

Landscape Design of Future City Community Public Space in Tianjin Post-COVID-19

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Abstracts

The new crown epidemic in 2020 has had a profound impact on the world and changed people's way of life. In China, under the normalization of the epidemic, people's demand for shared space in communities has changed. The purpose of this research is to find out the residential landscape design solutions of Tianjin Future City under the impact of Covid-19 according to the needs of the community after the normalization of the epidemic, and to create and design the landscape design for the shared space of Tianjin Future City 3A community after the COVID-19 epidemic. Taking the 8A community of Tianjin Future City as the research population, 200 people were selected as a sample, and the needs of the target group were collected through questionnaires and interviews. The study found that the epidemic has made community residents pay more attention to personal safety and health, and have higher requirements for comprehensive activity venues, the needs of the elderly and children, natural landscapes and social needs. Through the analysis of questionnaires and interview results, it is found that the needs of residents after the epidemic are as follows: (1) Pay attention to the needs of community personal safety, health safety, property safety, and traffic safety. (2) Increase the design of a comprehensive activity venue, that is, a comprehensive activity venue that integrates rest venues, basketball courts, and game fields, hoping to increase the fun and interactivity of the venue. (3) Pay attention to the activity venues and sports needs of the elderly (old man) and children. (4) Looking forward to being close to nature and increasing the diversity of natural landscape elements and greening quantity and varieties in the residential area. (5) Hope to interact with others, social needs strengthened.

Keywords: Landscape Design, Future City Community, Public Space, Tianjin Post-COVID-19

Introduction

This article mainly studies the new needs of residents' residential landscape under the normalized conditions of co-existence with the COVID-19 epidemic, and takes the shared space of the 8A project of Tianjin Future City as the research object. The author provides the analysis and design reference of the shared space landscape scheme of Tianjin Future City 3A residential project.

Before the epidemic, the community landscape was mainly used as a selling point, focusing on material selection and rare tree species, standardized functional spaces, main landscape axes, and several named activity places. Residents' daily activities are not restricted as they were after the epidemic was brought under control. On weekdays they go to work, go shopping, and go on picnics or short vacations on weekends. They do not share with spaces within the community, and do not have special concerns and requirements for shared spaces. Therefore, the community shared space landscape before the epidemic mainly existed for the

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purpose of sales and

After the epidemic, due to the need for epidemic control, people stayed at home longer, and travel between cities was sometimes affected. Therefore, the shared landscape space in the community has become a place for people's outdoor activities and the place closest to nature. People need to carry out various activities in this space, such as fitness, socializing, accompanying children, walking pets, resting, and even entertaining activities, but the previous community shared space cannot meet people's needs for landscape after the epidemic.

Therefore, this paper mainly studies the new needs of residents' residential landscape under the normal conditions of co-existence with the COVID-19 epidemic, and takes the shared space of Tianjin Future City 8A project as the research object. It provides the analysis and design reference of the shared space landscape scheme of Tianjin Future City 3A residential project.

The public space landscape can become a medium to coordinate the relationship between man and nature, and can play a positive role in promoting the physical and mental health of human beings and the communication between man and nature. The deep meaning of the public space environment means that public space is not only a geographical concept, but more importantly, the people who enter the space, as well as the connotation of extensive participation, communication and interaction displayed on the space. These activities roughly include the public's spontaneous daily cultural and leisure activities and work status, as well as top-down grand assembly activities (Zhao Nailong, 2019, p.43). How to make better use of this facilitation, William H. White (2020) believes that the visual effect of open space may be the most important, but most open space planning rarely considers people (people on the ground or in cars) What to think of it. For this reason, open space acquisition and area planning needed to be integrated with the approach to landscaping. Spaces that appear insignificant on a map can become large in the human experience. By the same token, some large spaces on the map may actually be insignificant because few people have ever used them or seen them (William H. White, 2020, p. 287). In addition to the spatial visual effects, the "emotional" meaning of the space is a subject that must be faced. However, the expression of emotion is a kind of ability. The world's eight art categories - literature, painting, music, dance, sculpture, drama, architecture, and film - are all expressions of emotion, and space design, as an art form, is of course also listed in it. (Fu Shenggang; Wu Chao; Xu Yuqian; Gao Ya; Cui Xiaoping, 2021, P.135)

Under the influence of the new crown pneumonia epidemic and the increasing uncertainty of the macroeconomic environment, urban agglomerations and metropolitan areas will usher in new development. (National Future City Laboratory, Chinese Academy of Social Sciences; Edited by China Society of Real Estate Appraisers and Realtors, 2021, p.7). It has brought opportunities and conditions for the new development of residential open space landscape design in the post-pandemic era. Landscape (landscape), whether in the West or in China, is a beautiful and indefinable concept. The open space landscape referred to in this study is that defined in real estate. The so-called landscape design is to conduct a scientific and rational analysis of the problems of a specific use of land and all human outdoor spaces, scientifically and artistically design solutions and solutions to the problems, and at the same time supervise the realization of the design (Ian Thompson, 2021, p.6).

