

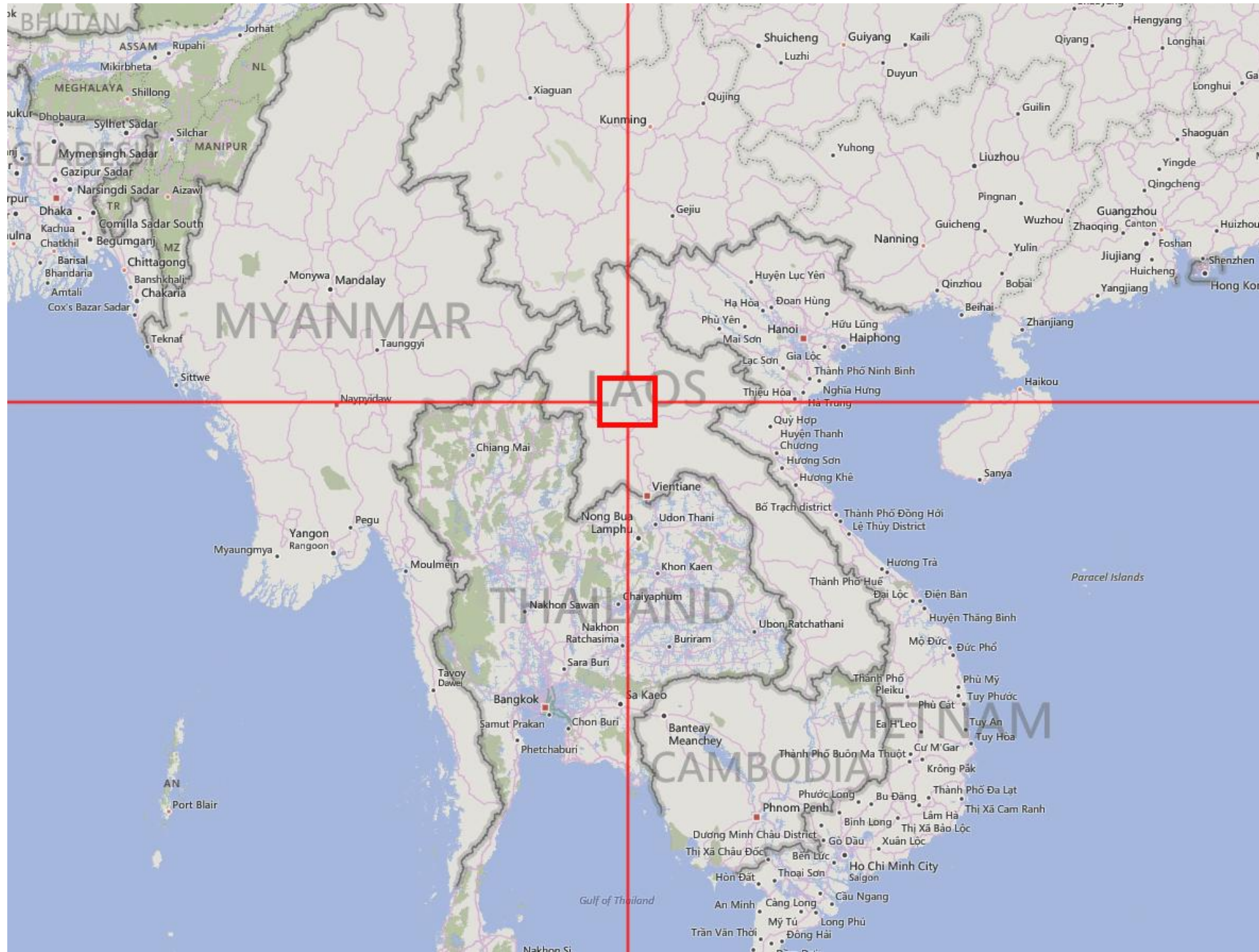
Overall Conceptual Planning and Urban Design for the New City of Luang Prabang

