summary of the Study Results (Pictograms and facility names)

<Toilet>

	Pictograms	Names (Japanese and English)
1		男子/女子トイレ (Men's/Women's toilet)
2		車いす対応トイレ (Accessible toilet)
3 (※1)		男女共用トイレ (All gender toilet)
4	 (※1)	(簡易型)オストメイト用設備 (Facilities for ostomy)
5 (※1)		介助用ベッド (Care bed)
6 (※1)		ベビーチェア(Baby chair) おむつ交換(Diaper changing table) 着替え台(Changing board)
7	(Handrails in toilet)	手すり (handrail)

<Other facilities>

	Pictograms	Names (Japanese and English)
1 (※1)		カームダウン・クールダウン (Calm down, cool down)
2 (※2)		ベビーケアルーム (Baby care room)
3	(wheelchair-accessible seat) ※ including seats for companion	車いす使用者席 (wheelchair-accessible seat)
4	(Enhanced amenity seat)	優先席 (Priority seat)
5		磁気ループ (Hearing loop)
6 (※3)		更衣室(男性/女性更衣室) (Dressing room (Men/Women))

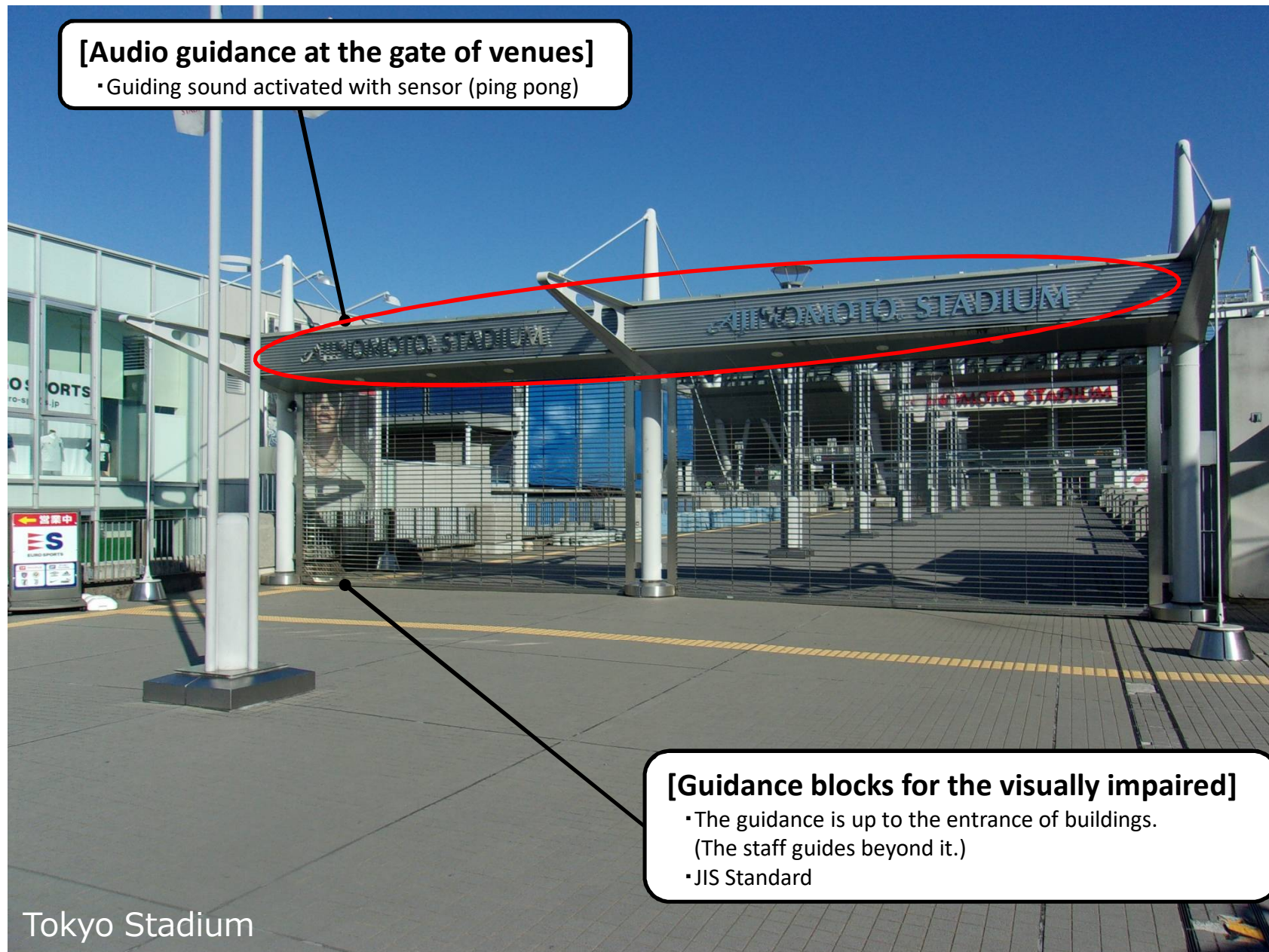
※1 These are the new pictograms made by the “Foundation for Promoting Personal Mobility and Ecological Transportation” in October 2018.

(These were initially made to be JIS pictograms and formally have been added to the JIS standard pictograms number, JIS Z8210, on 20 May 2020.)

※2 The adequate pictograms, including the pictogram for “nursing room” added to JIS Z8210 as of 20 May 2020, will be used according to facilities.

※3 If the name for this facility is defined by other standards like certain sport standard, the name indicated is replaced.

7 Summary of the Study Results (Completion image: entrance)



7 Summary of the Study Results (Completion image: concourse)

[Audio guidance of the entrance]

- Guiding briefly

[Letter signs]

- Size easily legible
- To consider visibility of typeface and space between letters

[New facilities responding to the needs]

[Introduction of common pictograms]



All gender toilet



Calm down, cool down

[Countermeasures against cases of passengers being trapped in elevators]



かご内を確認しております。
係員がエレベーターに向かっております。

Ariake Arena

7 Summary of the Study Results (Completion image: toilet)

[Handrails in toilet]

- To avoid assimilation with the wall color
(Example Image)



(General toilet)



(Accessible toilet)

[Door lock of toilet]

- Visibility of use

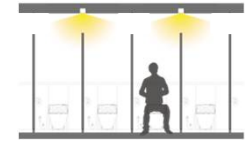
(Example image)



[Installed flashing lights]

- Warning is issued with white light at the time of disaster.

(Example Image)



[Display of toilet functions]

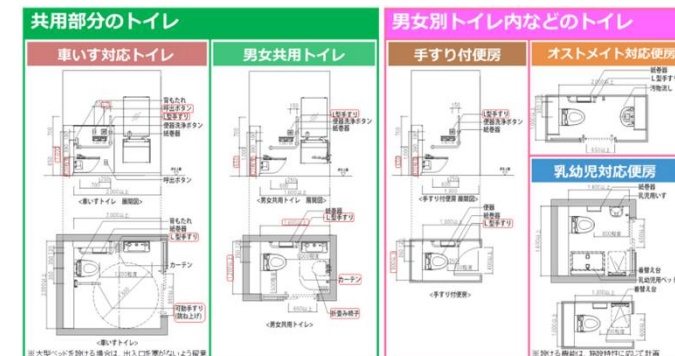
- The pictograms are planned in consideration of contrast with surroundings by such method as black and white inversion.