After the epidemic, society needs to explore new ways of co-existing with the virus. In addition to hospitals and vaccines, this approach also has more advanced forms, such as new norms, concepts and actions. Obviously, exploring these more advanced forms requires social innovation (Editorial Office of the Chinese Edition of Stanford Social Innovation Review,

2020, p.53). The residential landscape is among the social innovations, and people are subjective and active creatures. In the face of any kind of severe natural and social challenges, people will show diverse vitality and vigor (Editorial Office of the Chinese Edition of the Stanford Social Innovation Review, 2020, p.53). Urban renewal is a long-term and continuous process. The renewal of some small-scale plots in the city seems to have little investment and a small scope of influence, but the improvement of the living environment is substantial. This update is closer to the community life itself, and is often accompanied by extensive participation of community residents. From the perspective of ordinary people, it pays attention to the lives of ordinary people, respects the internal order and laws of urban development, and makes it easier to maintain the sense of belonging and the community. Inherent characteristics (Wang Xiangrong, 2019, p.221). A study in Los Angeles found that people who lived in areas with more parks were more willing to help and trustworthy, regardless of their income or race. Nature is not only good to us, but also unearths our own "inner good" (Charles Montgomery, 2020, p.97).

China has fully entered the age of aging (Edited by Yuan Xin, 2017, p.5). The elderly and children are relatively important considerations in the design of residential open spaces. In addition to meeting the requirements of residential regulations, they must also keep pace with the times. According to the new environment and new needs, upgrade and build buildings that meet residents' behavior habits and emotional communication needs. landscape space. The viewing space adjoins the children's activity space and the elderly's activity space, and the children's own joy can also affect the elderly watching and make the elderly feel happy (Editor-in-Chief Yuan Xin, 2017, p.405). It is particularly important in China's contemporary national conditions where children are brought up across generations.

In 1996, UNICEF first proposed a child-friendly city construction plan. Specifically, in terms of the substantive connotation of a child-friendly city, it mainly involves four aspects: giving children the right to participate in decision-making, providing children with a comprehensive Social service system, ensuring the safety of children's living environment and meeting the needs of children's various behavioral activities (Shenzhen Women and Children's Development Research Association, September 2021, p.154). Among them, "guaranteeing the safety of children's living environment and meeting the needs of children's various behavioral activities" is the goal of our residential development research and efforts to achieve.

Research Objectives

1. Based on the community needs after the normalization of the epidemic, find solutions for the residential landscape design of Tianjin Future City under the impact of Covid-19.
2. Landscape creation and design of 3A community shared space in Tianjin Future City after the COVID-19 epidemic.

Definitions

1. Community: The community referred to in this study is the Future City 8A project in Beichen District, Tianjin, China
2. Landscape design: The landscape design referred to in this study refers to the landscape defined in real estate

Research Methodology

Study area selection

The geographical location of the research case Future City 8A community, the research scope extends from Guifu Road in the north, Yibai Road in the south, Tingjiang East Road in the east, and Yiguang Road in the west. This area is located in Beichen District, northeast of Tianjin.



Picture 1, the location of the 8A project of the Future City, is derived from the 8A plan report text.

Table 1 the field investigation of Future City 8A project

Name of Venue	Site area m ²	Facilities	Main user group	Remark
children playing space	1500	Combination slides, swings, rocking horses, rolling terrain	All age child	
Activity area for the elderly	350	Tai chi wheel, leg press, walking machine, etc	Middle-aged and elderly	
Activity space before the unit enters the home	670	Leisure seats, ground colored line activity venue	Resident of this unit	Combined with fire climbing surface design
Viewing platform	50~100	Seating, ornamental plants	Middle-aged and elderly	Linear & point-like space, multi-point distribution
Circular running track	1800	Stretch area, warm up area, rest seat	Young and middle-aged	The runway is 1200m long and 1.5m wide
Note: The survey results of the main landscape status nodes and functional modules of the 8A community open space in Future City are analyzed.				