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01

Background

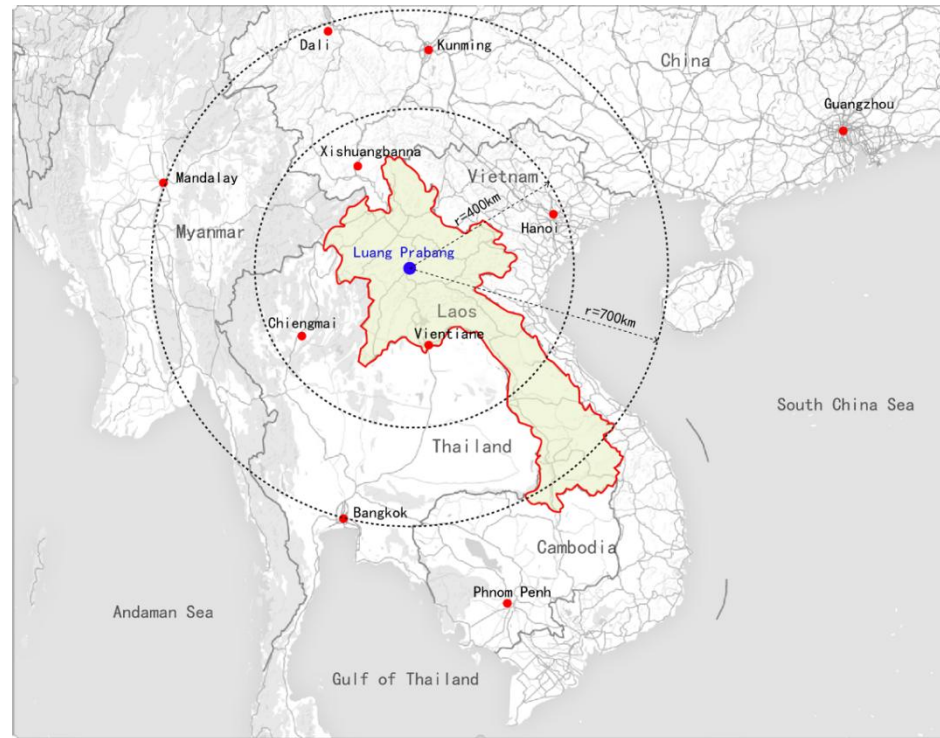
1.1Project Introduction



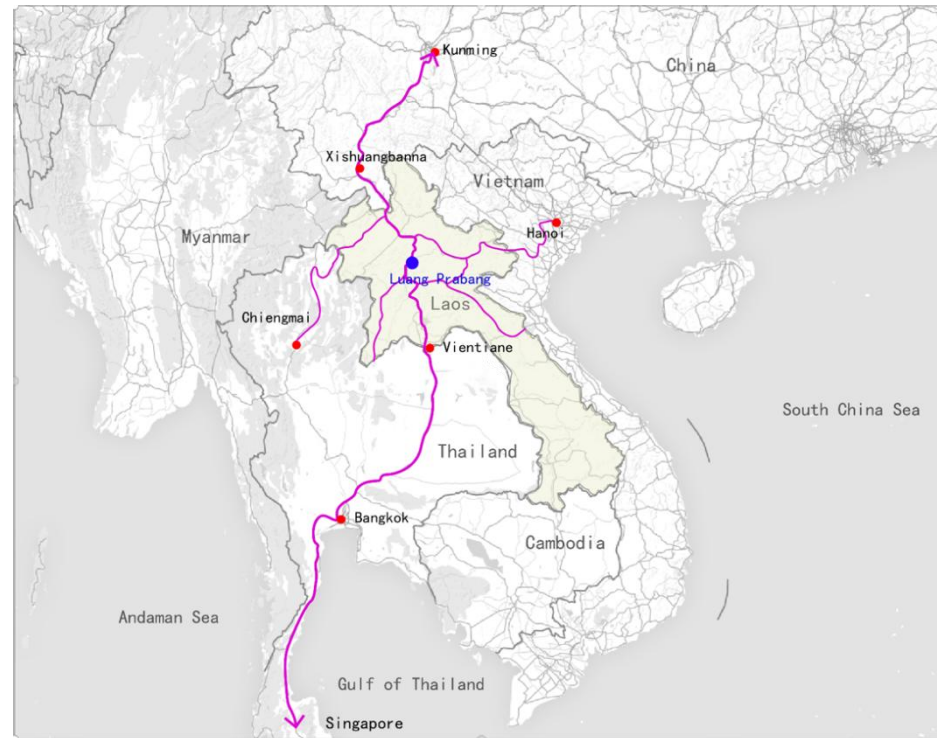
Luang Prabang is the famous **ancient capital** and **Buddhist center of Laos**, also **the capital of Luang Prabang Province**. The city is located in the place where Mekong River and Nam Khan River meets, mountains and rivers nearby, people simple and sincere, moral, natural environment well-preserved. In December 1995, Luang Prabang was put on the **World Heritage** List by UNESCO.