(Example Image)



[Others]

- Dispersing toilet functions



- Buttons in toilet to be positioned according to JIS standard

7 Summary of the Study Results (Completion image: Spectator stand)

[Nosing]

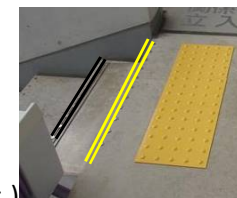
- Nosing must highly contrast

[Handrail]

- To be installed except stairs which do not have space enough for the grip.

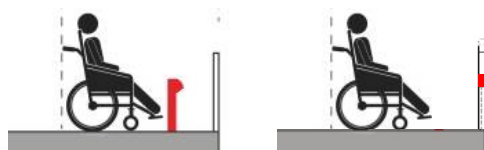
[Warning block]

- Warning blocks shall be installed as much as possible at least on either side of stair case even if the stair width is narrow, (except narrow stairs.)



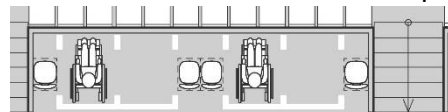
[Electric outlet for wheelchair battery charging]

- To install it at a height of about 40 cm from the floor according to the wheelchair height



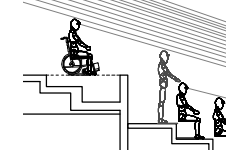
[Indication such as wheelchair-accessible seat]

- The place and seat number are indicated on the area marker or plate



[Others]

- Dispersing wheelchair-accessible seats
- Secure sightline
- Dispersing hearing loop seats



8 Study Examples

8 Study Example

(1) Wheelchair-accessible seats, Companion seats, Priority seats

■ Descriptions in the Accessibility Guidelines

- Wheelchair-accessible seats are set in various areas so that various selections can be available.
- If easily movable seats are used, wheelchairs can be kept aside in cases where more than two wheelchair users access.



■ Opinions at the Accessibility Workshop

- “If ordinary spectators can watch the sports from various places, persons with impairment also should be able to do so by dispersing wheelchair-accessible seats and other measures.”
- “The seat for the companion of the wheelchair user should be movable so that it can cope with various situations such as a spectator group of two wheelchair users with a companion.”



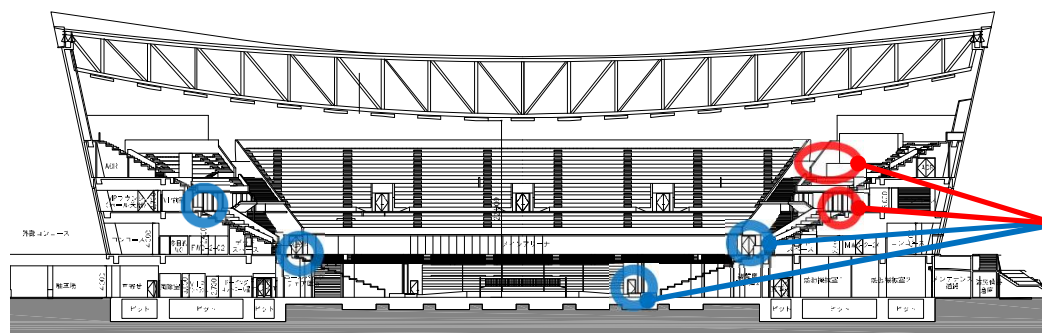
■ Matters reflected on wheelchair-accessible seats, companion seats and priority seats

- > Wheelchair-accessible seats are installed in the vertically and horizontally dispersed places in consideration of securing sightline. In cases where it is difficult to set evacuation routes in the existing venues, horizontally dispersing should be adopted.
 - > Wheelchair-accessible seats, companion seats and priority seats including enhanced amenity seats should be set in easily accessible places. Companion seats and priority seats are not fixed and can flexibly cope with various needs with ample space around them.
- *Priority seat is for those who cannot walk, use assistant dog, and need some care for seating due to some problems with limbs, tallness, size of body and so on although they do not use wheelchairs.

8 Study Example

(1) Wheelchair-accessible seats, Companion seats, Priority seats

> In the new venues, the horizontally and vertically dispersion of the seats is enhanced considering evacuation and sightline.

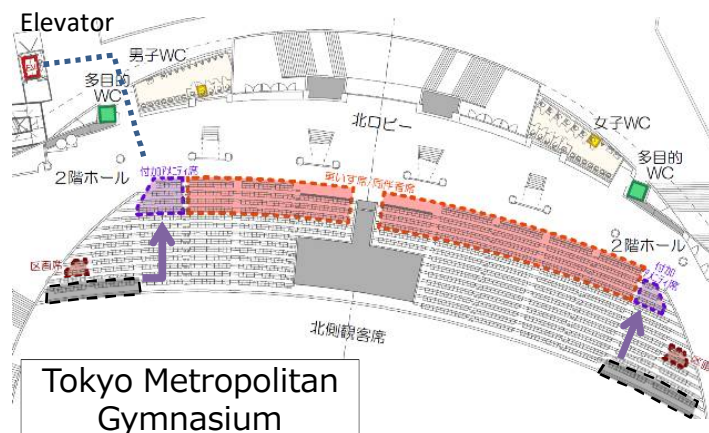


Ariake Arena

Allocation of wheelchair-accessible seats and companion seats

- **【1st WS】 Horizontal dispersion in the blue areas (1st floor, 2nd floor: evacuation floor)**
 - Discussed evacuation in case of fire with the Fire Department and others.
 - Studied again the allocation to secure sightline
- **【2nd WS】 Reinforcement of vertical dispersion by adding the red areas (1st - 4th floor)**

> For the existing venues, discussion on ideal number and allocation of seats is made despite restriction of the structure of venues and other factors.



Tokyo Metropolitan Gymnasium

Priority seats allocation

- **【4th WS】 Black marked areas (The front seats line at the foot of the stair)**
 - Accessibility is more important than the number of seats. [The photo is the 5th WS.]
- **【6th WS】 Moved to the purple areas. (to the highest stairs which are barrier-free accessible.)**
 - *The total number of seats has been reduced.