Population and Samples

1. In general, it is the relevant departments of Tianjin Future City 8A project community and service community.
2. The sample is calculated from the 3253 residents of the 8A community of the future city and the staff who serve the community using Taro Yamane to calculate the sample size. The random sampling method is used to select 200 people in the 8A project as a sample. The 200 participants are the residents of the future city. Owners, but also builders, property personnel, community service personnel, couriers, designers.

Table 2 The planning indicators of Future City 8A project

Target groups and groups					
number	Future City 8A Project		Planned quantity		unit
1	Number of households		1162		household
2	Average population per household		2.8		Person/household
3	Number of residents		3253		Person
4	Sample population		200		Person
		Number of groups	Number of respondents	Number of Interviewers	
5	include d	resident	190	190	2
		builder	2	2	1
		Property management personnel	2	2	1
		Community service personnel	2	2	1
		courier	2	2	1
		designer	2	2	1

Data Collection

1. Online Questionnaire Survey

According to the above survey of the current situation of the 8A project of the research model and the content of residents' concerns after the epidemic, the questionnaire was designed and the results of the questionnaire were collected online.

2. Online Interview

After the online questionnaire is completed, one or two people from different occupations in the sample will be selected as typical subjects, and interviews will be conducted from the three aspects of their feelings, deficiencies, and needs for the public open space in the 8A community after the epidemic. In order to more comprehensively analyze the needs of the sample population for open space landscape.

Data Analysis

1. The 9 questions in the online questionnaire are all asking community residents about the open space landscape after the outbreak of the new crown virus. The following table only retains the options with a percentage above 80%.

Table 3 The online questionnaire of Future City 8A project

Question 1	option	Number of selections	percentage
Q1:occupation	resident	190	95.00%
	Number of respondents	200	

Table 4 The online questionnaire of Future City 8A project

Question 2	option	Number of selections	percentage
Q2: age of groups	young and middle-aged	100	50%
	old man	79	39.5%
	children	21	10.5%
	Number of respondents	200	

Table 5 The online questionnaire of Future City 8A project

Question 3	option	Number of selections	percentage
Q3:What has been the biggest impact of COVID-19 on your work and life?	Desire for outdoor activities	198	99.00%
	Decreased social activity	189	94.50%
	Spend more time at home	176	88.00%
	More hope for green	163	81.50%
	Number of respondents	200	

Table 6 The online questionnaire of Future City 8A project

Question 4	option	Number of selections	percentage
Q4: What do you think the following property management needs to be improved?	Increase security monitoring	169	84.50%
	Number of respondents	200	

Table 7 The online questionnaire of Future City 8A project

Question 5	option	Number of selections	percentage
Q5:Which space in the community landscape do you use frequently ?	Fitness equipment area	189	94.50%
	Unit entry space	186	93.00%
	children playing space	174	87.00%
	Number of respondents	200	

Table 8 The online questionnaire of Future City 8A project

Question 6	option	Number of selections	percentage
Q6: What do you think needs to be improved in the community landscape?	Add a sink	189	94.50%
	Add spot seating	172	86.00%
	Plan social space	169	84.50%
	Interactive sports facilities	167	83.50%
	Number of respondents	200	

Table 9 The online questionnaire of Future City 8A project

Question 7	option	Number of selections	percentage
Q7: Which do you think is most important for community safety?	Security monitoring	186	93.00%
	Number of respondents	200	

Table 10 The online questionnaire of Future City 8A project

Question 8	option	Number of selections	percentage
Q8: What concerns you most about community government management?	safety	187	93.50%
	Living allowance for residents during special periods	169	84.50%
	Community hospital service	166	83.00%
	Number of respondents	200	

Table 11 The online questionnaire of Future City 8A project

Question 9	option	Number of selections	percentage
Q9: For emerging intelligence, what do you feel is necessary to apply to the community?	face recognition	177	88.50%
	speech control	177	88.50%
	Number of respondents	200	

2. Online interview data

Table 12 Interviewee code

Interviewee code	A	B	C	D	E	F	G
occupation	resident	resident	builder	property administrator	Community service worker	delivery man	delivery man
work	Elderly resident Retire at home	housewife	project management project implementation	Park safety and sanitation inspection	Reception of visitors	Express delivery	Design landscape plan
Interview method	on line	on line	on line	on line	on line	on line	on line
Time	5 minutes	5 minutes	5 minutes	5 minutes	5 minutes	5 minutes	5 minutes

The online interview questions mainly start from three perspectives: the interviewee's feeling, the insufficiency of landscape design, and the needs (the following online interview questions 1, 2, and 3 are represented by Q1, Q2, and Q3):

Interview question 1 "How do you feel about the community open space landscape after the epidemic?"

