Chapter 5 Reconstruction of Homes and Cities

Section 3 Sewers, Water Supply Facilities, Parks, and Green Spaces

1. Sewers

(1) Damage and Restoration of Sewers

The Great East Japan Earthquake also caused catastrophic damage to sewerage infrastructure in the disaster-affected areas. In particular, many sewage treatment plants and pumping stations located along the Pacific coast of the Tohoku region were shut down due to damage to mechanical and electrical equipment caused by the tsunami. In addition, ground liquefaction of reclaimed land in the Tokyo Bay caused numerous instances of damage to pipes and drains, as well as manholes rising to the surface.

Among the 129 sewage treatment plants affected by the disaster, Sendai's Minami-Gamo Wastewater Treatment Plant, which sustained extensive damage, was restored by the end of 2015, while all other damaged treatment facilities, excluding two locations that do not generate wastewater and three within the areas under evacuation orders, had their treatment capacity restored to normal levels by April 2016.

The damaged sewer pipes span a total of 1,005 km (according to television camera inspections), representing about 1.6% of the entire sewer pipe network in the affected municipalities. For parts of the damaged pipelines that required emergency measures to drain sewage, such measures were carried out until May 2011. As of March 31, 2022, the restoration of 986 km of pipeline had been completed[1].

Figure 5-3-1 Damage to Sewage Treatment Plants

被害状況	震災当初	令和４年３月３１日現在
稼働停止	48	2（なお、当該2箇所は汚水の発生がなく稼働不要のため、廃止）
一部停止	72	0
正常に稼働	－	125
避難指示区域等内	9	2
計	129	129

Figure 5-3-2 Damage to Sewer Pipes

総都道府県数	11 都県
総市町村等数	134 市町村等
総延長	約 6 万 5 千 km
被害管路延長（二次調査）	1,005km
被災率	約 1.6%

Source: Ministry of Land, Infrastructure, Transport and Tourism, “Current State of Water Resources in Japan, FY 2021 Edition” https://www.mlit.go.jp/common/001371918.pdf (browsed July 31, 2023)

[1] Ministry of Land, Infrastructure, Transport and Tourism, “Current State of Water Resources in Japan, 2021 Edition” https://www.mlit.go.jp/common/001371918.pdf (browsed August 17, 2023)

(2) Development of sewerage systems supporting reconstructive urban development

In areas where land readjustment projects are being implemented as part of reconstructive urban development efforts such as relocation to higher ground, sewer pipes and other such infrastructure are being installed to treat sewage properly as the projects progress.

The following measures have been devised for disasters following the Great East Japan Earthquake.

- The “Design Concepts for Tsunami-Resistant Sewerage Facilities” was published, outlining basic concepts related to tsunami resistance measures to be taken in accordance with the importance of the facility and the priority of functions to provide.
- The “Sewerage BCP Formulation Manual” was revised, taking into account resource constraints based on damage estimates.
- The “Guidelines for the Installation of Manhole Toilets” were formulated to ensure toilet function in times of disaster.

Funded by reconstruction grants for the Great East Japan Earthquake, sewerage facilities were developed to support reconstructive urban development in 21 municipalities in four prefectures: Iwate, Miyagi, Fukushima, and Chiba.

Figure 5-3-3 Development Areas for Sewerage Systems Supporting Reconstructive Urban Development

Prefecture	Municipality
Iwate Prefecture	Kuji City, Noda Village, Yamada Village, Ofunato City, Miyako City, Otsuchi Town, Kamaishi City, and Rikuzentakata City
Miyagi Prefecture	Shichigahama Town, Ishinomaki City, Onagawa Town, Higashimatsushima City, Matsushima Town, Shiogama City, Natori City, Watari Town, and Kesennuma City
Fukushima Prefecture	Shirakawa City, Shinchi Town, and Iwaki City
Chiba Prefecture	Urayasu City

(3) Measures against inundation caused by land subsidence

One of the effects of the Great East Japan Earthquake was land subsidence. Pump facilities and storage pipes for rainwater drainage were developed to reduce flood damage caused by land subsidence, thereby promoting safety and reliability in urban development efforts.

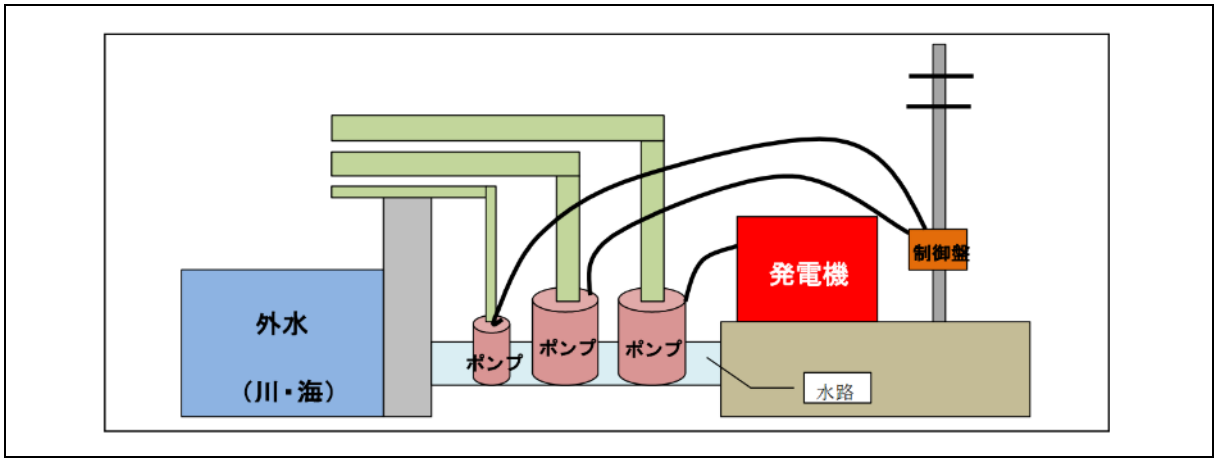
Funded by reconstruction grants for the Great East Japan Earthquake, measures against inundation caused by land subsidence were developed in 19 municipalities in four prefectures: Iwate, Miyagi, Fukushima, and Chiba.

Figure 5-3-4 Implementation Areas of Measures Against Inundation Caused by Land Subsidence

Prefecture	Municipality
Iwate Prefecture	Miyako City, Otsuchi Town, Kamaishi City, and Rikuzentakata City
Miyagi Prefecture	Sendai City, Rifu Town, Tagajo City, Iwanuma City, Ishinomaki City, Onagawa Town, Higashimatsushima City, Matsushima Town, Shiogama City, Natori City, Watari Town, and Kesennuma City
Fukushima Prefecture	Soma City and Iwaki City
Chiba Prefecture	Katori City

In Ishinomaki City, the urban area was formed primarily around the low-lying regions near the mouth of the Kyukitakami River. Because of this, the large-scale land subsidence caused by the earthquake led to an increase in areas below sea level. For this reason, temporary pumps for the removal of rainwater (local runoff) were installed within the city (starting in April 2011), and emergency measures were taken.

Figure 5-3-5 Diagram of a Temporary Pump Station



Source: Ishinomaki City, "Ishinomaki City Basic Rainwater Drainage Plan, Chapter 3: Status of Removal of Local Runoff After the Earthquake"
https://www.city.ishinomaki.lg.jp/cont/10505400/8500/3sinnsaigo.pdf (browsed July 31, 2023)

However, when heavy rains struck, inundation occurred in various areas due to insufficient pumping capacity and inadequate maintenance of the pipe and sewer network.

In response to these conditions, under the Ishinomaki City Basic Rainwater Drainage Plan, forced drainage was implemented via pump stations across all drainage areas. In addition, alternative drainage methods were adopted locally in areas where direct discharge was considered suitable due to topographical conditions and cost considerations. In addition, the combined use of these drainage methods with rainwater management ponds at pump stations resulted in reduced project costs in cases where land could be acquired for the development of such ponds.

However, these development efforts were categorized into priority measures and general measures, and in the context of restoration and reconstruction projects, the scope of development was generally limited to the sewers necessary to integrate pump facilities with existing outlets. Under this policy, efforts to extend existing sewers with insufficient capacity were categorized as general measures[2].