8 Study Example

(1) Wheelchair-accessible seats, Companion seats, Priority seats

■ Installation Example



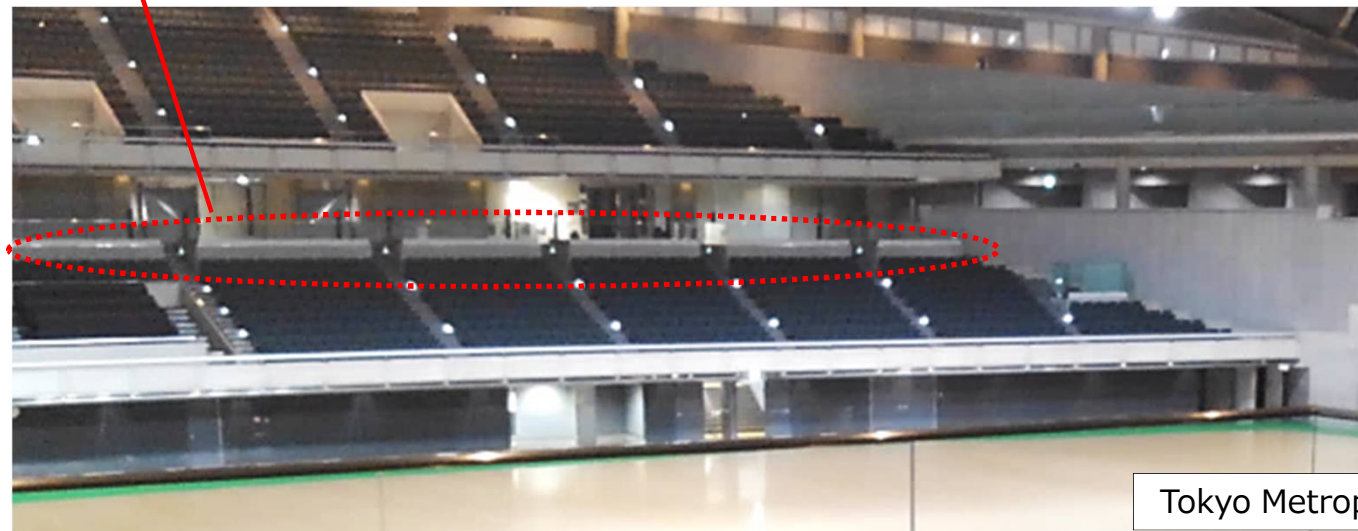
**Securing
sightline**

**Horizontal and
vertical
dispersion**

**Easy
accessibility**

Ariake Arena

Wheelchair-accessible seats, Companion seats /
Priority seats



Tokyo Metropolitan Gymnasium

8 Study Example (2) Dispersion of toilet functions

■ Descriptions in the Accessibility Guidelines

- "Simple multifunction toilets" and "washrooms equipped with separate features" should be installed in toilets for men and for women respectively so that those can supplement multi-functions toilets and functions can be dispersed.



■ Opinions at the Accessibility Workshop

"The functions should not be concentrated on only multi-function toilets. Toilets with particular function should be dispersed even if a space is smaller."

"Toilets where a person of opposite sex can enter together should be prepared just in case care by a person of the same gender cannot be done, even if a space is smaller and has less functions."



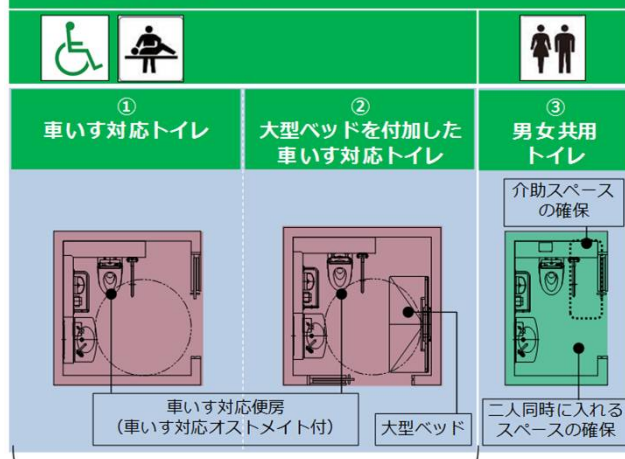
■ Matters reflected on the dispersion of toilet functions

- > At new venues, the following toilets corresponding to various needs of users should be prepared:
 - "Accessible toilet (including equipped with large beds)"
 - "All gender toilet for companion of opposite sex"
 - "Toilet equipped with handrails"
 - "Toilet for ostomy"
 - "Toilet for persons with infants"
- > Since it is difficult to set up all gender toilets for assistance by opposite sex at the existing venues due to such reasons as lack of space, accessible toilets may also be used as all gender toilets, with a curtain installed in as many accessible toilets as possible to secure privacy.

8 Study Example (2) Dispersion of toilet functions

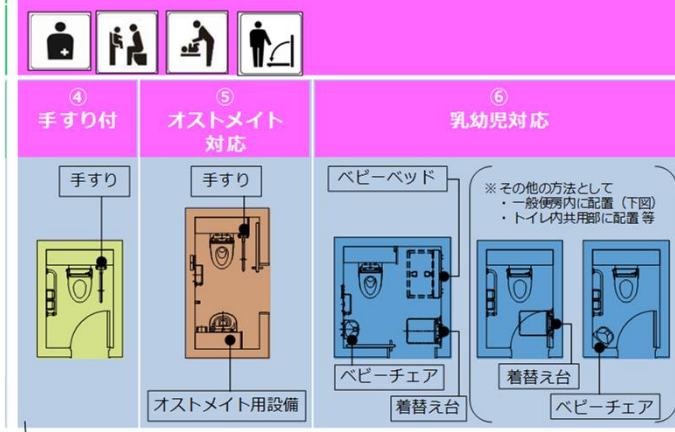
> Dispersion of the functions of multi-functions toilet

共用部分のトイレ



車いす席 15 席あたり 1 箇所

男女別トイレ内などのトイレ

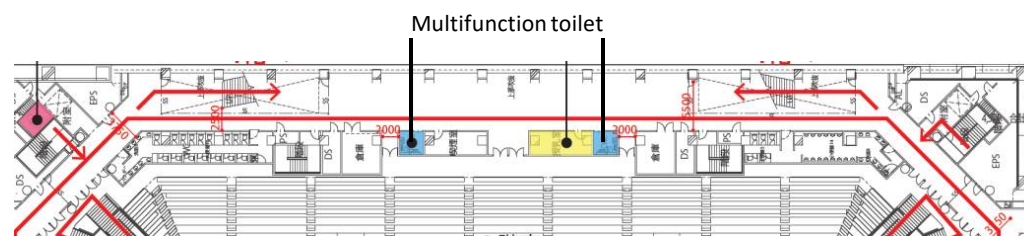


適宜組み合わせ、"一定の利用者のまとまり"を複数のトイレでカバー
(ただし、各一箇所には広めのトイレを用意)

> Various toilets laid out in buildings by adjusting or devising space.

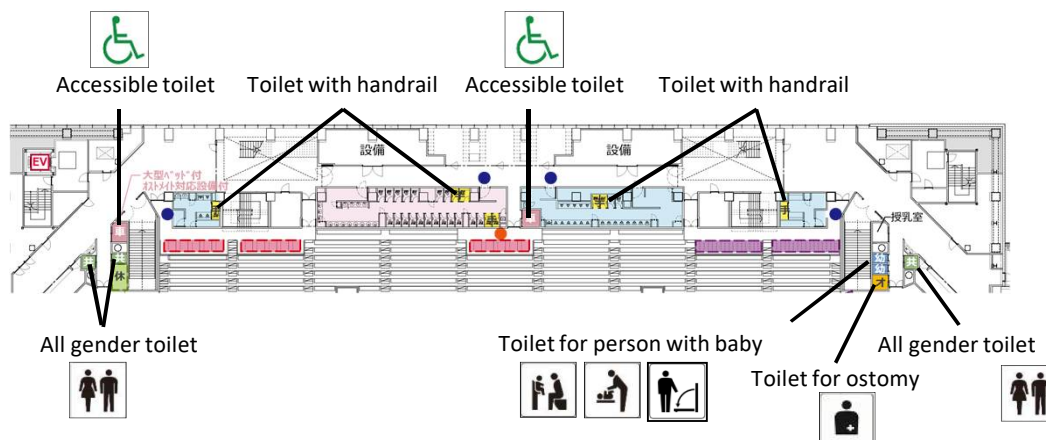
[1st WS] Multi-functions 2 (Compliant with the Guidelines)

Ariake Arena



・Arrangements for adding toilets with functions dispersed in the same area.

