

Exploration on the Protection Scheme of the Great Ruins of Southern Lifang District in the Luoyang City Site in Sui and Tang Dynasties

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Abstract—The great ruins are a kind of non-renewable precious resources. The southern Lifang district in the Luoyang City Site in Sui and Tang Dynasties is the product of the development of ancient Chinese capital to a certain historical stage. As many important relics and rich cultural history have been excavated here, the district has a rich humanity history. In the context of the ever-changing urban construction, the protection of the great ruins in the district has become more urgent. From the point of view of the protection of the great ruins, this paper introduces the important sites and cultural relics of southern Lifang district in Luoyang city of the Sui and Tang Dynasties through field investigation and literature review. By exploring and marking the specific location of the site in Lifang district, the author intends to provide reference opinions for the later protection and restoration. Finally, through the analysis of the current situation of southern Lifang district, the corresponding protection and planning suggestions for great ruins are put forward.

Keywords—*Luoyang City of the Sui and Tang Dynasties; southern Lifang district; status analysis; planning suggestions*

I. INTRODUCTION

The great ruins are one of the important contents of the material cultural heritage. The Luoyang City Site in Sui and Tang Dynasties are one of the five capital cities in the history of Luoyang. Southern Lifang district in the ruins of Luoyang City Site in Sui and Tang Dynasties is mostly residential and cultivated land with less commercial development and rich cultural connotation. Culture is the soul of a city. As a non-renewable precious cultural resource, the great ruins are a positive force for urban development. In the current urban construction in full swing, many sites in urban core areas are being damaged by human and non-human activities and are facing the crisis of loss. Based on detailed and sufficient literature materials and archaeological findings, and on the basis of field visits and investigations, this paper strives to grasp the history and heritage distribution of southern Lifang

district in a comprehensive and detailed way. Through the analysis of the current situation of southern Lifang district, a relatively reasonable planning proposal is obtained. This study can provide theoretical or practical reference and help on the protection and development of Luoyang City Site in Sui and Tang Dynasties, as well as the reconstruction of southern Lifang district.

II. GREAT RUINS, SUI AND TANG DYNASTIES, LUOYANG CITY AND LIFANG DISTRICT

Great ruins refer to large sites or groups of sites with a long span of time, a large area of land, of great value, special or great significance in the course of civilization development, and the inherent potential for conversion of resource advantages. The proposal of the concept of the great ruins protection is a major breakthrough in the theory of cultural relics protection in China in recent years. Xi'an and Luoyang are the focus of the great ruins protection in China.

Luoyang city of the Sui and Tang Dynasties was founded in 605 AD, the first year of Daye of emperor Yang in the Sui dynasty. The city that flourished in Tang was used as capital for more than 500 years and has a history of more than 1,400 years. The once center of Grand Canal in Sui Dynasty of China and the eastern starting point of the silk road has a mature system of southern Lifang in Luoyang, magnificent central axis of urban planning and star-studded celebrity gardens.

As the smallest unit of the ancient capital construction structure, lifang is the product of the ancient capital development to a certain stage. In the layout of the Lifang district of the Luoyang city of Sui and Tang Dynasties, the Lifang district is divided into two parts of north and south with Luohe river as the boundary. The southern Lifang district in Luoyang has larger area and is an important part of the ruins area of Luoyang City Site in Sui and Tang Dynasties.