As urban economy continue to develop, strengthening regional cooperation, expanding tourism market, and improving industrial structure have become urban development goals. Towards such a goal, the planning is carried out for three proposed pieces of land outside the conservation area of the ancient city to built a new urban area.

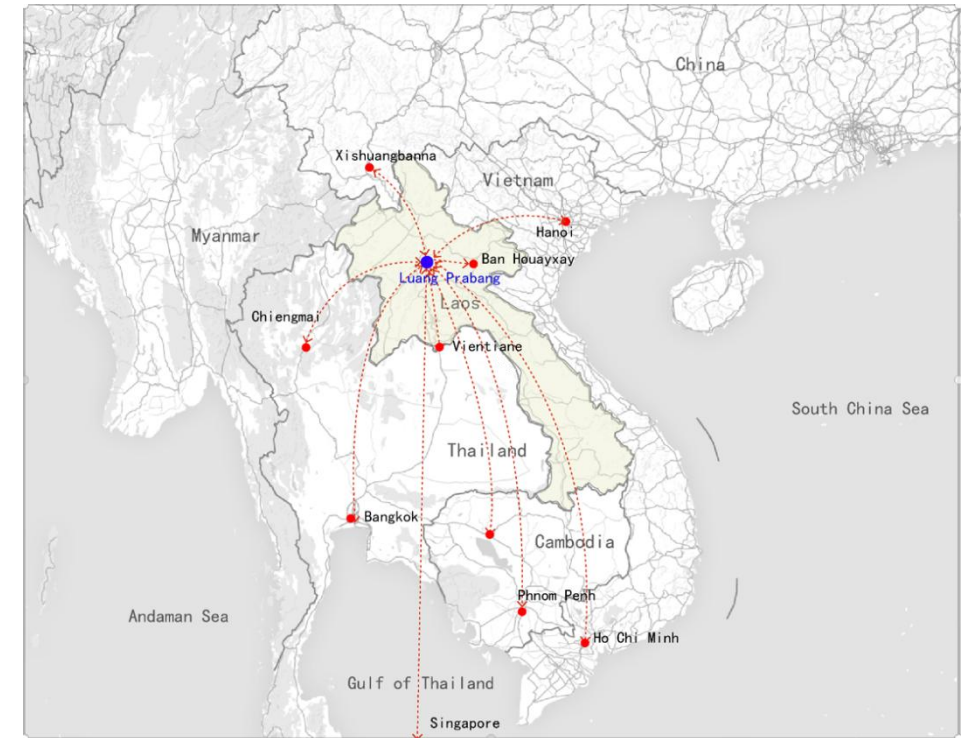
1.2 Locational Advantage



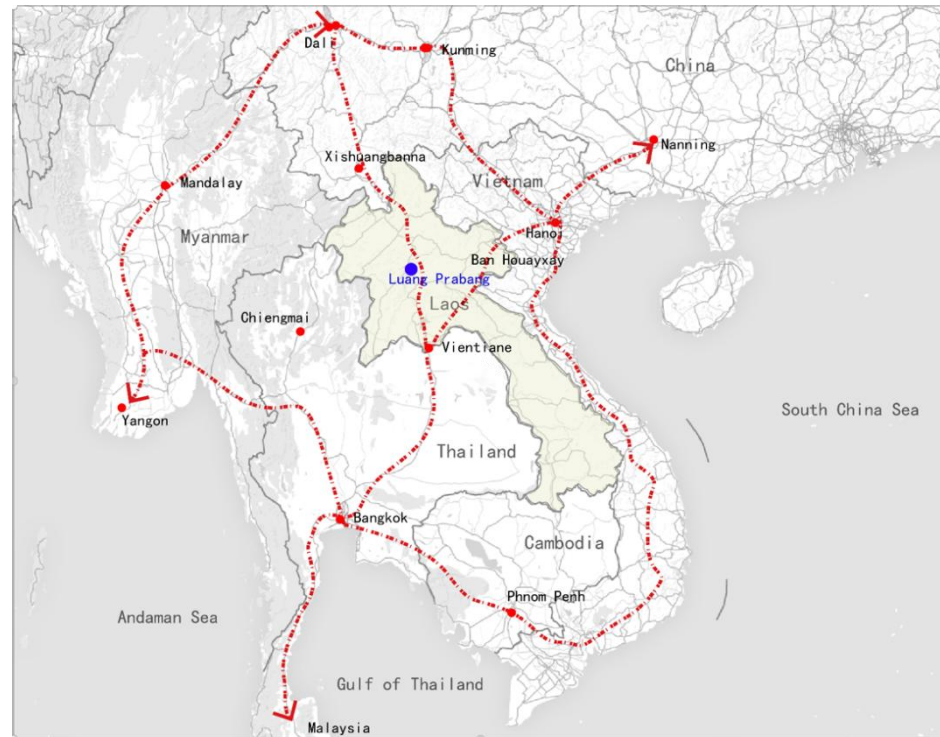
LOCATION Luang Prabang, located in north central Laos, is the famous ancient capital and Buddhist center of Laos.