[2nd WS] Accessible toilet x 2, All gender toilet x 3, Toilet with handrails x 5, Toilet for ostomy x 1, Toilet for person with baby x 2 (Dispersion of toilet functions)



8 Study Example (2) Dispersion of toilet functions

■ Installation example (Ariake Arena)

<Accessible toilet>



Handrail

Curtain

Facilities for ostomy

Care bed

<All gender toilet>



Curtain

Chair

<Toilet with handrail>



Handrail

<Toilet for ostomy>



Facilities for ostomy

<Toilet for persons with babies>



Baby chair

Diaper changing table



Changing board

8 Study Example (3) Signage Plan (Size, Typeface, Pictograms, etc.)

■ Descriptions in the Accessibility Guidelines

- Guiding boards should be with big and bold letters and as concise as possible so that the aged and persons with impairments can easily read.
- The use of signage of internationally approved symbols is encouraged.



■ Opinions at the Accessibility Workshop

“The space between words, even though big letters used, should be properly set by considering the meaning so that persons with intellectual impairment can understand. “

“It is better to hear opinions of persons with weak sight and color weakness about the color, contrast and visibility of signs before setting up.”

“It is not necessary to indicate who is the priority in toilets but the pictograms of functions equipped should be shown concisely.”



■ Matters reflected on sign plan

- > The size of letters and other information on signs, which people see standing still or are put in the place which is hard to see from the moving direction, should be bigger than that as provided by the Guidelines.
- > The space between words should be adjusted in consideration of the meanings so that anyone can easily understand the contents displayed.
- > The suitable typeface should be selected considering easier visibility for persons with weak sight.
- > The facilities are indicated in Japanese, English and with pictograms. And names and English Translations should be unified among the venues and facilities.
- > The pictograms should be by JIS standard. As to the pictograms undefined by the standard, those from Public Information Symbols which were made in October 2018 should be uniformly used among the facilities. Idea pictogram to be included in the JIS standard pictograms.

*It has been added to the JIS Z8210 (pictograms for guidance) as of May 20, 2020.

8 Study Example (3) Signage Plan (Size, Typeface, Pictograms, etc.)

> Details of signs to be displayed were discussed by actually seeing the real thing.

General Information Board

【7th WS】

Existing General Information Board



• Confirming the size and visibility at the sites,
【Photo at 7th WS】

【8th WS】

Improvement of size of Illustrations,
contrast, typeface



Guiding Signs

【7th WS】 Letter size as big as possible



- Confirming the visibility with a life size model
【7th WS (Photo in the right)】
- Adjusting the space between letters while keeping letter size
- Selecting the typeface by consulting with persons with weak sight

【8th WS】 Improvement of the space of letters and typeface



Space adjustment between letters

Better visibility typeface



Tokyo Stadium

8 Study Example (3) Signage Plan (Size, Typeface, Pictograms, etc.)

■ Installation Example



8 Study Example (4) Others (Spectator stands, Entrance and exit of buildings, etc.)

■ Descriptions in the Accessibility Guidelines

- It is desirable to set handrails at the side of stair for safety of walking on the stairway.
- It is desirable to set up devices which can issue emergency information with voice sound and light.
- Voice guidance and sound guidance as well as display signs should be installed.
- First aid facilities should serve any users with or without impairment.



■ Opinions at the Accessibility Workshop

“It is requested to consider adjustment of very steep stairways in order to remove fear.”

“Disaster alarm system should be effective to the hearing impaired staying in toilet.”

“It is requested to install the devices of audio guidance and guide by text for the vision impaired to understand better.”

“It is requested to establish places like first aid rooms for persons with intellectual impairment to rest near the spectator seats area because they are prone to suddenly feel sick and want to rest.”



■ Matters reflected on the plan

- > Handrails are set on both sides of the stairs in the spectator seats area in principle unless the passage width is kept.
- > Flashing lights to provide disaster alarm with light should be set in each toilet.
- > Induction bell is installed at the entrance and exit of each building and brief audio guidance is installed at the entrance of general toilets (except the toilets which are located near the spectator seats and affects sports watching.)
- > In cases where a first aid room is not prepared in a new building, calm down / cool down should be set up.

8 Study Example (4) Others (Spectator stands, Entrance and exit of buildings, etc.)

> Discussions of how opinions should be reflected on the facilities were made, on a case-by-case basis, based on structure, space, maintenance and cost.

Handrails in the spectator stands

【3rd WS】 Installation policy proposal

- Although the inclination of spectator stands slope varies depending on venues, as many hand-rails as possible should be set up within the scope defined by laws and regulations.

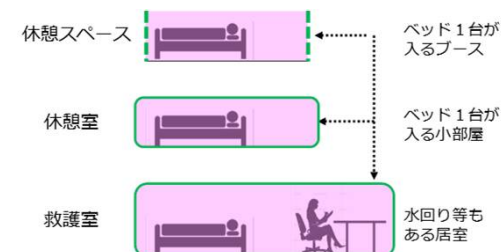


Calm down / Cool down

【2nd WS】

Installation policy proposal

- Space, which is not a room but compact and partitioned, can be used as calm down / cool down.

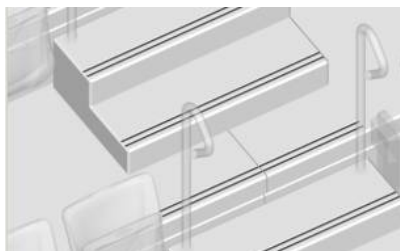
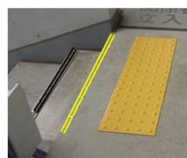


Stair nosing in the stands

【8th WS】

Construction policy proposal

- Stair nosing is emphatically printed with warning color(yellow) on the first and last steps on stairs like the stairs in railway stations.

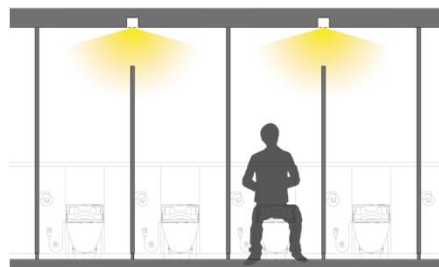


Flashing light

【3rd WS】

Installation policy proposal

- One flash light setting for two compartments is acceptable in consideration of maintenance and its cost.



Audio guidance device

【3rd WS】 Installation policy proposal

- at the entrances of buildings and toilets

【8th WS】 Confirmation of contents of guidance

- Actual guidance announcement should be checked by visual impaired. (confirmation of word orders, length of guidance, etc.)



Audio guidance device (by sensor)

An announcement says, for example, as follows:

"Ping pong, The toilet for men is here, and the toilet for ladies is on the right-hand side. The accessible toilet is on the left-hand side. The tactile plate of the toilet for men is under here."