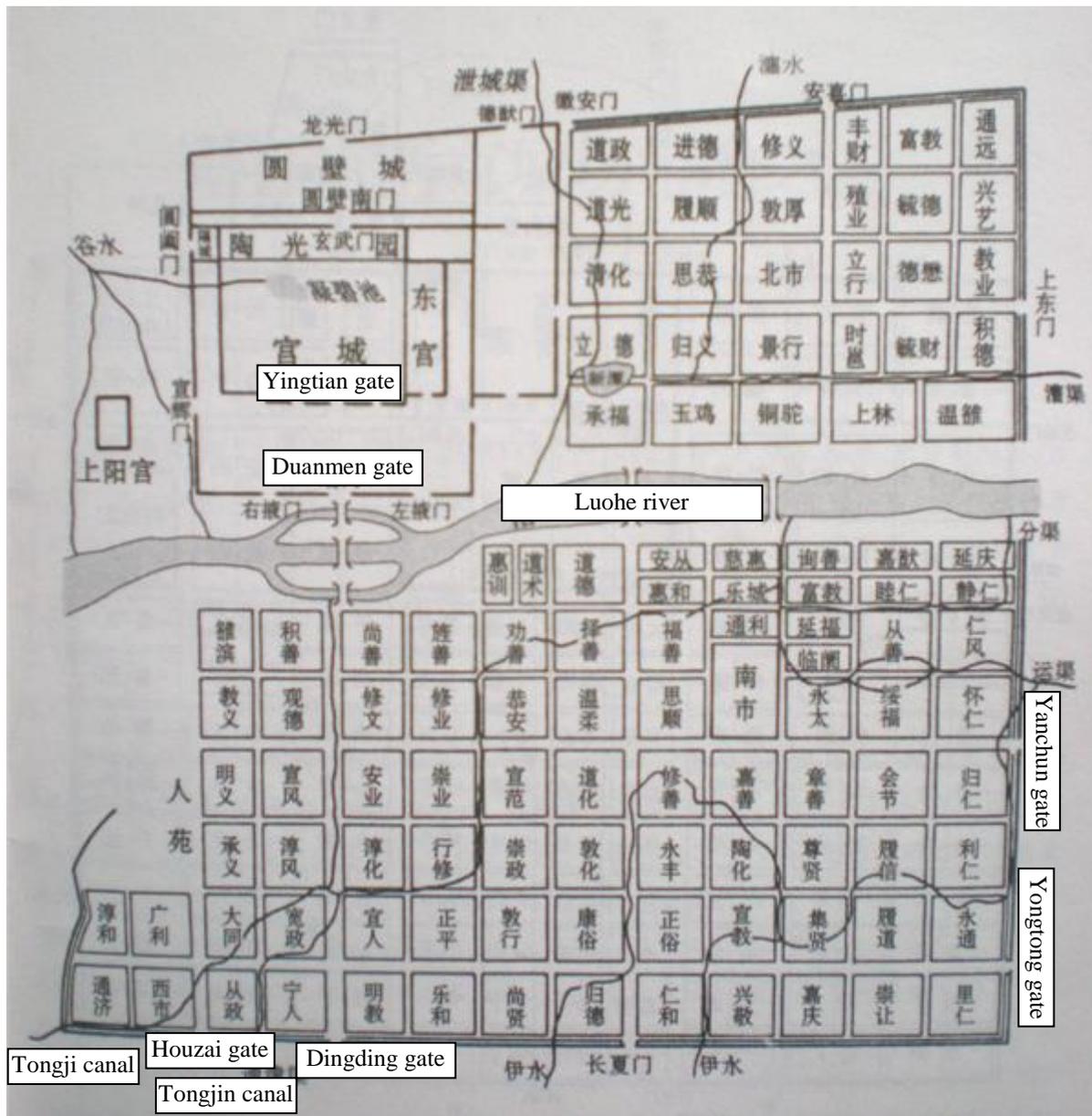


Fig. 1. Map of the east capital of Tang Dynasty, Luoyang city.

III. IMPORTANT SITES IN THE SOUTHERN LIFANG DISTRICT IN THE LUOYANG CITY OF THE SUI AND TANG DYNASTIES

A. Tianjin Bridge Site

Tianjin bridge was built in Sui Dynasty, also known as Luoyang bridge, is the most important bridge connecting the north and south part of city across Luohe. According to the *Study on Lifang of the Two Capitals of Tang Dynasty*, "From the south of the Duan Gate in the imperial city, one can go straight to Dingding Gate after walking across the Tianjin Bridge. The North-south street is called Dingding street, also Tianmen street, Tianjin bridge or Tianjie street." (see "Fig.

^a See *Study on Lifang of the Two Capitals of Tang Dynasty*, page 29.

1") In Sui Dynasty, Tianjin bridge was built by connected wooden boats, which was actually a floating bridge. Since the floating bridge was damaged for many times in history, no physical remains were found. In Tang Dynasty, the floating bridge was rebuilt to a stone column bridge. From the Sui and Tang Dynasties to the Five Dynasties, and then to the Song Dynasty, Tianjin bridge was repeatedly destroyed and rebuilt. With the destruction of Luoyang city, Tianjin bridge gradually became a broken bridge base and sank to annihilation in the bottom of the river bed.

In 2000, stone weirs and piers of Luohe river in the tang and tang dynasties were discovered in the Luohe section of the city axis in the two dynasties under the riverbed 200 meters west of Luoyang bridge. A total of 4 bridge piers are

cleared out, which stands from north to south with a span of 15 meters. The bridge pier is more than 20 meters in length, which is in the shape of a turtle back, and the stone column is built into a sharp angle against the water, which can weaken the impact of water flow on the bridge column and facilitate flood discharge. Crosstie keel is placed under the bridge pier to prevent sinking. On the pier are layers assembled by huge stones. Grooves are gouged at each seam to allow iron waists (an implement used for connecting and fixing hydraulic dike stones) to be imbedded jointing one another. Iron waists are inset throughout the layers and further solidify the huge plate they formed, making it uneasy to be dispersed and deformed. Stone weir stretches for several kilometers, all made from bluestone, to retain water so as to protect the river bank. The Tianjin bridge is estimated to be about 20 meters wide. These data provide a reliable basis for the restoration of Tianjin bridge.

B. The Shaoyong Ancestral Temple

Shaoyong temple is a pantheon evolved from the former residence of Shaoyong in the Northern Song Dynasty. It is located in the Anlewo village, Anle town, Luolong district, Luoyang city, close to the east side of Luolong Avenue. The existing Shao Yong Temple is a rectangular south-to-north rectangular courtyard about 130 meters long from south to

north, and 20 meters wide from east to west. It is a well-ordered four-hall yard with one axis. The preserved architectural halls, the second hall and the Huangji Book Cabinet are mostly from the Qing dynasty and the Republic of China, which have certain historical and artistic value. The shrine is the place where feudal emperors sent officials to offer sacrifices, and local officials, common people and descendants of the Shao family worshiped the sages. Now there are still many inscribed tablet of like Kangxi, Wu Peifu and other famous persons. There are also over memorial tablets and portrait praise tablets built in Ming, Qing dynasties and the period of the Republic of China, which have great value of cultural relics. In front of the north gate of the temple stands a Chinese scholar tree over 300 years old which is a local ancient and rare tree. In 2008, the people's government of Henan province designated Shao Yong Temple as a key cultural relic protection unit.

C. Dingding Gate and the Site of the Dingdingmen street

Dingding gate was built in the Sui dynasty, and was called Jianguomen then. It was renamed Dingding gate in the fourth year of Wude of Emperor Gaozu (621 years). It is the east capital of Sui Dynasty and the Zhengnan gate of the west capital the Five Dynasties to Song Dynasty.



Fig. 2. Dingding Gate Ruins Museum.

Dingding gate site is located at 300 meters west of the intersection of Gucheng east road and Longmen avenue, Luolong district, in Luoyang city. On October 30, 2009, the Dingding Gate Ruins Museum (shown in "Fig. 2") of Luoyang city in the Sui and tang dynasties, a key project of the national protection of great ruins, was officially opened, marking the rebirth of the ancient city gate ruins, which has been used for the longest time in ancient China. The reconstruction of the site laid a good foundation for the restoration of the central axis of Luoyang in the Sui and Tang Dynasties.