ROAD TRANSPORTATION It has good road traffic conditions and urban accessibility



AIR TRANSPORTATION Convenient aviation conditions



RAILWAY TRANSPORTATION Expectable developed railway network



WATER TRANSPORTATION Mekong river, the main river flowing by the city of Luang Prabang brings abundant water resources to the place.

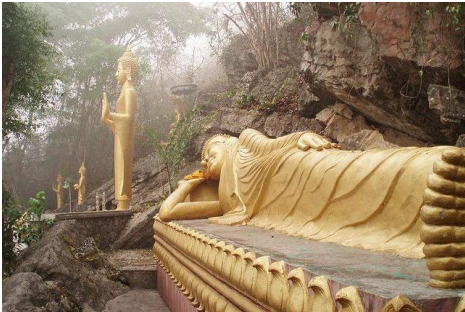
1.3 Resource Conditions

The honor of a World Heritage destination

The ancient city of Luang Prabang was included by the UNESCO into the World Heritage List in December 1995 as the city has 679 old buildings worth



A temple on Phousi Mountain



Wat Visounnarath

Xieng Thong

Palace Museum

A temple on Phousi Mountain

Folk Resources

Luang Prabang has a thriving folk culture full of local features.



Alms distribution events



Special market

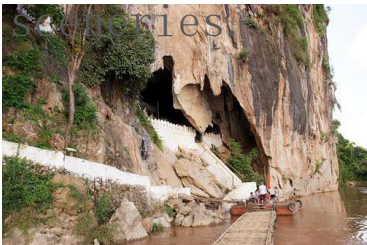


Khao Phansaa and Awk Phansaa



Surrounding natural and other tourism resources

Luang Prabang is surrounded by rich natural resources and beautiful



Pak Ou Caves



Mekong River



Golf course



Tat Kuang Si Falls



Snow Falls

1.4 Industry Status quo

Primary industry

Main products

Rice production is an important branch of agriculture in Laos, and corn is the second



Other products

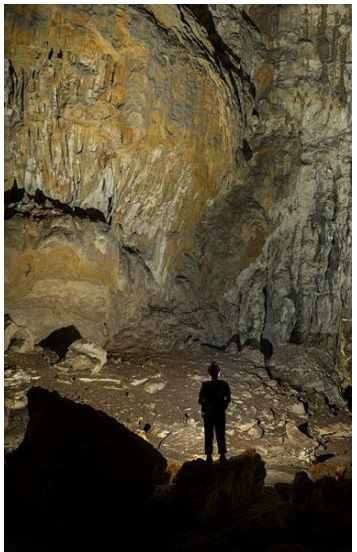
Fruits, coffee, oil crops, large animal farming, feed processing plants, abattoirs, grain



Secondary industry

Mineral resources

Luang Prabang is mainly abundant in gold resources



Traditional handicraft industry

Silk fabrics, bamboo weaving, blacksmith, pottery, flavor food processing



Industry

Sewing factory, ice-making plants, beverage plants, saw mills, auto repair and other small factories



1.4 Industry Status quo

Tertiary Industry ——Tourism Industry

Current Tourism Types

Sightseeing:

The main forms of tourism, also the main source of tourism income



Culture-oriented tourism:

There is a market for it, yet to be developed in the whole. Many visitors are very eager to be exposed to the wisdom and talent of the traditional working people of Laos during Luang Prabang tour.