[2] Ishinomaki City "Ishinomaki City Basic Rainwater Drainage Plan (updated October 31, 2014), Chapter 5: Specific Measures"
https://www.city.ishinomaki.lg.jp/cont/10505400/8500/5gutaisesaku.pdf (browsed August 17, 2023)

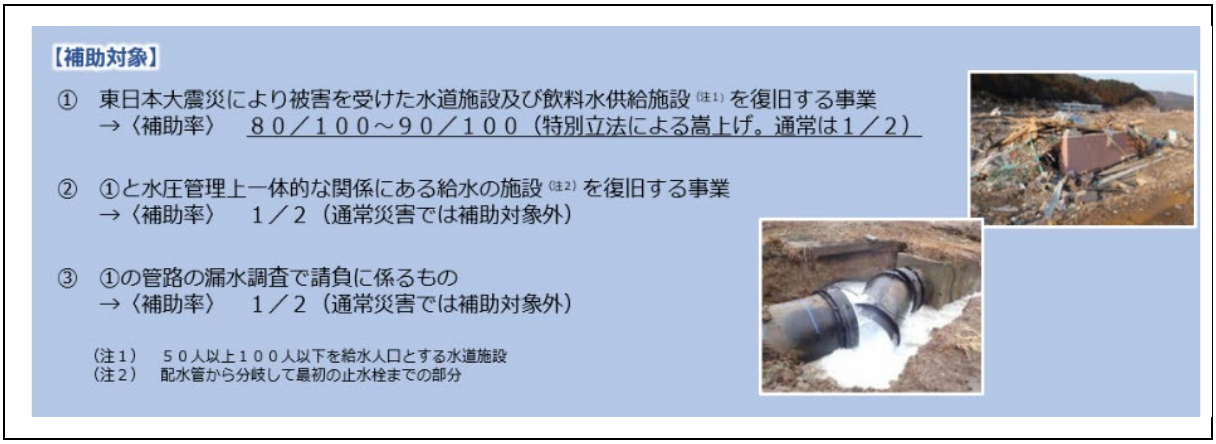
2. Water Supply Facilities

Financial support is being provided for the costs necessary to restore water supply facilities damaged by the Great East Japan Earthquake. As of March 2022, construction had started for all 230 scheduled restoration projects, and 216 of these had been completed.

With regard to disaster recovery projects for water supply facilities following the Great East Japan Earthquake, the "Subsidy Allocation Guidelines for Disaster Recovery Costs for Water Supply Facilities Following the Great East Japan Earthquake" were established to supplement the existing "Subsidy Allocation Guidelines for Disaster Recovery Costs for Waterworks Facilities and Simplified Water Supply Facilities," providing special measures such as increased subsidy rates. For example, for recovery projects involving waterworks and drinking water supply facilities, the subsidy rate is typically set at 50% for standard disaster recovery efforts, but this was raised to the rate stipulated in the Act on Special Fiscal Aid and Subsidies for Recovery from the Great East Japan Earthquake (80%–90%).

In addition, the restoration of waterworks facilities was often carried out in conjunction with reconstructive urban development. If the reconstruction plans of disaster-affected municipalities are still being formulated and recovery methods remain undecided, disaster assessments are carried out under the assumption that damaged water supply facilities will be restored to their original state (special exception assessments). Once the reconstruction plans for the project area are finalized and the recovery methods are determined, further discussions are held, and the project is implemented. Of the 230 projects mentioned above, 46 projects were implemented under special exception assessments.

Figure 5-3-6 Coverage of Subsidies as Support for Disaster Recovery of Water Facilities



Source: Ministry of Health, Labour and Welfare Reconstruction Headquarters, "The Ministry of Health, Labour and Welfare's Response to Reconstruction from the Great East Japan Earthquake" (January 2021)
https://www.mhlw.go.jp/content/10200000/000724199.pdf (browsed July 31, 2023)

Figure 5-3-7 Disaster Recovery Status of Waterworks Facilities

	特例査定対象の地方公共団体	通常査定のみ地方公共団体
岩手県	野田村、宮古市、山田町、大槌町、釜石市、大船渡市、陸前高田市	奥州市、久慈市、一関市、遠野市、岩泉町、洋野町、田野畑村
宮城県	塩竈市、仙台市、石巻地方広域水道企業団、気仙沼市、名取市、女川町、七ヶ浜町、南三陸町、山元町、亘理町	宮城県企業局、多賀城市、川崎町、松島町
福島県	いわき市、福島市、相馬地方広域水道企業団、浪江町、南相馬市、双葉地方水道企業団	—

Source: Ministry of Health, Labour and Welfare, "Ten-Year Report on the Reconstruction of Water Supply Infrastructure Following the Great East Japan Earthquake" (June 2022)
https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000160418_00022.html (browsed July 31, 2023)

3. Parks and Green Spaces

(1) Damage and restoration of urban parks

Urban parks in the prefectures of Hokkaido, Aomori, Iwate, Miyagi, Fukushima, Ibaraki, Tochigi, Gunma, Saitama, Chiba, Tokyo, Kanagawa, Niigata, and Shizuoka were reported to be damaged, prompting restoration work to be carried out. (Of the three disaster-affected prefectures, there were 20 projects in Iwate Prefecture, 184 projects in Miyagi Prefecture, and 65 projects in Fukushima Prefecture.) In Fukushima Prefecture, temporary restrictions were placed on the use of urban parks with radiation levels above a certain threshold, in accordance with the "Provisional Guidelines for Decisions on the Use of Nursery School Buildings and Grounds in Fukushima Prefecture" issued by the Ministry of Education, Culture, Sports, Science and Technology.

On the other hand, in the immediate aftermath of the Great East Japan Earthquake, parks and green spaces played key roles in many cases. For example, coastal forests absorbed the impact of tsunamis of a certain scale and trapped debris. Additionally, urban parks with elevated areas or artificial hills (such as Hiyoriyama Park in Ishinomaki City and Kaigan Park in Sendai City) were utilized as evacuation routes and sites. In the Tokyo metropolitan area, people who had difficulty returning home stayed temporarily in urban parks (such as Hibiya Park in Tokyo).

Furthermore, during the emergency and recovery phases, large parks located inland (such as Tono Sports Park in Tono City, Iwate Prefecture and Ishinomaki General Athletic Park in Ishinomaki City) were utilized as assembly points for the Self-Defense Forces, police, and fire departments, as well as distribution hubs for relief supplies. Indoor facilities such as gymnasiums (such as Azuma Sports Park in Fukushima Prefecture) were also used as evacuation shelters. In addition, some urban parks were used as temporary places to store disaster waste and as sites for temporary housing and temporary shopping districts.

(2) Technical Guidelines for the Development of Parks and Green Spaces for Reconstruction from the Great East Japan Earthquake

Beyond their usual role of ensuring a quality living environment in reconstructive urban development, parks and green spaces function as evacuation sites and disaster prevention hubs, as well as absorb tsunami impact. The placement of such critical infrastructure needed to be considered methodically. In addition, the prompt removal, treatment, and effective utilization of disaster waste emerged as challenges due to the large volumes of waste left over by the tsunami, which hindered recovery and reconstruction efforts. In light of these challenges, disaster waste needed to be used effectively in the development of parks and green spaces. In August 2011, the Ministry of Land, Infrastructure, Transport and Tourism established the "Committee for Reviewing the Development of Parks and Green Spaces for Reconstruction from the Great East Japan Earthquake" (chaired by Meiji University Professor Hajime Koshimizu), which comprised experts in fields such as landscaping, urban planning, tsunami disaster damage, civil engineering, and environmental geotechnical engineering. The committee studied the establishment of parks and green spaces in the development of tsunami-resistant urban areas, as well as the utilization of disaster waste in the development of parks and green spaces. On October 6, 2011, the "Basic Principles for the Development of Parks and Green Spaces in Reconstruction Following the Great East Japan Earthquake (Interim Report)" were compiled to serve as a reference for reconstruction urban development plans in the affected cities. In addition, on March 27, 2012, the "Technical Guidelines for the Development of Parks and Green Spaces for Reconstruction from the Great East Japan Earthquake" were compiled to provide comprehensive guidelines for the development of parks and green spaces from the perspectives of tsunami recovery, reconstruction, and disaster mitigation efforts.

Figure 5-3-8 Technical Guidelines for the Development of Parks and Green Spaces for Reconstruction from the Great East Japan Earthquake

Source: Ministry of Land, Infrastructure, Transport and Tourism, "Regarding the 'Technical Guidelines for the Development of Parks and Green Spaces for Reconstruction from the Great East Japan Earthquake'" (March 27, 2012) https://www.mlit.go.jp/common/000209508.pdf (browsed July 31, 2023)

The key points are as follows.

① The functions of parks and green spaces, taking into account the lessons learned from the Great East Japan Earthquake

Traditionally, parks and green spaces have been developed to create a safe, comfortable, and greenery-filled urban environment, contributing to a richer quality of life. Their benefits are broadly classified into two types: the existence effect, which is derived from simply having parks and green spaces, and the utilization effect, which is derived from their active use. In addition, parks and green spaces also play key roles in disaster prevention, such as stopping the spread of large-scale fires, mitigating the impact of explosions, controlling floods, and protecting disaster risk areas. However, following the Great East Japan Earthquake, parks and green spaces were also recognized for their roles in tsunami disasters and other such events, including serving as part of a multilayered defense (e.g., absorbing tsunami impact and trapping debris), as evacuation routes and sites, and as hubs for recovery and reconstruction support. Therefore, future reconstruction urban development plans will involve reexamining and evaluating the tsunami disaster mitigation functions of parks and green spaces, such as their ability to absorb tsunami impact, and incorporating these spaces into the plans.