In the archaeological process of Gingding gate site, concentrated track marks, human footprints and animal hoof prints were found. In particular, many traces of camel's hoofs were found, which reflected the prosperity of commercial exchanges with the western regions at that time, and was also evidence of Luoyang as the starting point of the Silk Road.

D. Site of Bai Juyi's Former Residence

The site of Bai Juyi's former residence is located in the northwest corner of Lvdao fang, in the northeast of Shiziqiao village, Anle township, Luolong district, Luoyang city. The *Biography of Bai Juyi*, Volume 166 of *the Old Book of Tang* records: "At the beginning, Juyi dismissed from office in Hangzhou and went back to Luoyang. In Lvdao fang He got the house of the late Sanqi Changshi (an official engaged in remonstrating and acted as a consultant for the emperor in the court, and served as a retinue on horse outside the court) Yang Ping, where bamboos, pool and pavilion added radiance to each other, making a pleasant scene of spring in a forest." In the book it is also recorded that, "The best part of the culture and scenery in the east capital lies in its southeast, that of its southeast in Lvdaoli, Lvdao li in its northwest corner, and the best residence near the west gate and north wall was surely the place where Bai Juyi spent his twilight years after retirement." In 1992, archaeological excavations revealed that the site was poorly preserved, with the remaining relics mainly including houses, waterways,

cisterns, the south garden, brewing relics, and walls and canals of Lvdao fang, etc.

E. Ruins of Nanshi City

The ruins of Nanshi city are located between Shuguang village and Ruao village of Anle town, Luolong district. Nanshi was founded in the Sui Dynasty, known as the city of Fengdu, covering four fang of land. It was renamed Nanshi in Tang Dynasty and remained only one and a half fang of land after the ninth year of Zhenguan period. In the Late Tang and the Five Dynasties, vallation was once built in Nanshi. With the continuous decline of the political, military, commercial status of Luoyang, Nanshi was gradually abandoned after the Song Dynasty.

It has been confirmed by archaeological drilling and excavation that the site Nanshi city has a square plate with the length from east to west and width from north to south both as about 510 meters. A "cross street" was used as trunk road in the road network layout inside the market, which had been used from Sui, Tang to Song and Jin dynasties. The excavation of Nanshi site provides precious materials for the study of the rise and fall of li and fang system in ancient China and the social life history of China.

F. Ruins of the Yongtong Gate

Yongtong gate is the southernmost gate of the three gates in the east of Luoyang city of the Sui and Tang dynasties. The site is about 200 meters south of Hecun village, Lilou township in the suburb of Luoyang city. Within the scope of the ruins of the remnants are mainly abutments, gateways,

walls and road soil remains. The excavation of the site was carried out in January 1997 and the results contribute to the following understanding:

First, the gate was built before the Tang Dynasty, once burned by fire and was blocked in the early Northern Song Dynasty. This is consistent with the literature.

Second, many architectural phenomena in the gate site have their own characteristics, which are different from the previously discovered sites such as Xuanren gate, Youye gate and Yingtian gate in the east of Luoyang, and even different from the gates unearthed in the west capital Luoyang of the early Song Dynasty, providing new materials for the study of the shape and evolution of the city gate in the two capitals.

Third, the Yongtong Gate site is one of the important gates in the city of Luoyang in the Sui and Tang dynasties. It was an important passage for the residents of each fang in the southeast Luoyang in the Sui and Tang dynasties to get out of the city wall, and also an important passage for the residents inside the city wall to get in and out of each fang southeast the city wall. The discovery of this gate provided important physical materials for understanding the layout of li and fang in the southeast of Luoyang city of the Sui and Tang dynasties and searching for Yongtongmen street.

IV. HUMANITY HISTORY (SCENIC SPOTS AND CELEBRITIES) RELATED TO SOUTH LIFANG DISTRICT

The humanity history (scenic spots and celebrities) related to South Lifang district can be seen in "Table I".

TABLE I. HUMANITY HISTORY RELATED TO SOUTH LIFANG DISTRICT

Ancient place names	Humanity history
<i>Duanmen gate</i>	the south gate of the imperial city
<i>Tianshu memorial</i>	Standing outside the Duanmen gate, used as eulogy to record the achievements of empress Wu, with a height of one hundred and five feet and diameter of twelve feet.
<i>Tianjin bridge</i>	It was originally a floating bridge and rebuilt into a stone column bridge; it is the first opening and closing bridge in Chinese history; emperor Wu accused prince Li Xian of treason and the armors found in the East Palace was burned in the south of the bridge; Wu Sansi put big posters on the bridge, causing Zhang Jianzhi and other officials being demoted; the bridge was once used as the temporary examination venue for imperial competitive examination of the east capital Luoyang; Shangguan Yi the prime minister, Du Fu, Bai Juyi, Meng Jiao all extolled the bridge with their poems; it is one of the Eight Views of Luoyang known as "The Milky Way Moon".
<i>Chonglou building</i>	There are a total of four Chonglou buildings at the south and north ends of the floating bridge, each with a height of over a hundred feet
<i>The Banished Immortal Building</i>	Li Bai left the verses of "忆昔洛阳董糟丘，天津桥南造酒楼。黄金白璧买歌笑，一醉累月轻王侯" (In former days the wine merchant Cheng Zaoqiu once built a tavern for me at the south of the Tianjin Bridge. I spent gold and white jade to buy banquets and singing and laughing time, and a drunken fit made me despise dignitaries for months) and other famous sentence here.
<i>The Dingdingmen street</i>	As it was the most important street in the east capital Luoyang, celebrities and dignitaries mostly congregated here. It is 121 meters wide and more than 4 kilometers long. There are four rows of cherries, pomegranates, elms, willows and locust willows on both sides. All the buildings facing the street are double eaves and decorated with red powder.
<i>Jishan fang</i>	The residence of the famous official Gao Shilian in Zhenguan period; "The Houses of the Five Kings" of Li Longji and his four brothers (on the land of Gao's residence); the house of Weiji, the minister of agriculture during the reign of Emperor Gaozong; owed by the Qiu Shenji who was much favored by Empress Wu after Wei and then given to Zhang Yizhi by the empress; north of the fang on the bank of Luohe lies the Month Pool.
<i>Guande fang</i>	Directorate of Imperial Academy, the highest institution of learning in the Sui Dynasty was set up here.
<i>Xuanfeng fang</i>	It was the house of "Princess Jienin" Li Zhongjun; the house of Su Weidao who was a famous minister in Wu Zhou dynasty and Zong Chuke. The peony in the fang has become a scenic spot after the Middle Tang dynasty in the east capital.