8 Study Example (4) Others (Spectator stands, Entrance and exit of buildings, etc.)

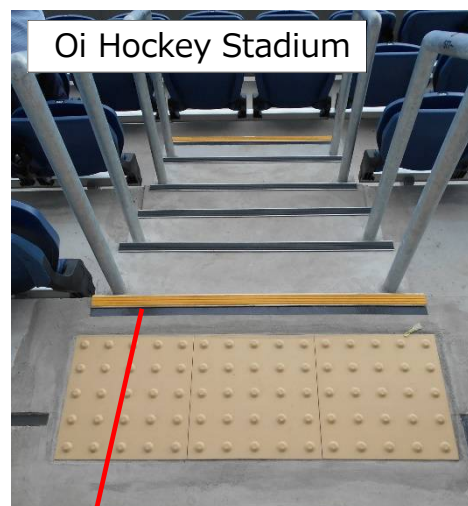
■ Installation example



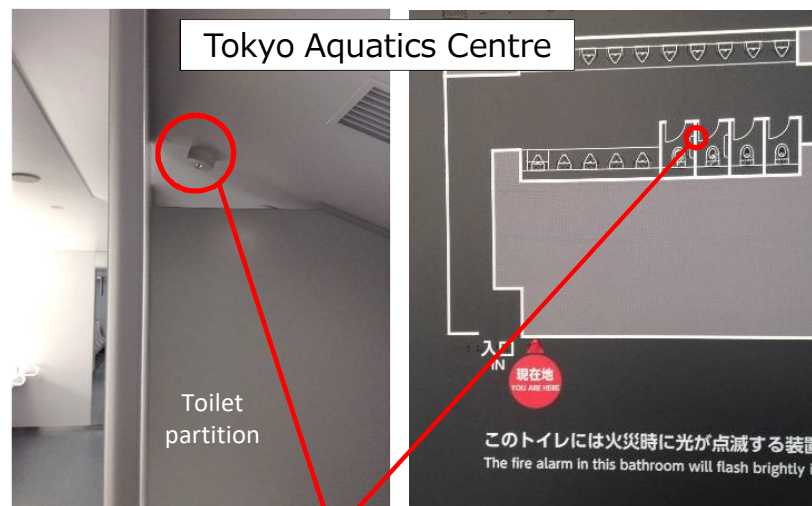
Handrail



Clam down / cool down



Nosing emphatic indication



Flashing light




Audio guidance device

9 Outline of the Competition Venues

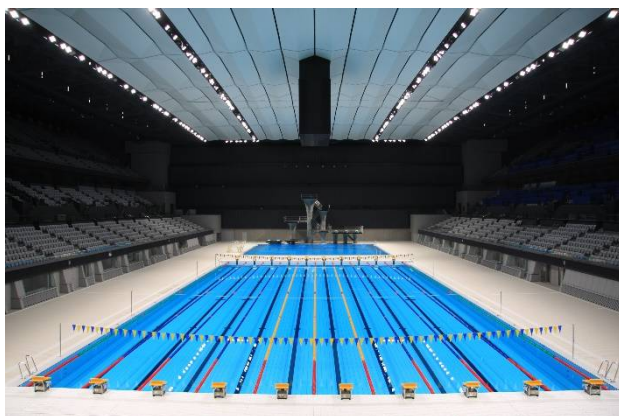
9 Outline of the competition venues

Tokyo Aquatics Centre (Construction completed in February 2020)

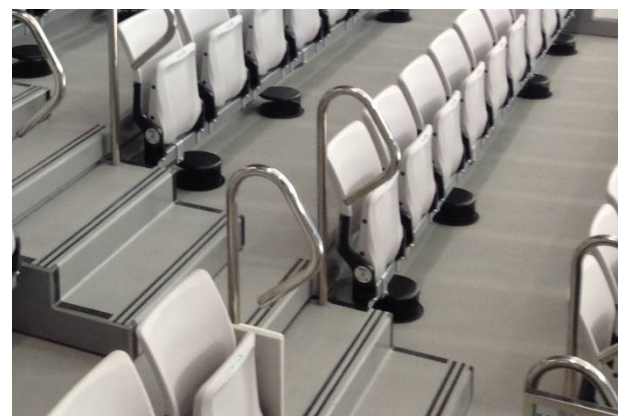
Location	2, Tatsumi 2-chome, Koto-ku, Tokyo (in the Tatsumi-no-Mori Seaside Park)	
Outline of facilities 【Legacy】	Total area: approx. 50,600 m ² Building: 1 floor under ground and 4 floors above ground Spectator seats: approx. 5,000 seats (52 wheelchair-accessible seats) (1,174 hearing loop seats) *Approx. 15,000 seats have been prepared for the games during the construction works before Tokyo 2020.	
Competitions	Olympics / Aquatics (Swimming, Diving, Artistic Swimming) Paralympics / Swimming	

9 Outline of the competition venues

Tokyo Aquatics Centre (Construction completed in February 2020)



<Main Pool • Diving Pool>



<Spectator Stands>



<Wheelchair-accessible seats>



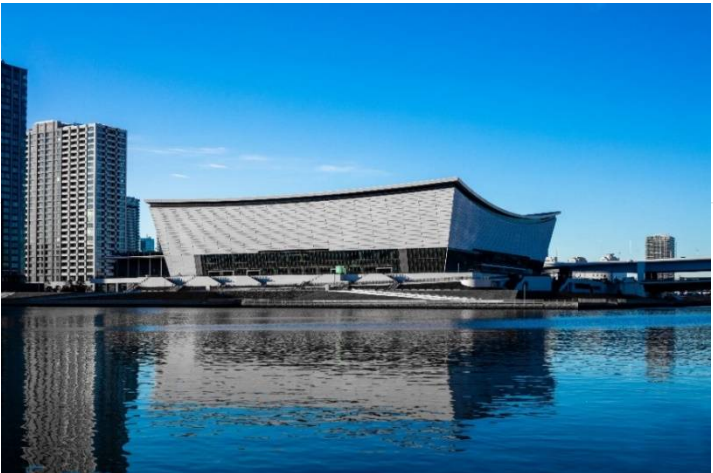
<All gender toilet



<Toilet for persons
with babies>

9 Outline of the competition venues

Ariake Arena (Construction completed in December 2019)

Location	11-1, Ariake 1-chome, Koto-ku, Tokyo	
Outline of facilities 【Legacy】	Total area: approx. 47,200 m ² Building: 5 floors above ground Spectator seats: approx. 15,000 seats (including temporal seats) (150 wheelchair-accessible seats) (1,562 hearing loop seats)	
Competitions	Olympics / Volleyball Paralympics / Wheelchair basketball	

9 Outline of the competition venues

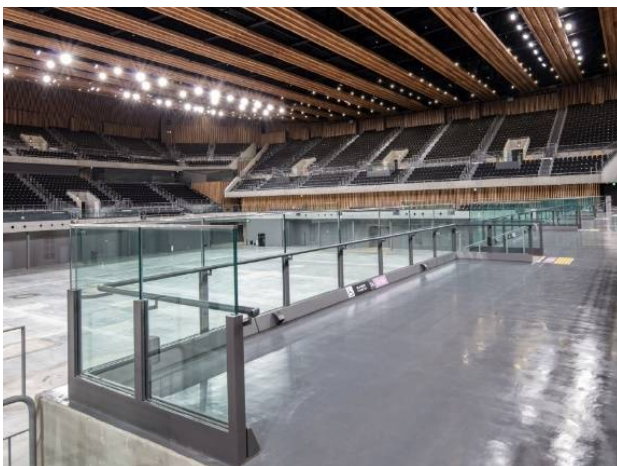
Ariake Arena (Construction completed in December 2019)