Figure 5-3-9 Functions of Parks and Green Spaces Observed in the Recent Tsunami Disaster

主な公園緑地等		津波防災において求められる公園緑地等の機能						
		【多重防御の一つとしての機能】			【避難路・避難地機能】		【復旧・復興支援機能】	
		津波の減衰	湛水の場	漂流物の補足	避難路	避難地	活動拠点	資材置場等
公園	海浜公園	○	△	○		○		○
	高台公園				○	○		○
	大規模公園（防災拠点）						○	○
緑地	防潮林	○		○				
	緩衝緑地	○	△	○				
	街路樹	△		○	○			
	居久根	○		○				
その他の空地や農地等			○					

Source: Ministry of Land, Infrastructure, Transport and Tourism, "Technical Guidelines for the Development of Parks and Green Spaces for Reconstruction from the Great East Japan Earthquake" (March 27, 2012)
https://www.mlit.go.jp/common/000205823.pdf (browsed July 31, 2023)

The guidelines summarize the following four functions of parks and green spaces with respect to tsunami disasters, the importance of which was demonstrated during the Great East Japan Earthquake.

(1) Functions as part of a multilayered defense
Absorbing tsunami impact, serving as a water retention area to reduce the volume of water reaching urban areas, and trapping debris

(2) Serving as evacuation routes and evacuation sites for tsunamis
Serving as spaces to trap debris and facilitate movement to evacuation sites as quickly as possible

(3) Functions to aid in recovery and reconstruction
Serving as spaces for evacuees, bases for Self-Defense Forces and related activities, and temporary storage sites for materials, thereby aiding recovery and reconstruction

(4) Functions for disaster prevention education
Serving as memorial parks where records and lessons of the great tsunami are kept as symbols of reconstruction, and as places where disaster prevention awareness is fostered on a habitual basis, such as through disaster drills

② Planning and design principles for parks and green spaces

The guidelines also outline principles for planning and designing coastal forests and parks used as evacuation sites to enhance disaster mitigation effects. It also summarizes key considerations for vegetation, including tree species that can withstand salt spray and seawater flooding, as follows.

(1) Forested areas with the ability to absorb tsunami impact
The placement of forest belts of a certain width along the coast helps absorb tsunami impact to a certain extent. When planning the development of a forested area, the assumed inundation depth at the site must be taken into account.

(2) Parks as evacuation sites
Emergency stairs, evacuation towers, and tsunami evacuation buildings must be placed in or near parks that serve as evacuation sites. When developing evacuation sites, it is effective to place embankment ridges perpendicular to the coastline in order to reduce the area exposed to the impact of the tsunami, while taking

into account the direction of tsunami arrival.

(3) Principles for planting vegetation

Taking into account the environmental and locational conditions that vary depending on the distance from the sea, it is important to regenerate new forests that are resistant to tsunamis by ensuring diversity in the forested areas. This includes coastal areas with highly salt-tolerant pine species and inland areas with mixed forests, including broadleaf trees, to form multilayered forest structures highly effective at absorbing tsunami impact.

③ Basic principles for the development of parks and green spaces in reconstructive urban development

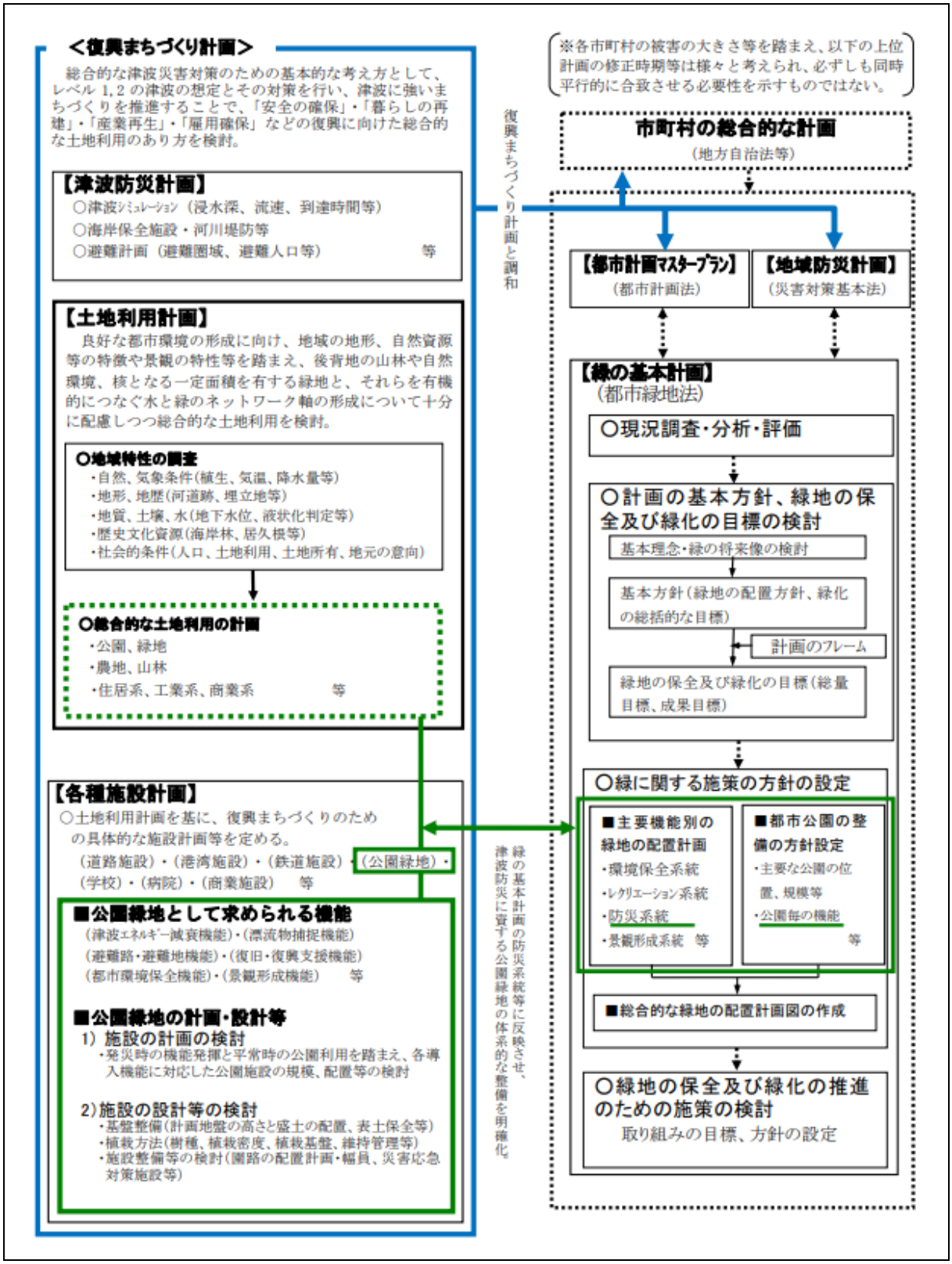
(1) Basic principles

When planning parks and green spaces, it is important to consider not only their roles in disaster response but also the necessity of park and green space functions in times of non-emergency, as well as the burden of future maintenance and management. Furthermore, the size and layout of parks and green spaces must be verified to be suitable for the location and size of the urban areas and residential areas they are meant to protect. In addition, to ensure steady progress in reconstructive urban development, it is essential to evaluate when the functions of parks and green spaces will be needed, distinguishing between matters that require immediate attention and those that should be addressed over the medium to long term.

(2) Matters to be considered

When planning parks and green spaces, it is essential to combine functions like tsunami disaster prevention with efforts to preserve and restore natural resources, such as the iconic local pine forests, as well as landscapes or historical cultural assets like residential forests (igune), which are deeply connected to local traditions. Such efforts will not only help restore quality of life but also boost tourism. It is also desirable to conserve, regenerate, restore, and create environments in which diverse organisms can live and grow, thereby promoting symbiosis between people and nature and the formation of verdant cities with minimal environmental impact.

Figure 5-3-10 Basic Principles for the Development of Parks and Green Spaces in Reconstructive Urban Development



Source: Ministry of Land, Infrastructure, Transport and Tourism, "Technical Guidelines for the Development of Parks and Green Spaces for Reconstruction from the Great East Japan Earthquake" (March 27, 2012)
https://www.mlit.go.jp/common/000205823.pdf (browsed July 31, 2023)

④ Basic principles on the utilization of disaster waste in the development of parks and green spaces

Disaster waste is generally required to be properly sorted and disposed of. However, in the recovery and reconstruction following the Great East Japan Earthquake, recyclable materials were expected to be reused whenever possible in order to facilitate efforts. Therefore, as a basic principle regarding the use of disaster waste in the development of parks and green spaces, it was determined that such waste could be utilized as embankment material or construction material.