Ancient place names	Humanity history
<i>Shangshan fang</i>	Official administration building like Taishi Office, Chongxian Guan, Zongzheng Office and Neipu Office etc. were set there. It was once the house of "Princess Taiping" and Wu Sansi; then occupied by the two brothers of Emperor Xuanzong Duke Qi and Duke Xue respectively; the house of Emperor Zhongzong's daughter Princess Anle; the house of General You Xiaowei and Marquess Xue Ashi'na Zhong.
<i>Xiuwen fang</i>	The Imperial Academy of Sui dynasty got its name here; it was once the house of Duke Yong, Emperor Gaozong's second son born born of the legal wife, and the house of "Crown Prince Zhanghuai".
<i>Anye fang</i>	The house of Xue Daoheng of Sui dynasty. It was once the Dainjiu bureau of Taipu Office;
<i>Yiren fang</i>	Half of the fang was the house of Duke Qi, Yang Jing, the second son of Emperor Yang of Sui; the Herbal Garden of Taichang Office.
<i>Mingjiao fang</i>	The house of Song Jing, a famous prime minister in the period of Kaiyuan in Tang dynasty; house of the famous bel-esprit Cui Rong.
<i>Wuqiao Bridge</i>	It is over the Sweetwater Canal two li away from Dingding gate.
<i>Huabiao</i>	It is located south of the Wuqiao Bridge with a height of over a hundred feet.
<i>Circular Mound Altar</i>	It was used for heaven worship in Tang dynasty.
<i>Houzaimen street</i>	There are four fang in the west of the Houzaimen street in the east capital Luoyang, which was then included to the West Garden along with the west market and Guangli fang by Empress Wu.
<i>Guangli fang</i>	It was the posthumous residence of Chen Shubao given by Emperor Yang of Sui.
<i>Jiaoyi fang</i>	The residence of Empress Wu Zetian's mother.
<i>Mingyi fang</i>	The house of Yangxiu, Duke Shu, the fourth young brother of Yang Guang.
<i>Datong fang</i>	The Datong market, one of the three major commercial markets in the east capital of Sui.
<i>Jingshan fang</i>	The house of Princess Changle, across from her husband's house with a street; after she fell into disgrace the house was re-owned by Emperor Xuanzong's eldest brother Duke Ning; the house of the famous prime minister Wen Yanbo in early Tang dynasty.
<i>Xiuye fang</i>	The residence of Xu Jingzong; after his family declined the house was given to the eighth daughter of Emperor Ruizong of Tang; the house of the house of Princess Daiguo, the fifth daughter of Emperor Ruizong.
<i>Chongye fang</i>	The residence of Pei Du, the most famous prime minister in middle Tang dynasty. The east part of the fang is close to Tongji Canal
<i>Xiuxing fang</i>	It was the residence of Zhang Xingzhi.
<i>Zhengping fang</i>	The Directorate of Imperial Academy was set in this fang in the reign of Emperor Gaozong of Tang; it was once the house of Princess Taiping.
<i>Yuehe fang</i>	The house of Li Yuanjia, Duke Han, the eleventh son of Li Yuan; later the school for the sons of the state of the east capital moved in the house; the house of Sun Wu Youning, Earl Jianchang, grandnephew of Wu Zetian.
<i>Huixun fang</i>	The house of Princess Changning, daughter born of the legal wife of Emperor Zhongzong of Tang, and a majority of the fang was her private residence; the villa for Duke Qi, the brother of Emperor Xuanzong.
<i>Daoshu fang</i>	Li Shimin gave the land of the whole fang to Duke Wei, Li Tai where he built elite housing and the "The pool of Duke Wei"; the house was misappropriated by Princess Changning in the reign of Emperor Zhongzong.
<i>Quanshan fang</i>	Wei Zheng, the most famous adviser of the emperor in the period of Zhenguan lived in the northeast of this fang; his house was sold to Wang Fangqing in the reign of Emperor Gaozong.
<i>Xuanfan fang</i>	The government office of Henan province in the reign of Empero Xuanzong. After Lady Yang's father died, she was entrusted to her third uncle, Yang Xuangui, who was the tucao (head of local engineering department in ancient China) of Henan province.
<i>Sahngxian fang</i>	The house Di Renjie; the house of Wu Youyi, Duke Jianan, the nephew of Wu Zetian.
<i>Daode fang</i>	The government office of Yongchuang county; the house of Duke Qin, Yang Hao, the eldest son of Yang Jun, Duke Qin, the third young brother of Emperor Yang of Sui, namely his nephew.
<i>Zeshan fang</i>	Painter Yan Liben painted "Lingyan pavilion heroes" by decree; the house of the Grand Commandant, Marquess Ying of Tang dynasty, Li Ji; the house of the Lai Huer, one of the leading managers in Emperor Yang of Sui's three punitive expedition to Korean; the house of the famous prime minister Lou Shide in the reign of Empress Wu; and the Lou's residence was bought by Yuan Deshi after Lou was dead.
<i>Daohua fang</i>	The residence of Cui Di who had a brilliant career and was nominated as the prime minister for several times by relaying on Empress Wei, Shangguan Wan'er and Princess Taiping.
<i>Kangyu fang</i>	The residence of Zhang Shuo, who was a famous prime minister in the period of Kaiyuan. He was an influential man in the history of Tang dynasty who was nominated as the prime minister for three times in the reigns of Emperor Ruizong and Emperor Xuanzong of Tang dynasty. He was also a literary master in flourishing period of Tang Dynasty.
<i>Guide fang</i>	It is said that the tomb of Cai Yong, a famous scholar in the Eastern Han dynasty IS located here.
<i>Changxiamen street</i>	Located at about 2.7 kilometers east of Dingding gate, Changxia gate looks more like the main entrance of the east capital. In the tang dynasty, large pagoda trees were planted on both sides of the street.
<i>Xinzhong Bridge</i>	It is more than four hundred meters wide from north to south; It was on this bridge that Yan Gaoqing sacrificed his life in An-Shi Disturbances.
<i>Sishun fang</i>	The residence of Zhang Jiazhen, the famous prime minister in the period of Kaiyuan, known as "House of Three Prime Ministers of the Zhang Family"; the house of Su Ting.
<i>Xiushan fang</i>	It was close the south market and in its busy period there were many and taverns. A large number of Hu merchants concentrated there and in this fang there is a Persian-styled Hu temple.
<i>Renhe fang</i>	Large numbers of ministers and assistant ministers lived in this fang.
<i>Cihui fang</i>	There lay in the former residence of Yao Chong, one of the most famous prime ministers in Kaiyuan period. In the early kaiyuan period, with the full support of Yao Chong, Song Jing, etc., Xuanzong finally succeeded in making a flourishing dynasty. On the ninth year Kaiyuan period, Yao Chong died of illness in the east capital.