Interview question 2 "What are the design deficiencies in the community open space landscape after the epidemic?"

Interview Question 3 "What are the needs for community open space landscape after the epidemic?"

Table 13 Interview Results

code	Question	Summary of interview results
A	Q1	no place to play
	Q2	Get some sun, but it's boring.
	Q3	Close to the basketball court and game field, watching young people and friends playing.
B	Q1	Close to the basketball court and game field, watching young people and friends playing.
	Q2	The community is a place for the elderly and children. They stay longer, but there are not many things to serve them.
	Q3	Consider for the elderly and children, such as sports venues and safe places to play.
C	Q1	People pay more attention to health and safety.

	Q2	Public health facilities, vegetation and greening are insufficient, and there is insufficient security.
	Q3	<ol style="list-style-type: none"> 1. Public sanitation facilities, such as trash cans, sinks, etc. 2. Add more greenery and vegetation. 3. Complete security measures, such as monitoring, outdoor broadcasting and sound, can improve the sense of security of community residents.
D	Q1	Residents pay more attention to fitness and the health and safety of the community environment.
	Q2	There are insufficient sunshade facilities, and the traffic at the gate of the community is always congested.
	Q3	<ol style="list-style-type: none"> 1. Cleaning and sanitizing services and increased outdoor recreational facilities. 2. Solve the congestion problem at the gate from the design point of view
E	Q1	Residents began to value the outdoors and recreation.
	Q2	The space design of the community is relatively simple, and there are few and old facilities.
	Q3	The needs of open space are more diversified and individualized. Provide more entertainment facilities, such as sports grounds, children's play facilities, etc.
F	Q1	More and more attention has been paid to the shared space landscape.
	Q2	There is a lack of seats and resting places, and the scope of monitoring is incomplete.
	Q3	Increase monitoring.
G	Q1	After the epidemic, residents need a comfortable, safe and healthy open space in the community, so that people can breathe fresh air and relax.
	Q2	Lack of activities and leisure facilities suitable for different age groups, or insufficient consideration of human flow and social distance.
	Q3	<ol style="list-style-type: none"> 1. Activities and leisure facilities suitable for different age groups. 2. More greenery, natural views and well-lit spaces. 3. More digital facilities and intelligent management facilitate residents to carry out various community activities and management.

According to the above questionnaire and interview results, we can find the problems of the open space landscape in the 8A community of the future city. From the proportion of the options that residents are concerned about in the questionnaire and the summary of the interview questions, it can be seen that the conclusions of the two research methods are the same. According to the survey, the more positive needs in the post-epidemic era are:

1. Pay attention to the needs of community personal safety, health safety, property safety and traffic safety.

2. Increase the design of a comprehensive activity venue, that is, a comprehensive activity venue that integrates rest venues, basketball courts and game fields, hoping to increase the fun and interactivity of the venue.

3. Pay attention to the activity venues and sports needs of the elderly (old man) and children.

4. Looking forward to being close to nature, increasing the diversity of natural landscape elements and greening quantity and varieties in the residential area.

5. Hope to interact with others and strengthen social needs.

Conclusion

The research analyzed the relevant information of "Landscape Design of Public Space in 8A Community of Tianjin Future City after the Epidemic", and carried out research on relevant community personnel in the form of online questionnaires and interviews. And analysis, research, study and research results can be summarized as follows.

1. According to the above questionnaire and interview results, we can find the problems of the open space landscape in the 8A community of the future city. From the proportion of the options that residents are concerned about in the questionnaire and the summary of the interview questions, it can be seen that the conclusions of the two research methods are the same. According to the survey, the more positive needs in the post-epidemic era are:

1. Pay attention to the needs of community personal safety, health safety, property safety, and traffic safety.

2. Add a comprehensive activity venue, that is, a comprehensive activity venue that integrates rest venues, basketball courts, and game fields, hoping to increase the fun and interactivity of the venue.

3. Pay attention to the activity venues and sports needs of the elderly (old man) and children.

4. Looking forward to being close to nature, increasing the diversity of natural landscape elements and greening quantity and species in the residential area.

5. Hope to interact with others, and social needs are strengthened.

2.. The research results will be used to create and design the shared space landscape of Tianjin Future City 3A community after the COVID-19 epidemic.