For embankment materials, where structural strength is essential for civil engineering applications, ensuring safety and durability while addressing potential effects on the surrounding area is critical. Specifically, of the three types of materials generated in relatively large quantities during the Great East Japan Earthquake and known for their versatility (concrete debris, wood debris, and tsunami sediments), it was determined that concrete debris could be repurposed as embankment material or recycled aggregate for construction, wood debris like timber and fallen trees could serve as mulching material or planting foundations for park and green space development, and tsunami sediments could be used as embankment material or as planting foundations[3].

(3) Development of green spaces for tsunami disaster prevention

In reconstruction following the Great East Japan Earthquake, the national government provided budgetary support for the formation of parks and green spaces that were to be developed as part of the reconstructive urban development in the affected municipalities and other areas. This was accomplished through the core projects of the Great East Japan Earthquake Reconstruction Grants and the reconstruction framework of the Social Capital Development General Subsidy.

In urban park projects, the Reconstruction Grants covered funding for tsunami protection green spaces and disaster prevention parks that serve as evacuation sites and routes. In order to promote the development of tsunami-resistant communities in the reconstruction of the disaster-affected areas, support was provided for the development of urban parks that play the role of mitigating tsunami damage in the inland urban area (tsunami protection green spaces), as well as parks that serve as evacuation sites and activity bases in the event of a disaster (disaster prevention parks). Support was provided for projects implemented by local governments in 39 districts to develop tsunami protection green spaces and disaster prevention parks, and the projects have been completed in 35 of these districts (as of the end of FY 2020). In addition to urban park projects, urban parks are being developed through urban reconstruction projects such as urban redevelopment rezoning projects and benefit promotion projects.

Furthermore, in urban park projects funded by Social Capital Development General Subsidy (reconstruction framework), facilities in districts of disaster-affected areas expected to remain free from future flooding, which will serve as disaster prevention hubs or wide-area evacuation sites, were designated as eligible for subsidies. Support was provided for the development of such facilities in five districts.

Additionally, as part of the Fukushima Revitalization Acceleration Grants introduced for Fukushima Prefecture to accelerate reconstruction from the nuclear disaster, urban park projects related to parks and green spaces were deemed eligible for subsidies. These projects focused on promoting the early return of residents in municipalities under evacuation orders, supporting the establishment of living bases for long-term evacuees, and developing an environment where families with children could return quickly and live with peace of mind.

[3] City Bureau, Ministry of Land, Infrastructure, Transport and Tourism, “Release of the Technical Guidelines for the Development of Parks and Green Spaces for Reconstruction from the Great East Japan Earthquake” (March 27, 2012) https://www.mlit.go.jp/common/000209967.pdf (browsed July 31, 2023)

Figure 5-3-11 Number and Total Area of Urban Parks Developed Through Reconstruction Projects

所在県	整備種別		箇所数	箇所数割合	整備合計面積（㎡）
岩手県	新規整備		132	97.8%	1,189,897
	既存公園	再整備	3	2.2%	2,100
		拡張	0	0.0%	0
	県別小計		135		1,191,566
宮城県	新規整備		151	95.0%	1,935,570
	既存公園	再整備	5	3.1%	104,815
		拡張	3	1.9%	227,287
	県別小計		159		2,186,472
福島県	新規整備		37	30.3%	1,832,242
	既存公園	再整備	77	63.1%	1,490,727
		拡張	8	6.6%	413,889
	県別小計		122		3,736,858
茨城県	新規整備		1	50.0%	6,029
	既存公園	再整備	1	50.0%	160
		拡張	0	0.0%	0
	県別小計		2		6,189
合計	新規整備		321	76.8%	4,963,737
	既存公園	再整備	86	20.6%	1,597,802
		拡張	11	2.6%	641,176
	合計		418		7,202,715

※事業箇所数であり、都市公園数と一致しない場合がある。
※既存公園では、再整備又は拡張を行った部分の面積のみ整備合計面積に計上。

Source: Osamu Moriya, Satoshi Funakubo, and Toshiaki Yanagihara, “Research report on the development of urban parks during the reconstruction from the Great East Japan Earthquake,” *Journal of The Japanese Institute of Landscape Architecture,* Volume 84, Technical Reports of Landscape Architecture, pp. 74-79 (2021)

Figure 5-3-12 Relationship Between the Type of Grant and the Main Purpose of Development

交付金種別	箇所数（全体）	防災集団移転跡地を含む箇所数	平均公園面積（㎡）	主な整備目的（複数選択可） ①多重防御の一つとしての緑地	②避難路・避難地	③防災拠点	④防災教育・メモリアル公園	⑤子どもの遊び場	⑥地域コミュニティ形成の場	⑦観光・地域振興の場	⑧その他
復興交付金	325	42	16,096	26	37	4	29	193	291	32	5
都市公園事業	42	26	97,685	25	17	0	15	19	21	14	3
都市再生区画整理事業	188	15	2,381	1	18	1	2	118	186	12	0
防災集団移転促進事業	72	2	3,178	0	1	0	7	45	71	0	1
津波復興拠点整備事業	14	1	3,925	0	3	1	1	11	12	2	0
都市防災推進事業	2	0	16,175	0	2	0	0	0	0	0	0
漁業集落防災機能強化事業	1	0	346	0	0	0	0	0	1	0	0
効果促進事業	21	10	92,330	6	6	2	10	10	12	8	1
社会資本整備総合交付金（復興枠）	5	0	411,620	0	3	4	1	2	1	0	0
都市公園事業	5	0	411,620	0	3	4	1	2	1	0	0
福島再生加速化交付金	88	1	61,866	0	3	1	1	85	20	2	2
福島定住等緊急支援（子ども元気復活交付金）	87	0	57,014	0	2	0	0	85	19	2	2
地域の運動施設の整備（公園・広場の整備）	20	0	117,686	0	2	0	0	20	7	1	1
地域の運動施設の整備（スポーツ施設の新改築等）	6	0	230,098	0	0	0	0	4	0	1	2
学校、保育所、公園等の遊具の更新	68	0	36,912	0	0	0	0	68	15	0	0
効果促進事業	10	0	155,595	0	0	0	0	9	3	2	1
帰還環境整備	1	1	484,000	0	1	1	1	0	1	0	0
都市公園事業	1	1	484,000	0	1	1	1	0	1	0	0
合計	418	47	30,799	26	47	9	31	283	315	34	7

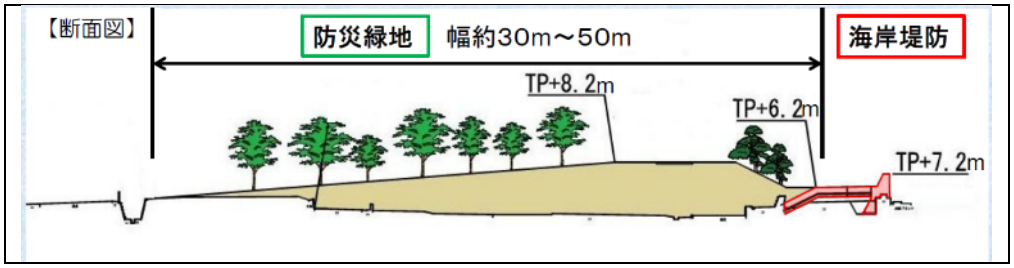
Source: Osamu Moriya, Satoshi Funakubo, and Toshiaki Yanagihara, “Research report on the development of urban parks during the reconstruction from the Great East Japan Earthquake,” *Journal of The Japanese Institute of Landscape Architecture,* Volume 84, Technical Reports of Landscape Architecture, pp. 74-79 (2021)

Urban parks developed through various reconstruction projects are classified according to the type of grant and the main purpose of the development, and the characteristics of each are summarized as follows, with examples.

① Tsunami protection green spaces for multilayered defense

Most tsunami protection green spaces have been developed through urban park projects funded by Reconstruction Grants, and many of them have been developed in Fukushima Prefecture. Having formulated the Fukushima Prefecture Green Space Disaster Prevention Plan Guidelines, the prefectural government is developing forest land that will serve as secondary embankments to absorb tsunami impact. The Hisanohama Disaster Prevention Green Zone in Iwaki City is a green disaster prevention space of about 1.3 km in length developed by converting a residential area into an elevated area and surrounding blocks through a land readjustment project. Through citizen participation, green spaces are being developed and utilized via activities such as cooperative maintenance and management with community groups, disaster prevention workshops, and tree planting involving local elementary school students.