Ancient place names	Humanity history
<i>Tongli fang</i>	Here lay the second residence of Li Ji in the east capital. This fang was companied by Tongji Canal and close to the south market.
<i>South market</i>	As the largest market in the east capital, it covers the land of two fang, with east-west and south-east main roads of both three. And there are three gates at each side. A hundred and twenty industries made a living here, with ships coming and going in the clear canal and elm and willow crossing their shades. It was where the Emperor Yang of Sui showed off wealth by wrapping around silk brocade around the tree. In late Sui dynasty, Li Mi burned the south market. Where foreigners and Hu merchants gathered, there were many temples with western Persian style, hu shops and so on.
<i>Taohua fang</i>	The houses of Zhang Jianzhi and Huan Yanfan were near each other in the fang; another residence of Su Ting also was located here.
<i>Xingjiao fang</i>	Here was the house of the fierce vassal, Li Shidu who assassinated two prime ministers Wu Yuanheng and Pei Du.
<i>Xunshan fang</i>	The side yard of Yao Chong, near his residence in Cihui fang on the west
<i>Jixian fang</i>	The mansion where Pei Du often lived; the house of Quan Xiancheng; the house of Marquess Wei, Yang Yuanyan, the ministry of penalty
<i>Congshan fang</i>	The government office of Laiting
<i>Lvdao fang</i>	The house of Yang Lihua, Elder sister of Emperor Yang of Sui, the Empress of the Emperor Xuan in Northern Zhou Dynasty; the residence of Yuwen Kai; residence of Bai Juyi, a street away from Pei Du's house in Jixian fang
<i>Lvxin fang</i>	The talented and romantic scholar Yuan Zhen lived here.
<i>Renhe fang</i>	The house of Wei Yuanzhong With his political career mainly in the Wuzhou period, he was exiled several times during his life because of his rigidity. However, he was always miraculously removed at the threshold of bad luck, and was known as the great fortune. But eventually he died in his 70s on the road of exile.
<i>Guiren fang</i>	The house of Niu Sengru, who was in the strife between the Niu group and the Li group, when he stayed behind to take care of things in the east capital. Here he used to share the artistic interest with Bai Juyi and Liu Yuxi.
<i>Jianchunmen street</i>	It is about 110m wide.
<i>Lvye hall</i>	It was located the Wuqiao village five li outside the Changxia gate. This hall was a villa of Pei Du, where the famous prime minister in middle Tang dynasty used to meet.
<i>Lvshun fang</i>	Here lies the Temple of Du Kang; as well as the house of Niu Hong of Sui dynasty, who was the maker of most of the important system of rites and music in the Sui dynasty.
<i>Xunshan fang</i>	Here lies the side yards of Yao Chong, nearing his residence in Cihui fang on the west.
<i>Sishun fang</i>	The house of the famous prime minister of the Kaiyuan period, Zhang Zhenxi who led a simple life all his life. Yet despite his stature as the prime minister, he never arranged land for his offspring. Under the influence of this inspirational style, his sons and grandsons were all officials and prime ministers. Later, they were called "the Three Prime Ministers of Zhang Family". Here also lived a scholar here who has the same name as Zhang Shuo in terms of literary achievements — Su Ting.
<i>Daode fang</i>	The government official of Yongchang county of Tang dynasty. The house of the Yang Hao, the nephew of Emperor Yang of Sui.

V. STATUS ANALYSIS OF SOUTH LIFANG DISTRICT IN LUOYANG CITY IN SUI AND TANG DYNASTIES

A. The Sites in South Lifang District Is Relatively Intact

Most of the site of Luoyang city in the Sui and Tang dynasties was covered by modern urban areas. The lifang ruins area south of the Luohe river contains three towns and nearly 30 villages, namely, Anle, Gucheng and Lilou in the Luolong district. In the past 10 years, part of the ruins in was occupied by the construction of erosion and destruction of the city; except for the land occupied by colleges, troops or enterprises, the rest of the sites are villages and farmland. As a whole, the site of Lifang district is relatively intact.