3. Summarize and analyze the results corresponding to the research objectives

Objective 1 According to the needs of the community after the normalization of the epidemic, find a solution to the residential landscape design of Tianjin Future City under the impact of Covid-19. According to the above requirements, the following five measures can be taken to improve the landscape design of residential areas:

1. Increase monitoring equipment and strengthen security in the community to improve the personal, health, property and traffic safety of community residents. At the same time, a special non-motor vehicle parking area is designed outside the main entrance of the community to meet the needs of express delivery, takeaway and temporary parking, to ensure the safety of traffic and goods, and to improve the image interface of the main entrance of the community.

2. Design comprehensive activity venues, such as integrating rest venues with basketball courts, game fields, fitness equipment areas, etc., to increase the fun and interactivity of the venues and meet the leisure and entertainment needs of community residents.

3. Pay attention to the activity venues and sports needs of the elderly and children, such as adding elderly squares and children's play facilities to the comprehensive activity venues in the community to provide activity venues suitable for different age groups. Most of the children in the community are taken care of by the elderly, so the design of intergenerational space that can meet the needs of both the elderly and children in the community at the same time is added.

4. Increase the greening area in the residential area to ensure that it is not lower than the planned greening rate. Increase the amount of greening and the diversity of varieties, such as adding flowers, trees, vegetable and fruit gardens that can be viewed in different seasons. Create natural landscapes and use natural materials such as wood, stone, natural lawns, etc. in landscape design. Improve community residents' feeling of being close to nature.

5. Design social areas, such as garden seats, outdoor coffee, leisure squares, etc., to provide community residents with a place to communicate and socialize, and to increase the interaction and sense of belonging among community residents.

Objective 2 Landscape creation and design of shared space in 3A community of Tianjin Future City after the COVID-19 epidemic. The landscape design of the open space in the 3A community of Future City will focus on the needs of residents, and design a safer, more humane and healthier community based on the summarized design solutions and the planning of community infrastructure.

Conclusion and Discussion

The development focus of modern urban residential landscape design is people-oriented, and the ultimate goal of people-oriented is people's overall feeling of the residential landscape environment, that is, the sense of home, garden and security that the landscape of the residential area brings to people. A safe residential landscape can bring a sense of home, a quiet residential landscape can create a sense of garden, and a safe residential landscape can create a sense of security (Ou Yali, Xia Wanshuang, 2017, p.50). This epidemic has caused more people to stay at home, confined to the interior of the community. The landscape environment inside the community has become the only area where residents can stop for a walk and exercise healthily. Therefore, health protection in outdoor landscape design has become very important. This requires practitioners to stand on the perspective of different customer groups to a greater extent to meet different needs. In the future, the design of community landscape combined with health protection should be based on the principle of people's physical and mental health, and a service system for health functions should be established; the landscape space and functions of the community need systematic planning, and the activity areas of all age groups must truly implement the health complex module to create a healthy environment., natural activity areas and comfortable, humanized space scenes (Ren Zhenyu, 2020, p.28).

After the epidemic, the needs of community residents have changed. The residential area corresponds to the three elements of modern city people's work, life and entertainment, and its unique natural and tranquil landscape environment becomes a buffer for those reinforced concrete office environments. A close and pleasant living environment is the inner

demand of urbanites. After all, urban residents spend half or even 2/3 of their time in residential areas, and the quality of landscape environment in residential areas directly affects people's physical, psychological and spiritual life (Ou Yali, Xia Wanshuang, 2017, p.51) . They pay more attention to the needs of personal safety, health safety, property safety, and traffic safety. They hope to increase the design of comprehensive activity venues in the community, pay attention to the activity venues and sports needs of the elderly and children, hope to get close to nature, and increase the natural landscape in residential areas. The number of elements and greenery, variety of species, and enhanced social needs.

Through the study of the target case, an improvement plan was found, and this improvement plan was basically consistent with the planning and design mentioned in the book "Urban Landscape Design". The book mentions:

1. Combination and collocation of dynamic recreational activities and static recreational activities.

2. Pay equal attention to public open places and individual private places.

3. Pay equal attention to open space and semi-open space.

4. Three-dimensional spatial processing. For example, the ground floor is elevated and used as a public event space to provide ample outdoor public event venues.