Figure 5-3-13 Cross-Section Diagram of a Tsunami Protection Green Space for Multilayered Defense (Example from Hisanohama District in Iwaki City)

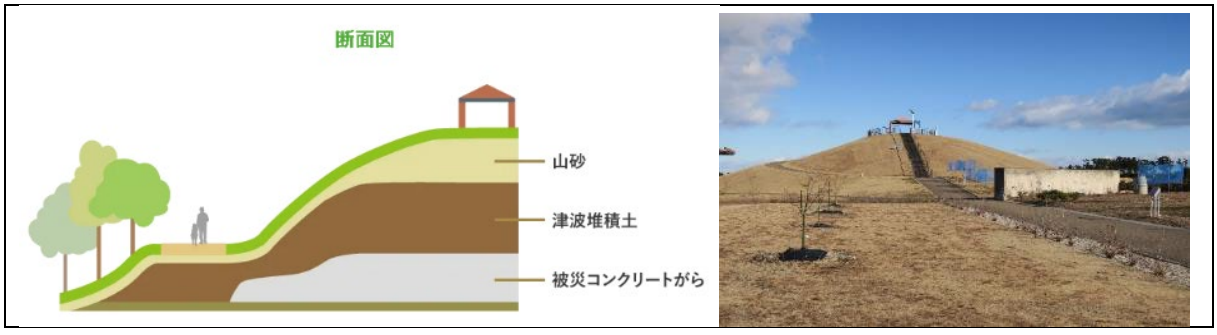


Source: Fukushima Prefecture Iwaki Construction Office, "State of Damage and Efforts Toward Reconstruction: Hisanohama District, Iwaki City"
https://www.pref.fukushima.lg.jp/uploaded/attachment/74690.pdf (browsed July 31, 2023)

② Evacuation sites and evacuation routes

As part of urban park projects funded by Reconstruction Grants, hills were developed as evacuation sites, serving as temporary refuges for those who are unable to evacuate in time from disaster risk areas. A particularly large number of evacuation hills were built in the Sendai Bay area spanning from Sendai City to Yamamoto Town. The multilayered defense system in this area consists of coastal levees (redeveloped), coastal disaster prevention forests (redeveloped), raised roads (newly constructed), and Sendai Tobu Road (existing), with urban parks designated for the development of evacuation hills. Of these hill developments, Millennium Hope Hills in Iwanuma City is the largest, with 15 evacuation hills created in six parks (spanning a total area of 45 hectares, 44 hectares of which are former collective relocation sites for disaster prevention). In this city, 90% of the rubble generated (570,000) was used to build hills.

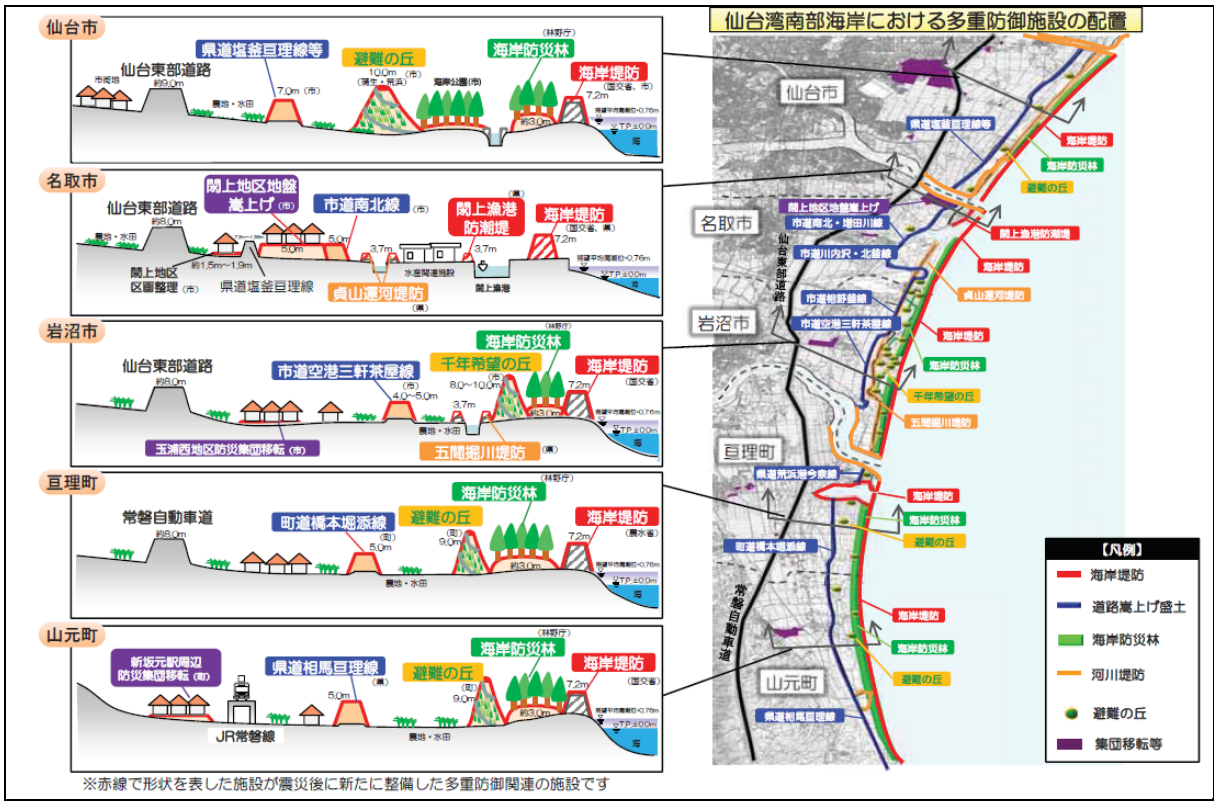
Figure 5-3-14 Development of Hills as Evacuation Sites (Example of Millennium Hope Hills in Iwanuma City)



Source: Iwanuma City, "Millennium Hope Hills"
https://sennen-kibouno-oka.com/about/ (browsed July 31, 2023)

Many parks were developed as evacuation sites through urban redevelopment rezoning projects, but their average area is small (about 2,000 m^2), and some neighborhood parks in the newly developed urban areas are thought to double as evacuation sites.

Figure 5-3-15 Development of Related Facilities for Multilayered Defense (Example of the Southern Sendai Bay Coast)



Source: Tohoku Regional Development Bureau Sendai River and National Highway Office; and Miyagi Prefecture Public Works Department, "Completion of the Southern Sendai Bay Coastal Levee Significantly Advances Tsunami Disaster Prevention and Mitigation Efforts (Press Release)" (February 26, 2016)
https://www.thr.mlit.go.jp/bumon/kisya/kisyah/images/59757_1.pdf (browsed July 31, 2023)

③ Disaster prevention hubs

Parks that serve as disaster prevention hubs have been established in areas that are not expected to experience floods in the future. Around half of these parks have been developed through urban park projects funded by Social Capital Development General Subsidy (reconstruction framework). Through these projects, one or two parks have been constructed in each of Iwate, Miyagi and Fukushima Prefectures, and the average park area is 41 ha, which is quite large.

④ Disaster prevention education and memorial parks

In the areas affected by the tsunami, memorial parks and other facilities were built as places to mourn for the victims and tell the story of the disaster. These facilities were established as part of urban park projects funded by Reconstruction Grants and of benefit promotion projects. In half of these cases, collective relocation sites for disaster prevention are included within the park. In Rikuzentakata City in Iwate Prefecture, Ishinomaki City in Miyagi Prefecture, and Futaba Town and Namie Town in Futaba District, Fukushima Prefecture, the Cabinet approved the establishment of state-run memorial and prayer facilities, which serve as core facilities within the reconstruction memorial parks established by the local governments. These symbolic spaces for reconstruction are being created through collaboration between the national and local governments (for details, see (4) "Development of state-run memorial and prayer facilities").

⑤ Children's playgrounds

Many parks that serve as playgrounds for children were built through urban redevelopment rezoning projects and collective relocation promotion projects for disaster prevention funded by Reconstruction Grants, as well as the Fukushima Revitalization Acceleration Grants for Emergency Support for Settlement in Fukushima (Grants to Restore Vitality to Children). Parks built through the former have an average area of about 2,000 to 3,000 m^2, and many of them are thought to be neighborhood parks established in new urban areas. Those established through the latter have an average area of slightly less than 6 ha, where playground equipment is thought to have been installed in existing district parks. In Fukushima Prefecture, the development of playgrounds for children was promoted in light of the decrease in opportunities for children to exercise after the earthquake. At Smile Kids Park (nicknamed Prince William's Park) in Motomiya City, an outdoor playground was developed together with an indoor playground (located outside park boundaries). Efforts are underway to train play leaders to encourage greater utilization.