B. Factors Causing Damage to the Site

1) *Human factors*: In the process of urbanization in Luoyang city, the economic production and living activities of the dense population caused widespread large-scale destruction to Luoyang City Site in Sui and Tang Dynasties. For example, urban construction, village and town construction, infrastructure construction and agricultural production are the most important and prominent destruction factors faced by the site.

Along with the population growth and the economic development demand, Luoyang's industry construction and

the town construction unceasingly expands. Under the condition of limited land resources, all the construction activities in the site distribution range have caused significant damage to the site, and the damage degree is proportional to the construction intensity (building density and height).

2) *Natural factors*: The natural destruction factors of the site mainly include flood, rainstorm, and the influence of plants and animals. At present, the ruins of rammed earth of the city wall exposed above the earth's surface are still damaged by wind, rain and other natural forces. The swinging and washing of the Luohe River bed have destructive erosion on the ruins in south Lifang district alongside the river. The remaining underground remains are less damaged by natural forces.

VI. SUGGESTIONS ON THE PLANNING OF SOUTH LIFANG DISTRICT IN OF LUOYANG CITY DURING THE SUI AND TANG DYNASTIES

A. Suggestions for Regional Planning in the South of the New Area

The area south of the current new area has its core at the Longmen Grottoes Scenic Area. Since a more detailed planning has been made by the city government around

Longmen region, this part will not be elaborated here. Other suggestions are as follows:

- It is suggested that the area between Zhengzhou-Xi'an railway and the Longmen planning area be planned as the community transformation and land consolidation area of the villages that have not been removed in the present Longmen town, and the village residents in the Longmen mountains be relocated. The community can take the village as the unit and be distributed around the south square of Luoyang South Railway Station, along the west side of Longmen avenue and the two sides of Wangcheng avenue. The protection of the Cuoli Cultural Site should be planned separately (in the campus of Henan University of Science and Technology).

The surplus land between Wangcheng avenue and Longmen avenue can be used as high-grade commercial and residential land development with the advantage of being close to Longmen scenic area (the part outside Longmen protection zone). Tang-style is suggested in the development.

- As the Longmen Mountain Forest Park extends to the west and covers the whole mountain range, it is suggested to build it into the green city wall, mainly to improve the environment.
- Road planning can be a natural extension of the existing new area and the road of the science and technology industrial park. It is not suitable to build roads across Longmen mountains. And in the east-west direction, several roads can be built to communicate Wangcheng avenue and Longmen avenue. However, there should be a wide green separation zone between the science and technology industrial park and the commercial and residential area in the south. For one it can green the Zhengzhou-Xi'an railway corridor; for another it can isolate industrial pollution from residential areas.
- The land-lost farmers in Wangcheng avenue, Longmen avenue, south railway station and the area between Longmen may consider engaging in the service industry in south railway station and the Longmen scenic area; a larger peony garden can be planned in this area or the garden nursery industry can be developed to provide support for the greening of the new area.
- A large tourism distribution center near Longmen (different from passenger terminal) should be built. From the perspective of the whole province, shaolin temple and Longmen are two tourist hot spots. There are several advantages to building such a center in Longmen: to south, tourist buses can be sent to the long-range Funiu mountain scenic area, short-range Fan Garden in Yichuan, Cheng Garden and Shao Yuan, to east the route to Shaolin Temple and Temple of Tang Monk in Yanshi, Tanggongling (the tomb of the Emperor Xiaojing Li Xian), Secluded Paradise of Sima Guang; to north the downtown attractions including Guanlin Temple, Longmen, White Horse

Temple, the Luoyang City Site in Sui and Tang Dynasties etc. In addition, the position is also close to the south station. From the point of view of tourists, most people want a starting point that provides multiple choices. So Longmen has obvious position advantages.

- A public transport hub should be built near Longmen, which will mainly radiate the four towns of Yanshi to the east of Yihe river and the south area of Zhengzhou-Xi'an railway.
- Under the influence of the Longmen scenic spot, taking Yichuan as the transfer station to south of the city won't be of much use in the long run. Therefore, it is worth consideration to dock the industries and planning east of the river and north of the Zhengzhou-Xi'an railway new area.

B. Protection Principle

The first issue is whether it is necessary to protect all the remains inside the large sites or not. The author holds that there is no need. Grounds are as follows:

- Based on the current situation, the great migration of villages costs a lot, and the history itself is not replicable, so it is neither realistic nor necessary to restore or display the original appearance;
- the humanistic spirit contained in most Lifang districts is not particularly strong, so the overall restoration or display is too luxurious;
- the purpose of any cultural heritage protection or exhibition should not only reflect its intrinsic value, but also be integrated with the development of today's society. An important rule should be that any protection and replanning done on this land today must stand the test of history.

The second is in what way they should be protected. Restoration, site display, greening or preserving the status quo? Different situation should be treated differently. For the valuable parts, in the case of restoration technology or lack of information, the site should be mainly displayed; for those with landmark significance and sufficient data, they can be protected and displayed (such as Dingding gate and Mingtang, etc.); or general sites, it is better to build a botanical garden or forest park; if it is farmland, the status quo can be maintained; any act that damages the sites should be resolutely avoided, such as the deep foundation treatment of houses, etc.

Third, it comes to the problem of the capital and technology of protection. When the scope of protection is determined, the protection should be gradually implemented in an orderly and reasonable manner. Commercial operations should not be based solely on short-term gains, but on long-term considerations. At present, the phenomenon of cultural great leap forward exists in China, the nature of which is seeking quick success and instant benefits. With the improvement of the country's emphasis on culture and the change of the development method, cities like Luoyang and

Xi'an, which are most favorable for shaping the national civilization and spirit, have great development prospects, and thus capital and technology will not be a problem in the long run. The suggestion is to advance steadily in this respect, instead of pursuing immediate effect.