<Main Arena>



<Concourse Guidance Sign>




<Wheelchair-accessible seats>



<Stairs in the spectator stands>

9 Outline of the competition venues

Sea Forest Waterway (Construction completed in May 2019)

Location	3-chome, Aomi, Koto-ku, Tokyo	
Outline of facilities 【Legacy】	<p>Race course: 2,000m x 8 lanes</p> <p>Building:</p> <ul style="list-style-type: none">Grandstand Building with 2 floors above groundBoathouse with 2 floors above ground <p>Spectator seats: approx. 2,000 seats</p> <ul style="list-style-type: none">(24 wheelchair-accessible seats)(Group assistive hearing facilities by FM system, 850 seats)	
Competitions	<p>Olympics / Canoe (Sprint), Rowing</p> <p>Paralympics / Canoe, Rowing</p>	

9 Outline of the competition venues

Sea Forest Waterway (Construction completed in May 2019)



<Competition Course>



<Entrance>



<Electric outlet for wheelchair
battery charging>



<Audio guidance of toilet>

9 Outline of the competition venues

Kasai Canoe Slalom Centre (Construction completed in May 2019)

Location	1, 6-chome, Rinkaicho, Edogawa-ku, Tokyo (on land adjoining the Kasai Rinkai Park)	
Outline of facilities 【Legacy】	Competition course: approx. 200 m (Warming-up course: approx. 180 m) Total Area : approx. 47,200 m ² Spectator seats: -	
Competitions	Olympics / Canoe (Slalom)	

9 Outline of the competition venues

Oi Hockey Stadium (Construction completed in June 2019)

Location	4-chome, Yashio, Shinagawa-ku, Tokyo and 1-chome, Tokai, Ota-ku, Tokyo (in the Oi Central Seaside Park)	
Outline of facilities 【Legacy】	<p>Main facility:</p> <p>Short pile artificial grass ground, Watering equipment, Night lighting</p> <p>Spectator seats:</p> <ul style="list-style-type: none">○Main pitch: approx. 2,600 seats (26 wheelchair-accessible seats) (260 hearing loop seats)○Sub-pitch: approx. 500 seats (5 wheelchair-accessible seats) (80 hearing loop seats)	
Competitions	Olympics / Hockey	

9 Outline of the competition venues

Oi Hockey Stadium (Construction completed in June 2019)



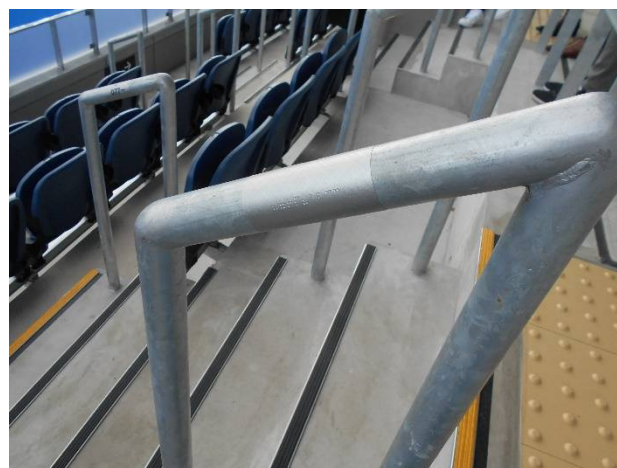
<Main Pitch>



<Guiding Signs>



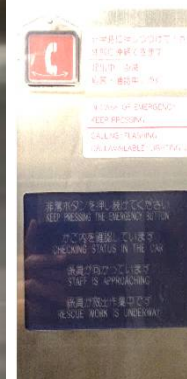
<All gender toilet>



<Spectator Stands>




<Elevator>



9 Outline of the competition venues

Yumenoshima Park Archery Field (Construction completed in February 2019)

Location	2-chome, Yumenoshima, Koto-ku, Tokyo (in the Metropolitan Yumenoshima Park)	
Outline of facilities 【Legacy】	Main facility: Lawn archery ground (approx. 18,000 m ² including artificial hill) Thermal barrier pavement (approx. 3,500 m ²) Sunshade roof, Warehouse Spectator seats: -	
Competitions	Olympics / Archery Paralympics / Archery	

9 Outline of the competition venues

Ariake Tennis Park

Location	2 chome, Ariake, Koto-ku, Tokyo (in the Ariake Tennis Forest Park)	
Outline of facilities 【Legacy】	<p>Main facility: 32 hard-courts, 16 artificial grass courts with sand, Ariake Colosseum</p> <p>Spectator seats:</p> <ul style="list-style-type: none">○Ariake Colosseum: approx. 9,700 seats (98 wheelchair-accessible seats) (1,234 hearing loop seats)○Show Court: approx. 3,000 seats (36 wheelchair-accessible seats) (270 hearing loop seats)	
Competitions	Olympics / Tennis Paralympics / Wheelchair Tennis	

<Ariake Colosseum>

<Show Court>

9 Outline of the competition venues

Ariake Tennis Park



<Colosseum>



<Calm down / Cool down>



<Wheelchair-accessible seats>



<Electric outlet for wheelchair battery charging>

9 Outline of the competition venues

Tokyo Metropolitan Gymnasium

Location	17-1, Sendagaya 1-chome, shibuya-ku, Tokyo	
Outline of facilities 【Legacy】	Total Area: approx. 40,000m ² Building: 2 floors under ground, 3 floors above ground Spectator seats: 5,308 seats (55 wheelchair-accessible seats) (Introduction of FM method for group assistive hearing facilities)	
Competitions	Olympics / Table Tennis Paralympics / Table Tennis	

9 Outline of the competition venues

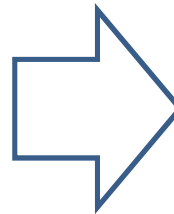
Tokyo Metropolitan Gymnasium, Main Renovation Examples



Increased
wheelchair-
accessible seats



Setting up of slopes



9 Outline of the competition venues

Tokyo Metropolitan Gymnasium, Main Renovation Examples




Installation of new elevators

- Installation of new elevators for wheelchair users. (Capacity 24 persons)
- Emergency alarm system in elevators is devised to inform hearing impaired persons of emergency with letters.



9 Outline of the competition venues

Tatsumi Water Polo Centre

Location	8-10, Tatsumi 2-chome, Koto-ku, Tokyo	
Outline of facilities 【Legacy】	Total Area: approx. 20,000m ² Building: 2 floors under ground, 3 floors above ground Spectator seats: 3,589 seats (36 wheelchair-accessible seats) (Group assistive hearing facilities by FM system, 176 seats)	
Competitions	Olympics / swimming (Water Polo)	

9 Outline of the competition venues

Tatsumi Water Polo Centre, Main Renovation Examples



- Increased wheelchair-accessible seats
- Indication of wheelchair-accessible seats