Figure 5-3-16 Development of Children's Playgrounds (Example of Smile Kids Park in Motomiya City)

Source: Reconstruction Agency, "Overview of Grants to Restore Vitality to Children (Fukushima Revitalization Acceleration Grants (Emergency Support for Settlement in Fukushima))"
https://www.reconstruction.go.jp/topics/20151023140241.html (browsed July 31, 2023)

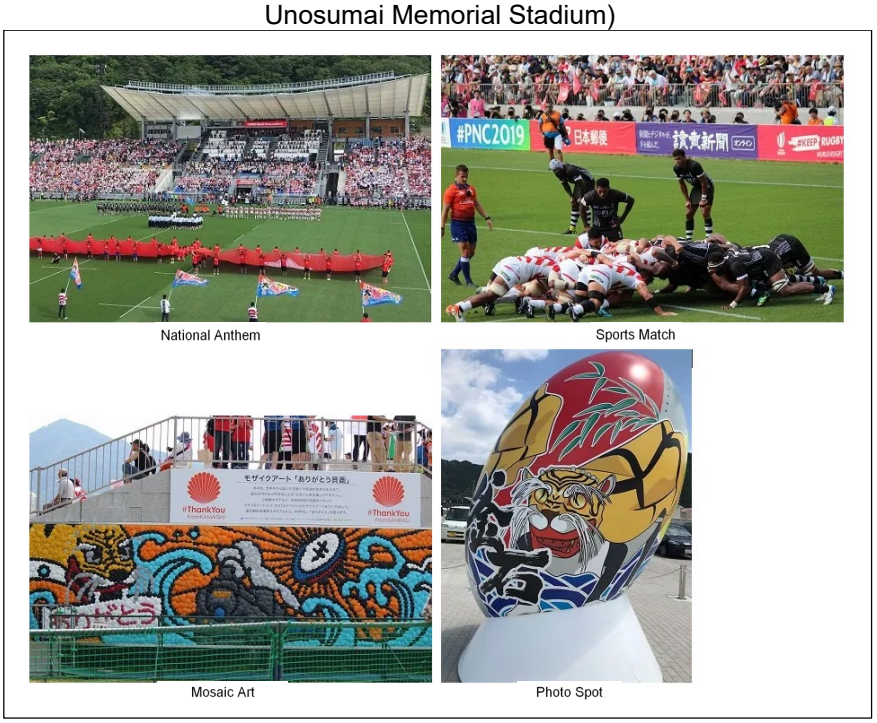
⑥ Local community building hubs

Parks aimed at local community building are the most common and have been extensively developed through urban redevelopment rezoning projects and collective relocation promotion projects for disaster prevention funded by Reconstruction Grants. Neighborhood parks and similar facilities developed within the new urban area are thought to contribute to the building of new communities.

⑦ Tourism and regional revitalization hubs

Many parks that serve as hubs for tourism and regional revitalization have been built through urban park projects, urban redevelopment rezoning projects, and benefit promotion projects funded by Reconstruction Grants. In addition to purposes like tsunami disaster prevention and community building in new urban areas, facilities were developed to support tourism exchange and regional revitalization as key components of reconstructive urban development. At Unosumai Recreation Park in Kamaishi City, a stadium was built on the site of an elementary and junior high school that was damaged by the tsunami, becoming a symbol of the reconstruction of the "City of Rugby." The stadium was used as one of the venues for the 2019 Rugby World Cup.

Figure 5-3-17 Establishment of Tourism and Regional Development Hubs (Example of Kamaishi Unosumai Memorial Stadium)



Source: Reconstruction Agency, "Tairyobata Flags Flutter, Cheers Resound: First International Match Held at Kamaishi Unosumai Memorial Stadium (Kamaishi City, Iwate Prefecture)" (July 27, 2019)
https://www.reconstruction.go.jp/portal/chiiki/2019/20190820102448.html
(browsed July 31, 2023)

(4) Development of state-run memorial and prayer facilities

In light of the unprecedented damage caused by the Great East Japan Earthquake, the Reconstruction Design Council formulated the Seven Principles for the Reconstruction Framework on May 11, 2011. The first principle declares that the mourning and the repose of the souls of countless lives lost is the foundation of our recovery as survivors, stressing the importance of eternally preserving the records of the earthquake, including through forests of repose and monuments, and passing down the lessons learned to future generations and sharing them worldwide. The Recommendations for Reconstruction released by the council on June 25 encouraged the creation of "forests of repose" to ensure that the memory of this great disaster endures. These forests would be created with the participation of many people, driven by local initiatives, and with tree species chosen to match the regional characteristics.

In addition, the Basic Guidelines for Reconstruction in Response to the Great East Japan Earthquake released on July 29, 2011 by the Great East Japan Earthquake Reconstruction Headquarters also outlines a policy to consider local initiatives for the development of forests, hills, and facilities as symbols of the repose of departed souls and reconstruction.

In light of these recommendations, disaster-affected municipalities began incorporating the development of earthquake reconstruction memorial parks into their reconstruction plans to serve as places for mourning and the repose of the departed souls of the victims, as well as to pass on the lessons learned from the great earthquake. However, sufficient consideration had not been given to aspects such as the nature, scale, and location of these parks, as well as the division of responsibilities between the national and local governments, and a shared understanding between them had not yet been reached. In response, the national government decided to explore the ideal form of such parks, while also formulating policies and plans for the development of a central earthquake reconstruction memorial park.

In January 2012, the Ministry of Land, Infrastructure, Transport and Tourism established the Great East Japan Earthquake Reconstruction Memorial Park Study Council (chaired by Kyoichi Tsushima, Parliamentary Vice-Minister of Land, Infrastructure, Transport and Tourism), which was comprised of relevant organizations and the three disaster-affected prefectures. The purpose of the council was to select candidate locations, define the scale, propose project methods, and draft a basic framework for a central reconstruction memorial park. In addition, as part of this proposal process, the Earthquake Reconstruction Memorial Park Basic Concept Study Council (chaired by Professor Shiro Wakui of Tokyo City University) was established. Comprised of experts, the council reviewed the technical aspects of the park's concept and vision, such as its significance, intended roles, core concepts, and specifications.

In March of the same year, the Earthquake Reconstruction Memorial Park Basic Concept Study Council prepared the report titled "The Ideal Form of Earthquake Reconstruction Memorial Parks," and based on the conclusions of both councils, the Basic Principles of Earthquake Reconstruction Memorial Parks was formulated. The basic principles state that earthquake reconstruction memorial parks should generally be developed by local governments. At the same time, recognizing the earthquake as an unprecedented disaster that caused extensive damage across multiple regions, the principles outline the national government's role in the mourning and remembrance of all victims, as well as in clearly showcasing Japan's strong commitment to reconstruction to those in the country and abroad and highlighting the progress made in communities that have succeeded in reconstruction from the disaster. As such, it was determined that the national and local governments would work together to carry out planning.

The Ideal Form of Earthquake Reconstruction Memorial Parks

○ In our country, where flat land is scarce, populations have historically concentrated around coastal areas, where industries developed. As a result, our people are vulnerable to disasters such as tsunamis caused by earthquakes and storm surges from typhoons. However, under diverse natural conditions, with rivers and fertile lands as a foundation, our people have cultivated wisdom through repeated ingenuity and labor, thereby minimizing natural threats while enjoying nature's bounty. For this reason, despite disasters that have struck repeatedly throughout history, Japan has carried on with its social and economic activities while surmounting various challenges with the spirit of overcoming calamity.

○ However, the Great East Japan Earthquake that occurred on March 11, 2011 left nearly 20,000 people dead or missing (as of March 5, 2012), and inflicted devastating damage on the unique natural landscapes,

history, culture, industry, settlements, and townscapes of disaster-affected areas, along with the social systems and their foundations, which have shaped their historical legacy.

○ This recent great earthquake was an unprecedented natural disaster that could be described as a national calamity. The damage was enormous compared to the many disasters that have occurred over the course of history, the disaster-affected areas were extensive, the tsunami and nuclear power plant accident were large-scale and complex, and the effects of the disaster were widespread throughout the country.

○ Therefore, the recovery and reconstruction of disaster-affected areas is an urgent and critical task for overcoming various national challenges, such as the removal of barriers to economic activities, which involves the rebuilding of social systems centered on restoring the lives of citizens affected by the disaster. Furthermore, in response to global support and interest in reconstruction, we must confidently and steadily showcase progress in reconstruction, which will serve as new societal models for the future based on the theme of "safe and reliable community building." On the other hand, disaster victims have a desperate desire to return to their former lives as soon as possible. Community development efforts must move forward toward recovery and future-oriented reconstruction with the full strength of the nation, all while balancing the restoration of peaceful everyday life with a vision for the future.

○ In addition, as stated in the first of the Seven Principles for the Reconstruction Framework, all reconstruction efforts are founded on the mourning and repose of the departed souls of the victims of the earthquake, as well as on passing down records and lessons learned from the earthquake.

○ These efforts are based on local initiatives and are carried out by all parties, through all opportunities, and in all settings. It must be recognized that these diverse efforts, whether functioning individually or as a whole, create spaces for mourning, the repose of the departed souls, and the transmission of records and lessons learned from the recent disaster (hereinafter referred to as "mourning and transmission"), as well as for rebuilding a society capable of restoring its self (disaster resilience).