C. Recommended Protection Methods for the Luoyang City Site in Sui and Tang Dynasties

According to the "Table II", suggestions for this area are as follows:

- The general principle is to make planning and preparation in accordance with the layout of fang district in the city of Sui and Tang dynasties. According to the importance and location of Lifang district, protective display or partial restoration of the site, reconstruction and resettlement of village community, or continued construction of agricultural fields or forest parks should be carried out respectively.
- As for the Lifang area that has been covered by Sui and Tang Dynasties City Ruins Botanical Garden, it

is suggested to distinguish the roads between lifang with different vegetation in the park, and mark the coordinates, names and cultural and historical connotations of lifang in the location within the sight of visitors. The significance of the thick-loaded gate is inferior to that of Dingding gate, but it can also be considered to be displayed according to the principle of protection of the great site. At present, the greening construction in this area is very good, and there is no need to repair the wall. Niewan village should be moved out.

- The central axis of the city — Dingdingmen street should all be displayed, forming a landscape channel. North of the Dingding gate, humanistic spirit of both sides of the lifang is rich. Arbor and other tree species can be planted on both sides of the street according to the record, and the streets are constructed in the form of lawns and alleys. The southern area near Dingding gate is part of the Sui and Tang Dynasties City Ruins Botanical Garden; in the northern area all part of Dongzhuang village, Shuimo village, Xincun village and part of Anle village need to be removed.

TABLE II. BRIEF TABLE OF RECOMMENDED PROTECTION METHODS FOR THE LUOYANG CITY SITE IN SUI AND TANG DYNASTIES

Ancient place names	Recommended protection methods	Advantage	Disadvantage
<i>Duanmen gate</i>	The name of the place nearby should be changed to be related to Duanmen gate to make it a landmark.	High operability	
<i>Tianshu memorial</i>			
<i>Tianjin bridge</i>	Being included to the general plan of the National Flower Park and South Luopu Park.	Enriching the connotation of gardens and increasing the humanistic taste.	The layout adjustment in the current park
<i>Chonglou building</i>			
<i>The Banished Immortal Building</i>			
<i>The Dingdingmen street</i>	Since it has the landmark significance, it should be displayed fully in the form of greening and Tang-style.	To form a cultural and tourist street with the most characteristics of Sui and Tang dynasties in Luoyang.	Heavy workload of demolition
<i>Jishan fang</i>	Being displayed fully and included in the general plan of the National Flower Park and South Luopu Park.	Enriching the connotation of gardens and increasing the humanistic taste.	The layout adjustment in the current park
<i>Guande fang</i>	Being displayed fully or partly	light demolition workload	
<i>Xuanfeng fang</i>	Being displayed fully or partly	Coordinating with the flower planting industry in the new area relatively rich human history	Heavy workload of demolition
<i>Shangshan fang</i>	Being displayed fully or partly		
<i>Xiuwen fang</i>	Being displayed fully or partly		
<i>Anye fang</i>	Being displayed partly		
<i>Yiren fang</i>	Being displayed fully	few attachments to the ground and rich human history, forming a coordinated style with Dingding gate.	The foundations of the Motor City have disturbed the ground.
<i>Mingjiao fang</i>	Being displayed fully		
<i>Wuqiao Bridge</i>	Being displayed partly in situ or included to the antique restoration plan of the Dingding gate square	landmark significance	Revision of the the present plan
<i>Huabiao</i>			
<i>Circular Mound Altar</i>			
<i>Houzaimen street</i>	Site protection of the Houzai gate and the location of the street and lifang being presented in the Sui and Tang Dynasties City Ruins Botanical Garden.	The style of the botanical garden and the royal garden "Xiyuan" is consistent with no amount of relocation	
<i>Guangli fang</i>			
<i>Jiaoyi fang</i>	Being included to the general plan of the National Flower Park and South Luopu Park.	Enriching the connotation of gardens and increasing the humanistic taste.	