- Setting up of guiding blocks
- Setting up of guiding signs



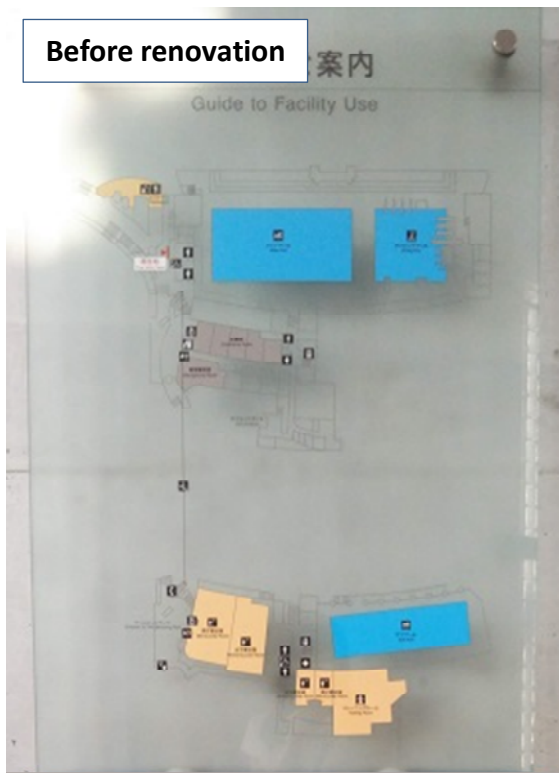
9 Outline of the competition venues

Tatsumi Water Polo Centre, Main Renovation Examples

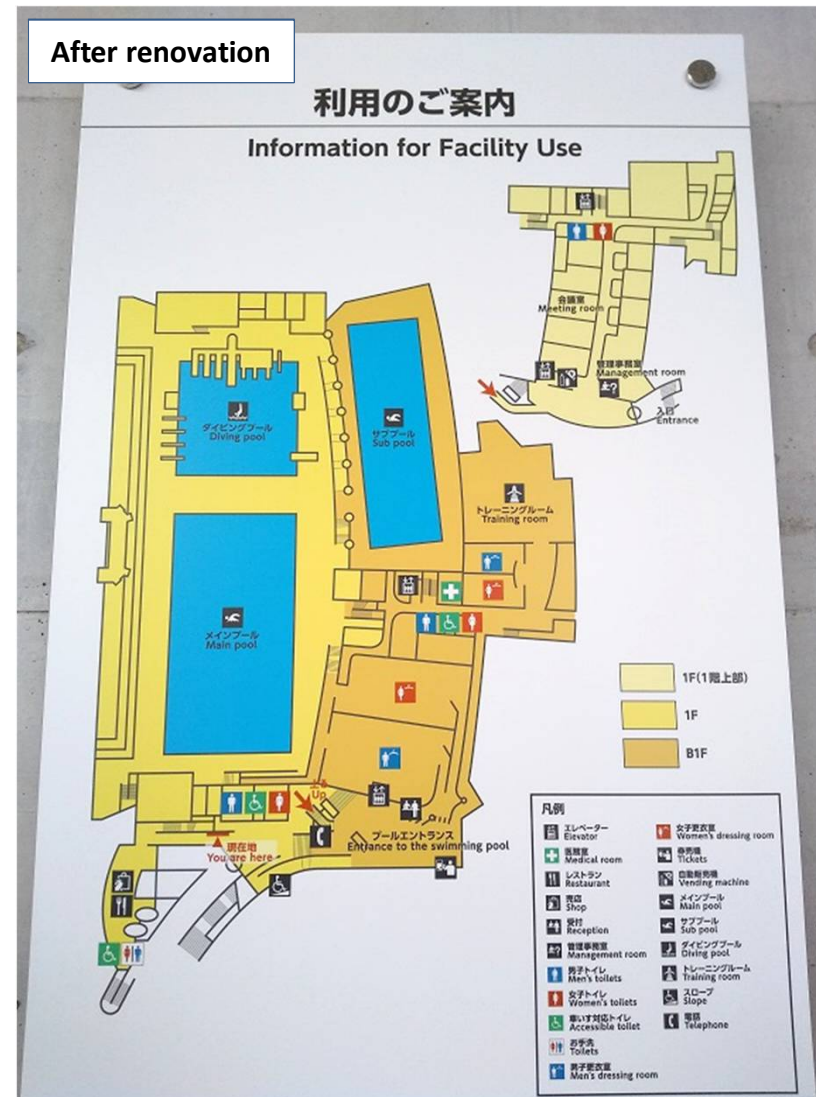
Sign renovation

- Considering visibility, the illustration and letters have been enlarged and the contrast has been secured.

Before renovation




After renovation



9 Outline of the competition venues

Tokyo Stadium

Location	3-376, Nishimachi, Chofu-city, Tokyo	
Outline of facilities 【Legacy】	Total Area : approx. 90,000 m ² Building: 1 floor under ground, 5 floors above ground Spectator seats: 48,013 seats (336 wheelchair-accessible seats) (198 hearing loop seats)	
Competitions	Olympics / Football, Rugby, Modern Pentathlon [Swimming, Fencing Bonus Round, Riding, Laser-run]	

9 Outline of the competition venues

Tokyo Stadium, Main Renovation Examples

Before renovation



Increased
wheelchair-
accessible seats



After renovation



Before renovation



Nosing contrast



After renovation



9 Outline of the competition venues

Tokyo Stadium, Main Renovation Examples


Toilet renovation

- Dispersion of Functions
- Indication of pictograms



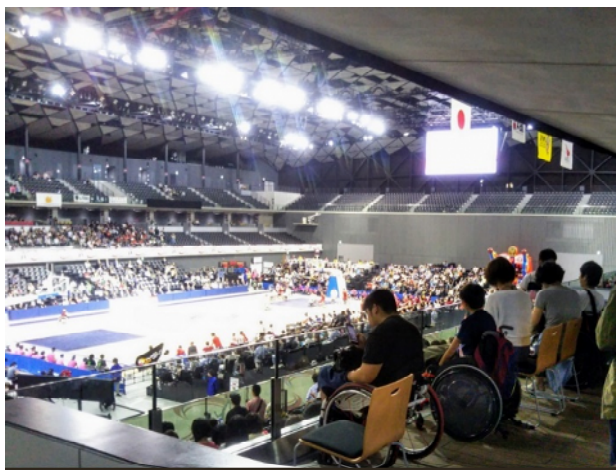
9 Outline of the competition venues

Musashino Forest Sport Plaza

Location	290-11, Nishimachi, Chofu-city, Tokyo	
Outline of facilities 【Legacy】	Total Area : approx. 50,000 m ² Building: 1 floor under ground, 4 floors above ground Spectator seats: 5,933 seats (72 wheelchair-accessible seats) (92 hearing loop seats)	
Competitions	Olympics / Badminton, Modern Pentathlon [Fencing Ranking Round(epee)] Paralympics / Wheelchair Basketball	

9 Outline of the competition venues

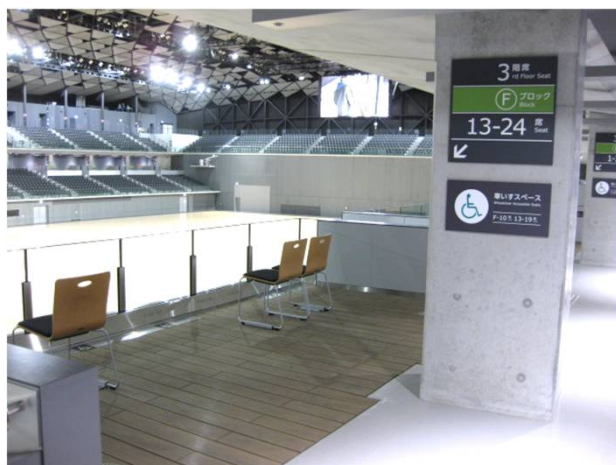
Musashino Forest Sport Plaza



<Main Arena>



<Hanging Sign Board>



<Wheelchair-accessible seats>



<Toilet with Handrail>

Reference Materials

【Reference】 Number of spectators seats and toilets (New Venues)