○ As can be seen in the peace memorial parks in various regions, urban parks have often served as spaces for "mourning and transmission," fulfilling the relevant roles in coordination with facilities for collecting, preserving, and researching disaster records. Similarly, the reconstruction plans of municipalities affected by the recent disaster include many urban parks for reconstruction remembrance (hereafter referred to as "reconstruction memorial parks"). Through their development, management, and operation, these locally inspired concepts for reconstruction memorial parks are widely expected to demonstrate visions for regional recovery and the future of community building.

○ In addition, the current disaster-affected areas have survived a number of natural disasters such as tsunamis and have formed a so-called "culture" of overcoming disasters. Furthermore, drawing on the unique characteristics of each region, the communities have developed their own unique history, culture, and industries by applying their wisdom to make the most of nature's bounty and minimize natural threats. In light of this, reconstruction memorial parks are expected to evoke a vision for the region that post-disaster reconstruction efforts aim to realize, while also serving as spaces that aid in the restoration and building of local communities. Reconstruction memorial parks are also expected to play a major role in regional development by serving as places to share the natural environment, history, culture, and industry of the region, inspiring tourism and education.

○ Meanwhile, this earthquake was an unprecedented major disaster, and how our country achieves recovery from it is drawing international attention. In light of this, it appears that the nation, beyond the efforts of individual regions, has a role and duty to sincerely offer mourning and repose for all of the lives lost, as well as to clearly demonstrate its strong commitment to reconstruction as a means of revitalizing Japan, not only to its own citizens but also to the international community that offered support.

○ These reconstruction memorial parks are developed by local governments, but the disaster-affected prefectures and some cities and towns have emphatically requested that the national government take the lead in the development of these parks to signify the national government's determination and will to respond to the national crisis. Such requests must be fully acknowledged and met with a sincere response.

Furthermore, in view of the roles and responsibilities of the national government with regard to "mourning and transmission," the national and local governments must collaborate with an appropriate division of roles in the development of these reconstruction memorial parks, which are deeply tied to these roles and serve as anchors for the efforts of entire disaster-affected areas.

○In joint efforts by the national government and local communities, reconstruction memorial parks should be planned in accordance with the following requirements while ensuring sufficient coordination with the local community.

Location: Building on local initiatives, the site should ideally be a location that symbolizes the full scope of the disaster, enabling the nation as a whole to historically share the tragedy of the recent earthquake, offer mourning and repose for the souls of the victims, and pass on the legacy to future generations.

Functions: ① To provide a place for the mourning and repose of the souls of all victims of the disaster
② To provide a place to pray for reconstruction by declaring the nation's commitment to reconstruction to people in Japan and abroad, and evoking a post-reconstruction vision of our country
③ To provide a forum to convey the realities of the disaster and the lessons learned to a wide audience in Japan and overseas, as well as to pass these down to future generations

○The reconstruction of the disaster-affected areas is expected to progress rapidly with the support of Reconstruction Grants and other efforts. Grounded in the sentiments of mourning and repose that form the basis of recovery, it is essential to outline as soon as possible the development policies and concepts for the reconstruction memorial parks being planned jointly by the national and local governments. This should be done with the aim of clearly demonstrating a strong resolve for reconstruction, taking into account the deep ties to regional reconstruction plans and projects and the significant influence on local revitalization.

○Furthermore, when planning the policies and concepts for development, the following aims must be kept in mind, taking into account the fact that the reconstruction memorial parks, which are being planned jointly by the national and local governments, will serve as "anchors" for the "mourning and transmission" efforts of entire disaster-affected areas.

- To draw on a history of overcoming numerous tsunami disasters and share a powerful message with those in Japan and abroad regarding reconstruction efforts rooted in the region's unique natural environment, history, and culture
- To contribute to the restoration and formation of local communities through the participation of various parties involved, including volunteers, as well as to the creation of a new public sphere and the utilization of the site as a place for various community building activities
- To pass on the lessons learned from the earthquake and a post-reconstruction vision of the country to the next generation, as well as work with municipalities that best understand the characteristics of each region and present standards for planning that are rooted in and tailored to the actual conditions of the region, bearing in mind that tsunami disasters may continue to occur in 100 year intervals

○Furthermore, it is necessary to coordinate with other relevant facilities such as reconstruction memorial parks, archive centers, and disaster prevention research institutions of local governments by dividing roles and responsibilities. At the same time, sufficient consideration must be given to a phased planning and development process that reflects the conditions of the disaster-affected areas, including measures for the nuclear disaster.

At the 10th meeting of the Reconstruction Promotion Council held in March 2014, the Reconstruction Agency presented a plan to establish one "Hill of Repose" (tentative name) managed by the national government in each of the three disaster-stricken prefectures. In response to the wishes of the local communities, earthquake reconstruction memorial parks and state-run memorial and prayer facilities were ultimately established in Rikuzentakata City in Iwate Prefecture, Ishinomaki City in Miyagi Prefecture, and Futaba Town and Namie Town in Futaba District, Fukushima Prefecture. The details for each prefecture are as follows.

In the autumn of 2013, Expert Committees for the Study and Evaluation of Basic Concepts for Reconstruction Memorial Parks were established in both Iwate and Miyagi Prefectures, consisting of experts and the relevant administrative bodies of the national and local governments. In joint efforts with the national, prefectural, and city governments, the committee held citizen forums and similar events to explore the ideal approach to park development in collaboration with the community. In 2014, basic concepts for parks in Iwate and Miyagi Prefectures were drawn up after discussions with numerous stakeholders.

Having reviewed these basic concepts, on October 31, 2014, the cabinet approved the establishment of state-run

memorial and prayer facilities in Rikuzentakata City, Iwate Prefecture, and Ishinomaki City, Miyagi Prefecture. The Ministry of Land, Infrastructure, Transport and Tourism was set to develop key facilities such as hills and plazas, which were to be designated as public open spaces by the national government, within the reconstruction memorial parks (urban parks) created by local governments.

In Fukushima Prefecture, the response to the nuclear disaster needed to be prioritized. It was only in April 2015 that the candidate sites for reconstruction memorial parks were selected in Futaba Town and Namie Town in Futaba District. In July 2017, after deliberations by the expert committee and a symposium, the basic concept for a park in Fukushima Prefecture was formulated, and on September 1 of the same year, the Cabinet approved the establishment of a state-run memorial and prayer facility in Namie Town, Futaba District.

東日本大震災からの復興の象徴となる国営追悼・祈念施設
（仮称）の設置について

平成26年10月31日
閣　議　決　定
平成29年９月１日
一　部　変　更

東日本大震災による犠牲者への追悼と鎮魂や、震災の記憶と教訓の後世への伝承とともに、国内外に向けた復興に対する強い意志の発信のため、国は、地方公共団体との連携の下、岩手県陸前高田市、宮城県石巻市及び福島県双葉郡浪江町の一部の区域に、国営追悼・祈念施設（仮称）を設置する。

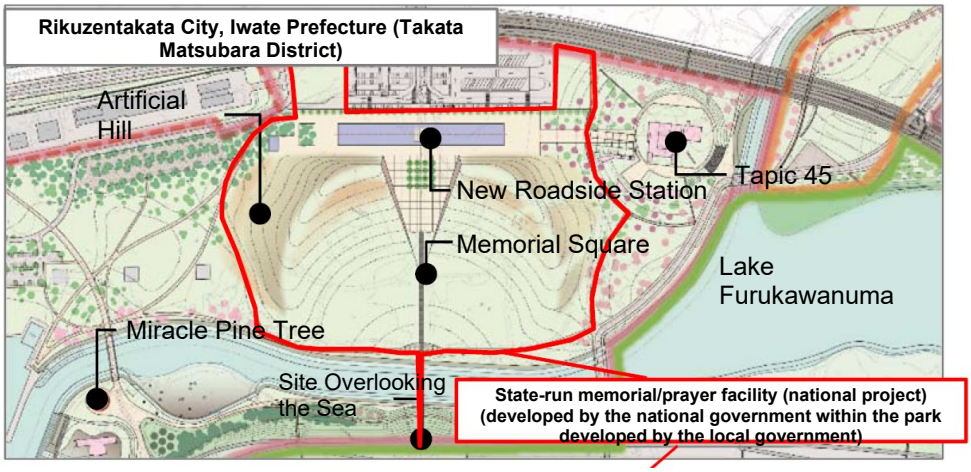
The construction of the facilities in Iwate and Miyagi Prefectures was completed at the end of FY 2020, and maintenance and management efforts are now underway. Partial use of the facilities in Fukushima Prefecture began in January 2021, and the development of the facilities is ongoing[4][5].