Ancient place names	Recommended protection methods	Advantage	Disadvantage
<i>Mingyi fang</i>	Part of the north can be displayed and included into the National Flower Park; the south part can be included into the Sui and Tang Dynasties City Ruins Botanical Garden.	Enriching the connotation of the garden	Heavy workload of demolition
<i>Datong fang</i>	The locations can be is embodied in the Sui and Tang Dynasties City Ruins Botanical Garden.	Enriching the connotation of the garden and there is no demolition	Revision of the the present plan
<i>Jingshan fang</i>	Being displayed fully or partly	relatively rich human history	Heavy workload of demolition
<i>Xiuye fang</i>	The locations can be is embodied in the campus.	The human history is relatively rich and the campus layout can be slightly adjusted	The existing buildings overlies each other seriously.
<i>Chongye fang</i>	Being displayed partly	relatively rich human history	Less human history
<i>Xiuxing fang</i>	Being displayed partly	There are fewer attachments on the ground.	
<i>Zhengping fang</i>	Being displayed fully or partly	relatively rich human history	Heavy workload of demolition
<i>Yuehe fang</i>	Being displayed fully or partly		
<i>Huixun fang</i>	Being included to the general plan of the National Flower Park and South Luopu Park.	Enriching the connotation of gardens and increasing the humanistic taste.	The layout adjustment in the current park
<i>Daoshu fang</i>			
<i>Quanshan fang</i>	Being partly displayed and included into the general plan of the National Flower Park and South Luopu Park.		
<i>Xuanfan fang</i>	Being displayed partly		There is less humanity history and large heavy workload of demolition.
<i>Sahngxian fang</i>	Being displayed fully or partly	There are rich human history and less ground attachment.	
<i>Daode fang</i>	Being partly displayed and included into the general plan of the National Flower Park and South Luopu Park.	relatively rich human history	The layout adjustment in the current park
<i>Zeshan fang</i>	Being partly or fully displayed and included into the general plan of the National Flower Park and South Luopu Park.	relatively rich human history	Heavy workload of demolition
<i>Daohua fang</i>	Being displayed partly	There are fewer attachments on the ground.	Less human history
<i>Kangyu fang</i>	Being displayed fully or partly	There are fewer attachments on the ground and rich humanity history.	
<i>Guide fang</i>	Being displayed fully or partly		
<i>Changxiamen street</i>	Since it has the landmark significance, it should be displayed fully in the form of greening and Tang-style.	There are few objects attached to the ground along the route, and the human history on both sides is relatively rich.	
<i>Xinzhong Bridge</i>	Being partly displayed and included into the general plan of the National Flower Park and South Luopu Park.	It has certain landmark significance and rich humanity history.	The layout adjustment in the current park
<i>Sishun fang</i>	Being displayed fully or partly		There is less humanity history and large heavy workload of demolition.
<i>Xiushan fang</i>			
<i>Renhe fang</i>	Being displayed partly	There are fewer attachments on the ground.	Less human history
<i>Cihui fang</i>	Being partly displayed and included into the general plan of the National Flower Park and South Luopu Park.	relatively rich human history	The layout adjustment in the current park
<i>Tongli fang</i>			
<i>South market</i>	Being displayed partly or fully; it was the best matching point of the silk road and the Grand Canal in Sui, Tang and Song dynasties.	There is rich humanity history and fewer attachments on the ground. The archaeological excavation is under way.	
<i>Xunshan fang</i>	Being partly displayed and included into the general plan of the National Flower Park and South Luopu Park.	relatively rich human history	The layout adjustment in the current park

Ancient place names	Recommended protection methods	Advantage	Disadvantage
<i>Jixian fang</i>	Being displayed fully or partly	relatively rich human history	Heavy workload of demolition
<i>Congshan fang</i>	Being displayed fully or partly	There are fewer attachments on the ground.	Less human history
<i>Lvdao fang</i>	Being displayed fully	There are rich human history and less ground attachment.	
<i>Renhe fang</i>	Being displayed fully or partly		There is less humanity history and large heavy workload of demolition.
<i>Guiren fang</i>	Being displayed fully or partly	There are rich human history and less ground attachment.	
<i>Jianchunmen street</i>	Since it has the landmark significance, it should be displayed fully in the form of greening and Tang-style.	There are few ground attachments along the route, and the humanity history on both sides is rich.	

At present, There are basically no attached objects on the ground in Mingjiao fang on the east side of the street, so the Ningren fang on the opposite side can be treated with partial restoration near the street, so as to form a complete Tang-style architectural area with Dingding gate exhibition project. Since the house of the famous prime minister in Kaiyuan period Song Jing in Mingjiao fang, it should be displayed with target.

The Guande fang and Xuanfeng fang on the west side of the street are located in the new village area, among which Xuanfeng fang was already famous for planting peonies in the Tang dynasty, which is consistent with the new village industry now. Besides, Xuanfeng fang has a thick cultural history, so it is suitable for protection and display. Since Guande fang was the site of the Directorate of Imperial Academy of Sui dynasty, whether it can be used as the local resettlement area for the new village remains a question.

- Three other important roads — Jianchunmen street, Yongtongmen street and Changxiamen street should all be displayed to form three landscape passageways. The three passageways are located along the ground with few fixtures. The construction method is the same as that of Dingdingmen street, without modern traffic passageway, and mainly with greening. The Jianchunmen street and Yongtongmen street should go west and end at the intersection with Dingdingmen street with the Changximen street leading to South Luopu Park in 'parallel with Dingdingmen street.

On both sides of the Jianchunmen street, Guiren fang, the south market and Xiuwen fang should be displayed with focus, and the street-facing part of relatively important lifang area (It makes sense that streets with certain humanistic value are mostly facing the street). Near the Jianchun gate, The Guiren fang is the place where Niu Zengru used to share artistic interest with the poets including Bai Juyi and Liu Yuxi when he remained to arrange the national affairs. In addition, according to experts, this is where Du Fu grew up as a teenager. Therefore, it is necessary to make overall planning for Guiren fang together with Jianchun gate, similar to the protection of Dingding Great Ruin.

The south market is under archaeological excavations at present. After the excavations are over, it can be considered

to conduct great ruin protection here by constructing a commemorative mark for the dual starting point of the Grand Canal and the Silk Road on the side near the Jianchunmen street or that near Luopu park.

On both sides of Sitong road of the Changxiamen street and Yongtongmen street, Lvdao fang, Jixian fang, Guide fang, Kangyu fang and Shangxian fang should be displayed with focus. The priority among priorities should be placed on Lvdao fang, which is the only place that has been proved to be the site where celebrities before tang Dynasty once lived by archaeological excavations. It is not suggested to carry on the archaize restoration on the foundation of Bai Juyi's former residence. Because of its importance, under the condition of immature technology, the protection policy of cultural sites should be highlighted and low-quality restoration should be avoided. Zunxian fang is another name for the location of Secluded Paradise of Sima Guang, which can also be included in the regional planning.

In the case in which no restoration is displayed on both sides of the street, obvious logo should be used to distinguish the locations and humanistic connotations of the lifang.

VII. CONCLUSION

The protection of the south Lifang district site in Luoyang city in Sui and Tang dynasties should follow three principles on the whole: The first is mining historical and humanistic information comprehensively and with depth; the second is fully investigating the current situation and reasonably respecting the reality; the third is the application of modern protection technology should follow the rules of reversible engineering, consistent style and economical application.

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