	Tokyo Aquatics Centre	Ariake Arena ※2	Sea Forest Waterway	Canoe Slalom Centre ※3・4	Oi Central Seaside Park Oi Hockey Stadium※3		Ariake Tennis Park Tennis Courts	
					Main Pitch	Sub Pitch	Coliseum※5	Show Court
Spectator Seats								
Seating capacity (legacy)	Approx. 5000 (Spectator seats: 2F, 3F)	Approx. 15,000 (Spectator seats: 1F-4F)	Approx. 2,000 (Spectator seats: 1F, 2F)		Approx. 2,600 (Spectator seats: 2F, 3F)	Approx. 500 (Spectator seats: 2F, 3F)	Approx. 9,700 (Spectator seats: 1F-3F)	Approx. 3,000 (Spectator seats: 1F, 2F)
Accessible seats (capacity) (Installed)	total: 52 (1.0%) Installed to the 2F, 3F	total: 150 (1.0%) Installed to the 1F-4F	total: 24 (1.2%) Installed to the 1F, 2F		total: 26 (1.0%) Installed to the 2F, 3F	total: 5 (1.0%) Installed to the 2F	total: 98 (1.0%) Installed to the 1F, 2F	total: 36 (1.2%) Installed to the 1F, 2F
Companion seats (capacity) (Installed)	total: 52 (1.0%) Installed to the 2F, 3F	total: 150 (1.0%) Installed to the 1F-4F	total: 24 (1.2%) Installed to the 1F, 2F		total: 26 (1.0%) Installed to the 2F, 3F	total: 5 (1.0%) Installed to the 2F	total: 98 (1.0%) Installed to the 1F, 2F	total: 36 (1.2%) Installed to the 1F, 2F
Priority seats [enhanced amenity seats] (capacity) (Installed)	total: 52 (1.0%) Installed to the 2F, 3F	total: 157 (1.0%) Installed to the 2F-4F	total: 24 (1.2%) Installed to the 1F, 2F		total: 26 (1.0%) Installed to the 2F, 3F	total: 5 (1.0%) Installed to the 2F	total: 102 (1.0%) Installed to the 1F, 2F	total: 36 (1.2%) Installed to the 1F, 2F
Hearing Loop seats (capacity) (Installed)	total: 1,174 Installed to the 2F, 3F	total: 1,562 Installed to the 2F-4F	total: 850 Installed to the 1F, 2F (FM system)		total: 260 Installed to the 2F	total: 80 Installed to the 2F	total: 1,234 Installed to the 2F-4F	total: 270 Installed to the 2F, 3F
Toilets installed								
Installation status of each feature (including both for spectators and staff)								
Number of accessible toilets installed	19	25	16	3	9	4	15	6
Number of all gender toilets installed	5	14	2	3	4	2	4	2
Number of toilets with handrails installed ※1	20	86	33	8	25	6	39	27
Number of toilets for ostomy installed ※1	16	15	2	1	3	4	10	2
Number of toilets for person with baby installed ※1	19	11	6	1	13	16	33	9

※1 Handrails are installed in some accessible toilets or some all gender toilets as well.

※2 Spectator seats include temporary seats.

※3 This facility is to be used only for the Olympic venues, not for the Paralympic venues.

※4 As the spectator seats at the Kasai Canoe Slalom Centre are temporarily installed for Tokyo 2020 only, there is no any permanent seats prepared.

※5 Although Ariake Coliseum is an existing facility, it is written in this table as a new facility because it is being built as tennis facility together with new other facilities in Ariake Tennis Park.

※ As Yumenoshima Park Archery Field is a site of elimination for Tokyo 2020, the spectator stands is not constructed.

(The athletic stadium next to it, which will be used for the Games, will equipped with temporary seats.)

【Reference】 Tokyo2020 Accessibility Guidelines (expected percentage of seats)

Wheelchair-accessible seats: Olympic venues ⇒ 0.75% Paralympic venues ⇒ 1.0~1.2%

Companion seats: Installed at the same percentage of wheelchair-accessible seats Priority seats: At least 1% is desirable

【Reference】 Number of spectators seats and toilets (Existing Venues)

	Tokyo Metropolitan Gymnasium (Main Arena)		Tatsumi Water Polo Centre ※		Tokyo Stadium※ (Stadium building)		Musashino Forest Sport Plaza (Main Arena)	
Spectator seats								
	Before renovation	After renovation	Before renovation	After renovation	Before renovation	After renovation	Before renovation	After renovation
Seating capacity (legacy)	6,030 (Spectator seats: 2F ,3F)	5,308 (Spectator seats: 2F ,3F)	3,633 (Spectator seats: 2F ,3F)	3,589 (Spectator seats: 2F ,3F)	49,930 Spectator seats: Upper/Lower stand	48,013 (Spectator seats: Upper/Lower stand	6,662 (Spectator seats: 3 F ,4F)	5,933 (Spectator seats: 3 F ,4F)
Accessible seats (capacity) (installed)	total: 29 Installed to the 2F	total: 55 (1.03%) Installed to the 2F	total: 20 Installed to the 2F	total: 36 (1.00%) Installed to the 2F	total: 394 Installed to lower stands	total: 336 (0.69%) Installed to lower stands	total: 1 Installed to the 3F	total: 72 (1.21%) Installed to the 3F
Companion seats (capacity) (installed)	No installation	total: 55 (1.03%) Installed to the 2F	No installation	total: 36 (1.00%) Installed to the 2F	No installation	total: 328 (0.68%) Installed to lower stands	No installation	total: 58 (0.97%) Installed to the 3F
Priority seats 【enhanced amenity seats】 (capacity) (installed)	No installation	total: 12 (0.22%) Installed to the 2F	No installation	total: 14 (0.39%) Installed to the 2F	No installation	total: 72 (0.14%) Installed to lower stands	No installation	total: 62 (1.04%) Installed to the 3F, 4F
Hearing Loop seats (capacity) (installed)	No installation	— (Introduction using FM system)	Approx. 170 (FM system)	total: 176 Installed to the 2F (FM system)	total: 224 Installed to lower stands	total: 198 Installed to lower stands	total: 138 Installed to the 3F	total: 92 Installed to the 3F
Toilets installed								
Installation status of each feature (including both for spectators and staff)								
Number of accessible toilets installed	11	11	5	10	15	26	9	9
	【After renovation】 The functions of 「Handrails」 , 「Facilities for ostomy」 , 「Baby Chair」 and 「Diaper changing table」 are installed as dispersedly as possible in gender specific toilets in order to alleviate congestion in accessible toilets. Because of difficulties in setting up "all gender toilets for assistance by opposite sex" at existing venues due to such as a lack of space, accessible toilets have been set to be also used as all gender toilets, with a curtain installed to secure privacy.							

*This facility is to be used only for the Olympic venues, not for the Paralympic venues.

【Reference】 Tokyo2020 Accessibility Guidelines (expected percentage of seats)

Wheelchair-accessible seats: Olympic venues ⇒ 0.75% Paralympic venues ⇒ 1.0~1.2%

Companion seats: Installed at the same percentage of wheelchair-accessible seats Priority seats: At least 1% is desirable