Residential activity venues should meet the various needs of residents of different ages and hobbies. Therefore, it is of special significance to properly supplement recreational facilities in community building. Relatively small activity facilities can be scattered and landscaped; large-scale entertainment projects are suitable for centralized construction, and then set up a landscape buffer zone to conceal them; for the landscape design of public activity spaces, it is necessary to ensure that there is an appropriate amount of hard work. Quality venues and beautiful and practical outdoor furniture should also be reserved for quiet places with a certain sense of privacy (Ou Yali, Xia Wanshuang, 2017, p.52).

Because of these changes in the emergence and spread of the epidemic, community residents are more aware of the importance of their own safety and health. It may also be due to the improvement of living environment and living standards, and the corresponding attention to leisure and entertainment, ecological environment and social needs. improve. These changes indicate that community residents have higher requirements for the quality of life and environment, and hope to jointly create a better living environment through their own efforts and the improvement of the community.

Future City 3A Landscape Design

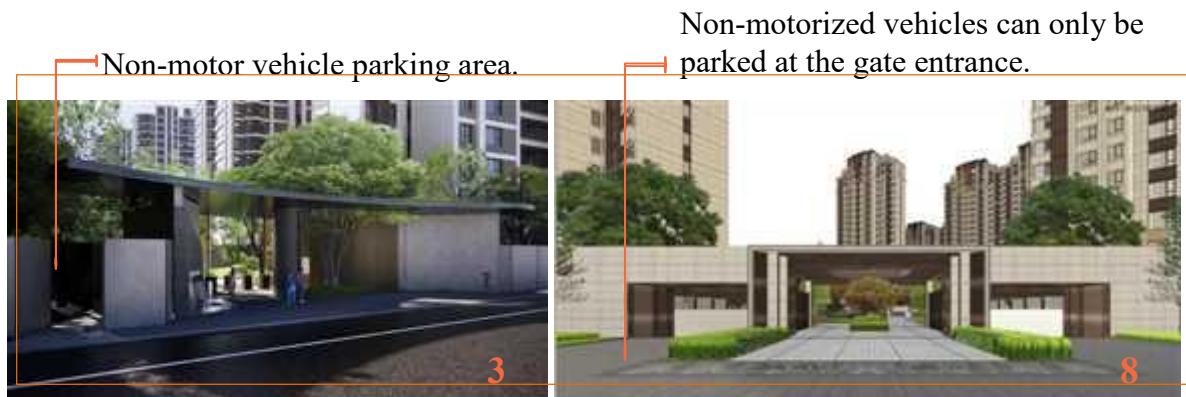
According to the needs of Tianjin Future City 8A residents for community landscape after the epidemic, relying on the five improvement directions summarized in Research Objective 2, the 3A community landscape plan of Future City will be improved and upgraded. The specific plan is as follows:



Picture 2, Future City 3A Community Landscape Plan Floor Plan.

3A compared with 8A

1. Temporary parking spaces for non-motor vehicles have been added to the north gate of 3A community to solve traffic congestion and safety problems.



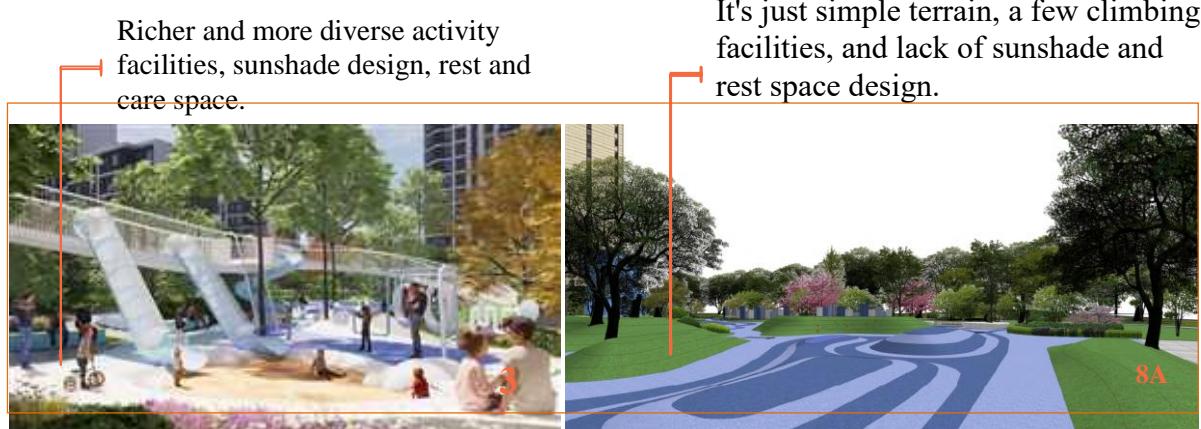
Picture 3, the comparison between Future City 3A and 8A

2.3A Community has designed a comprehensive activity venue to increase interactive space and meet residents' outdoor fitness needs.