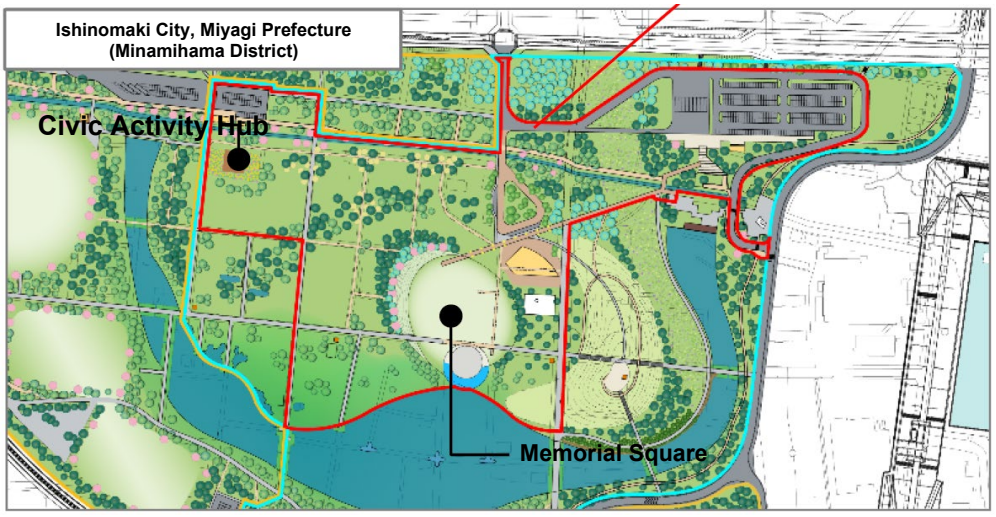
[4] Tohoku Regional Development Bureau, Ministry of Land, Infrastructure, Transport and Tourism, “Memorial Park and National Memorial as a Symbol of Reconstruction” *Parks and Open Space*, Vol. 81, No. 5 (2021)

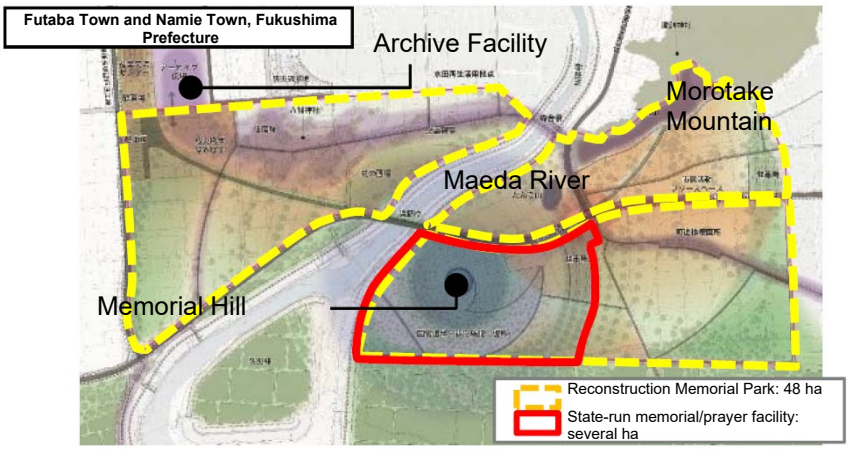
[5] Reconstruction Agency, “Current Status and Initiatives for Reconstruction (Reference): Reconstruction Initiatives and Related Systems” (November 30, 2020) https://www.reconstruction.go.jp/topics/main-cat1/sub-cat1-1/material/20201130_torikumitokanrenshoseido.pdf (browsed July 31, 2023)

The following is an overview of the three parks.

Figure 5-3-18 Overview of Earthquake Reconstruction Memorial Parks

Park	Overview
Takata Matsubara Tsunami Reconstruction Memorial Park (Rikuzentakata City, Iwate Prefecture)	Though the scenic spot of Takata Matsubara was wiped away by the tsunami, a lone pine tree that miraculously survived inspired many people in Japan and abroad, becoming a symbol of reconstruction. Though the death of the pine tree was confirmed in May 2012, Rikuzentakata City preserved it by developing it into a monument using donations received from around the world. Formulated in June 2014, the basic concept for Takata Matsubara Tsunami Reconstruction Park outlines the following key principle. As we offer mourning and repose for the souls of the victims in this place where the miraculous lone pine tree remains, the lessons of the disaster and the vision for reconstruction are reflected in the rebirth of Takata Matsubara, carrying them forward into the future. The basic policy designates the park as a place of mourning and repose for the souls of all the lost lives, and with the help of the miraculous lone pine tree, the park will express a strong commitment to reconstruction to those in Japan and overseas. Furthermore, the park will serve as a place to pass down a culture of tsunami disaster prevention, which has allowed people to overcome the tsunami damage and coexist with nature. Based on the basic park plan formulated in August 2015, Iwate Prefecture and Rikuzentakata City have established a reconstruction memorial park (approx. 130 ha), and the national government has established a memorial plaza, a site overlooking the sea, and other facilities (approx. 10 ha). Along with the city's Michi no Eki Takata Matsubara and the prefecture's Iwate Tsunami Memorial Museum, the national entrance and management building were built by the national government as cohesive and symbolic structures, combining efforts from park and road projects. 

Ishinomaki Minamihama Tsunami Memorial Park (Ishinomaki City, Miyagi Prefecture)	The Great East Japan Earthquake left around 4,000 people in Ishinomaki City dead or missing, the highest of all disaster-affected municipalities in Miyagi Prefecture. The Minamihama District suffered particularly severe damage due to the arrival of the tsunami and the spread of fires, taking the lives of over 500 people. In accordance with the reconstruction plan, the city designated the Minamihama District as a disaster risk area, implemented a collective relocation promotion project for disaster prevention, and established a park at the site to serve as a symbol of reconstruction. Formulated in March 2014, the basic concept for Ishinomaki Minamihama Tsunami Memorial Park outlines the following key principle. As we offer mourning and repose for the souls of all the lives lost in the Great East Japan Earthquake, we will • pass on the memory of the town and the earthquake • create a forest that bustles with life • forge bonds between people. The basic policy of the park calls for the creation of a space for mourning and repose, reflecting on all of the lives lost in the earthquake, the past way of life, and the town itself, while serving as a gathering place for many to pray for reconstruction. Based on the basic park plan formulated in August 2015, Miyagi Prefecture and Ishinomaki City have established a reconstruction memorial park (approx. 40 ha), and the national government has established the Memorial Square and the core facility (approx. 10 ha). In the core facility is the Miyagi Tsunami Memorial Museum, where the prefecture creates exhibits to share the story of the earthquake. 

Fukushima 3.11 Memorial Park (Futaba Town and Namie Town, Futaba District, Fukushima Prefecture)	The Great East Japan Earthquake brought a tsunami as high as 16.5 meters to Futaba Town and up to 15.5 meters in Namie Town, devastating communities like Nakano District in Futaba and Morotake District in Namie. In addition, due to the accident at the Fukushima Daiichi Nuclear Power Station, an evacuation order forced the entire towns of Futaba and Namie to clear out. These towns became symbolic locations of the combination of multiple disasters, including the earthquake and the nuclear accident. Formulated in July 2017, the basic concept for Fukushima 3.11 Memorial Park outlines the following key principle. Honor life, convey the truth, forge connections, and restore the breath of life. In line with this basic principle, four basic policies were outlined for the park. "Honoring life" signifies establishing a space for mourning and repose for all lives lost in the disaster, located in an area offering a panoramic view of the multiple disasters that struck Fukushima Prefecture, including the development of interim storage facilities for decontaminated soil on nearby land. "Conveying the truth" refers to passing on the memories and lessons of the disaster in collaboration with earthquake historic ruins such as Ukedo Elementary School near the park and the Great East Japan Earthquake and Nuclear Disaster Memorial Museum, an archive facility developed by the prefecture. "Forging connections" involves preserving the region's historical and cultural heritage from before the earthquake, fostering hubs for community activities like creating calming flower-filled landscapes, and establishing a place of solace where people, including those displaced by the nuclear disaster, can support and assist one another. Finally, "restoring the breath of life" signifies the development of a space that allows visitors to participate in the community's recovery process in tandem with the revival of livelihoods in the local area, while showcasing a strong commitment to reconstruction to people in Japan and abroad. Based on the basic park plan formulated in July 2018, Fukushima Prefecture will establish the reconstruction memorial park (area: approx. 50 ha), and the national government is currently developing the Memorial Hill (area: approx. 10 ha).  **Basic Plan for Fukushima 3.11 Memorial Park (May 2019)**

Source: Kensetsu Plaza, "Reconstruction of Parks and Green Spaces Following the Great East Japan Earthquake and the Development of State-Run Memorial and Prayer Facilities"
http://www.kensetsu-plaza.com/kiji/post/37810 (browsed July 31, 2023)
Reconstruction Agency, "Current Status and Initiatives for Reconstruction (Reference): Reconstruction Initiatives and Related Systems" (November 30, 2020)
https://www.reconstruction.go.jp/topics/main-cat1/sub-cat1-1/material/20201130_torikumitokanrenshoseido.pdf (browsed July 31, 2023)