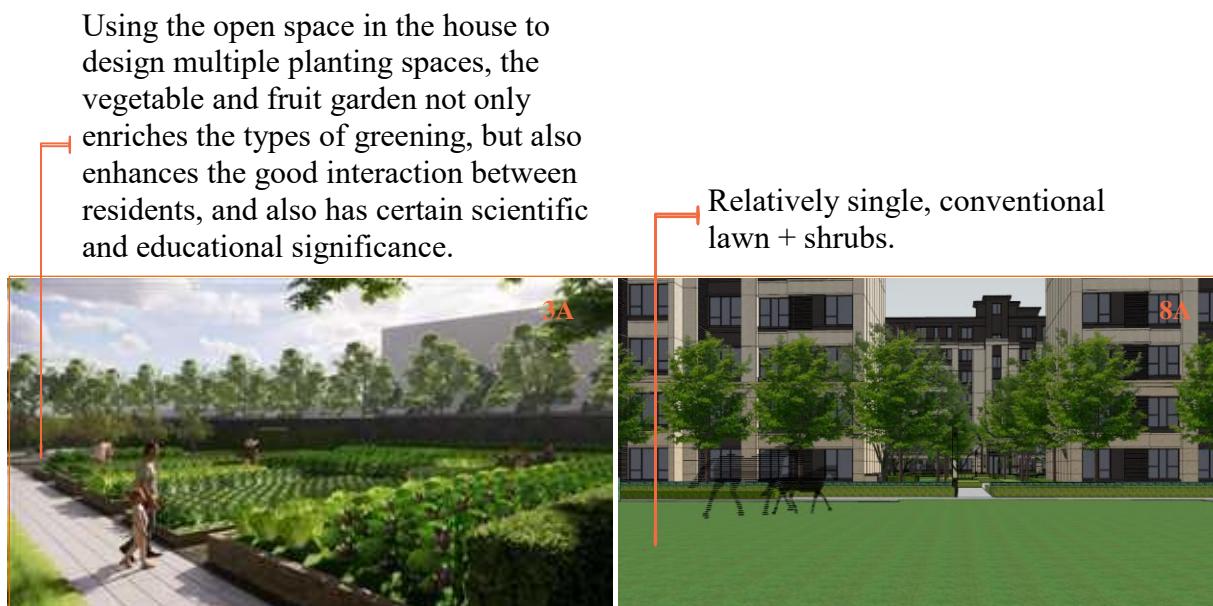
Picture 4, the comparison between Future City 3A and 8A.

3.3A community increases the area, number and facilities of children and other comprehensive activities.



Picture 5, the comparison between Future City 3A and 8A.

4. The 3A community designs shared fruit and vegetable gardens to increase the diversity of greening and vegetation while providing social space.



Picture 6, the comparison between Future City 3A and 8A.

5.The 3A community designs multi-point comprehensive activity venues, adding sunshade and rest facilities.

Rich and flowing multi-functional rest space, wind and rain corridors, shaded trees, and various seats can be seen everywhere.



Conventional pavement and step seats are ornamental, but lack friendly designs such as sunshade and social interaction.



Picture 7, the comparison between Future City 3A and 8A.

6. According to the questionnaire and interview results, the target group attaches the most importance to the community's personal safety, health safety, property safety, and traffic safety needs. According to this demand, the 3A community of the future city will design the system framework for the basic weak current system design and weak current expansion. Among them, the orange box is the security system, as shown in the figure below:

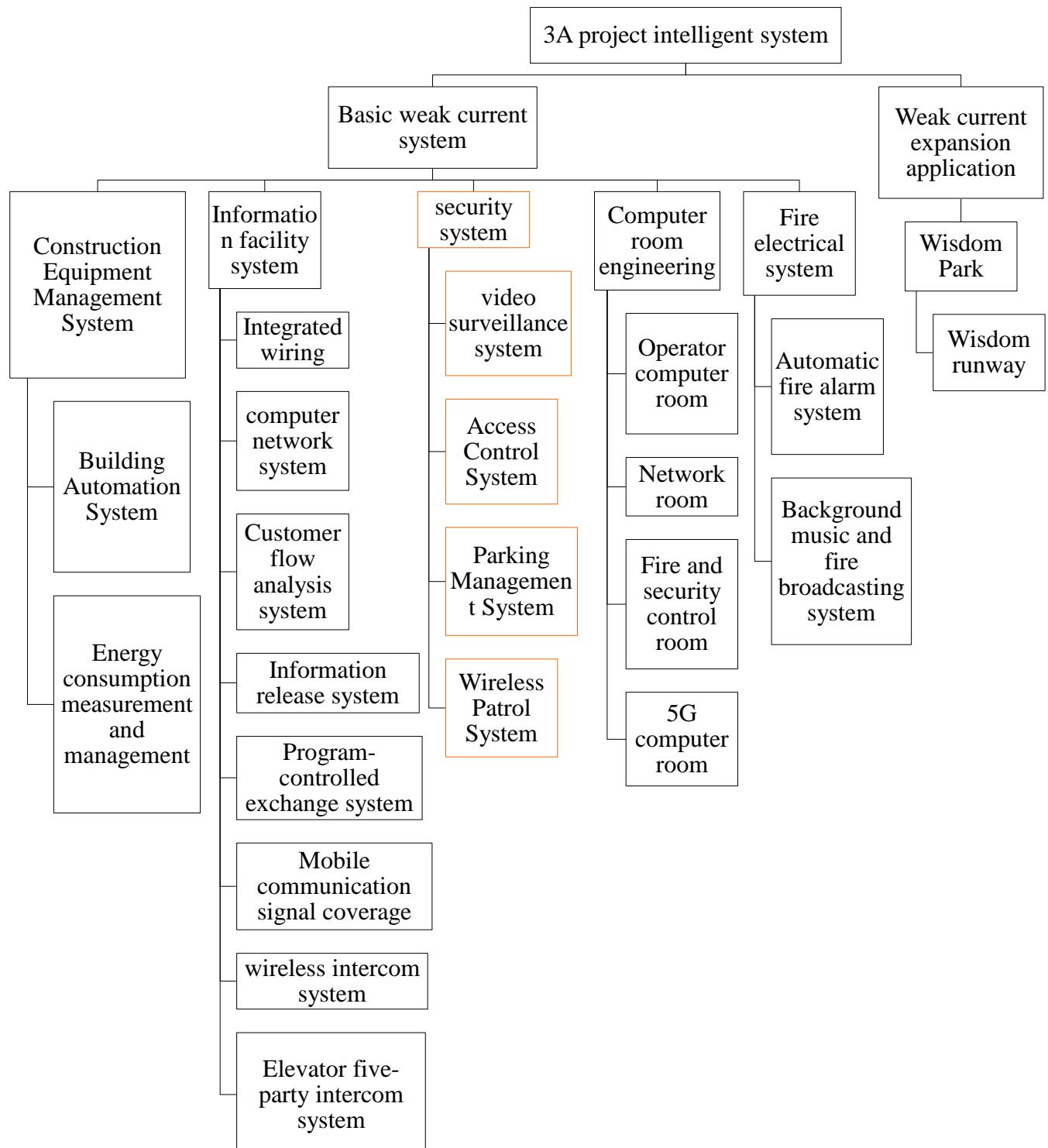


Figure 2. illustrates the research process.

The landscape design of Future City 3A community is based on the concept of micro vacation, aiming to provide residents with a place where they can relax and enjoy nature. Through landscape design techniques, a series of relaxing and comfortable landscape spaces are created.

After the epidemic, just like the research results mentioned above, people's needs for the community have changed a lot. In response to these needs, the landscape design of the 3A community in the future city pays more attention to the safety, sanitation and health of the community, and improves the overall environmental quality of the community. At the same time, strengthen the greening and vegetation in the community, and increase the natural flavor and beauty of the landscape space. In the design of the comprehensive activity venue, residents of different ages, interests and needs are considered, and a variety of venues and facilities are provided.

Suggestion

This time, for the research on the open space landscape design of Tianjin Future City 8A community after the epidemic, the following suggestions are put forward:

Advice on research and application of results

The results of this study pointed out the landscape needs of Tianjin residents for community open space after the epidemic, as well as the solutions for landscape design. Considering the importance attached by residents to the post-epidemic landscape in the questionnaires and interviews, the research results can be used as a design prototype for the development project, and then the detailed design can be carried out.

Suggestions for further research

1. The landscape plan designed for the research sample should further communicate with the sample population and give feedback on the plan to reduce errors and understand sample needs.
2. Collect design elements that residents are interested in, so as to control the design focus and reasonable cost allocation.

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