Adventure Tourism:

Adventure activities already available in Luang Prabang include elephant riding through the jungle, trekking, rafting along rapids, rock climbing and the like

Special commercial tourism activities



Bicycling



Vintage massage



Hiking



Elephant ride



Rock climbing



Golf

Special religious tourism activities



Buddha worship



Alms distribution



Festival folk activities

1.5 Opportunities and Challenges

"One Belt and One Road" and railway construction

As a traditional friend of China, Laos and China has many common interests at the diplomatic, economic, social and cultural levels, etc. And there is interest meeting point "One Belt and One Road" will be a chance for mutually beneficial cooperation between China and Laos at multiple levels to achieve win-win results

The Sino-Laos railway is an important part of the middle section of Trans-Asian Railway. The construction of Sino-Laos railway, whose planned route will cross Luang Prabang where a station will be set up, has started and it is expected to be completed and open to traffic in 2020.

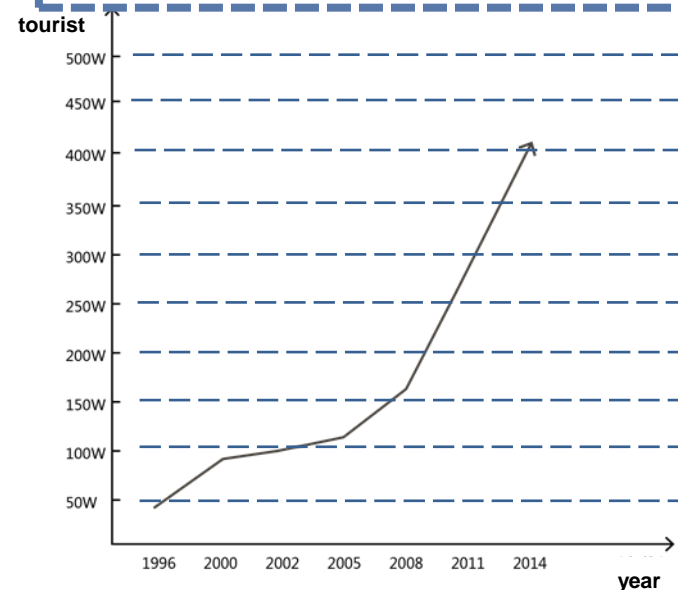


Tourism Prospects

According to the data from the National Bureau of Laos, Lao government news, Ministry of Culture and Tourism, we have found that the number of inbound foreign tourists to Lao in recent years is on the annual rise in recent years, at the steady rate about 10%, implying great prospects for the tourism market.

Information on Tourists to Luang Prabang

- The number of tourists to Luang Prabang reached 274,500 in 2011.
- Their average consumption is \$ 200 / day
- The tourism revenue in 2011 is \$ 364 million



Challenges ahead

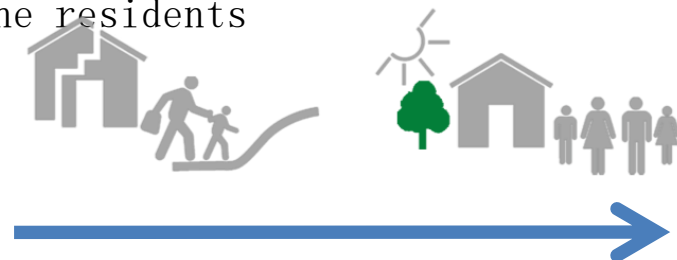
How to make good use of the wealth and resources of world cultural heritage



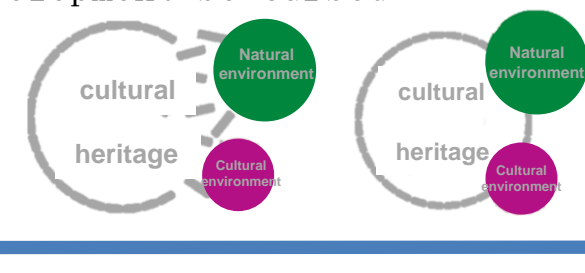
How to provide people with adequate employment opportunities, improve the standard of living and level of education



How to develop economy without causing too much impact on the normal life of the residents



Can congestion, air pollution, water pollution, soil erosion caused by tourism development be curbed

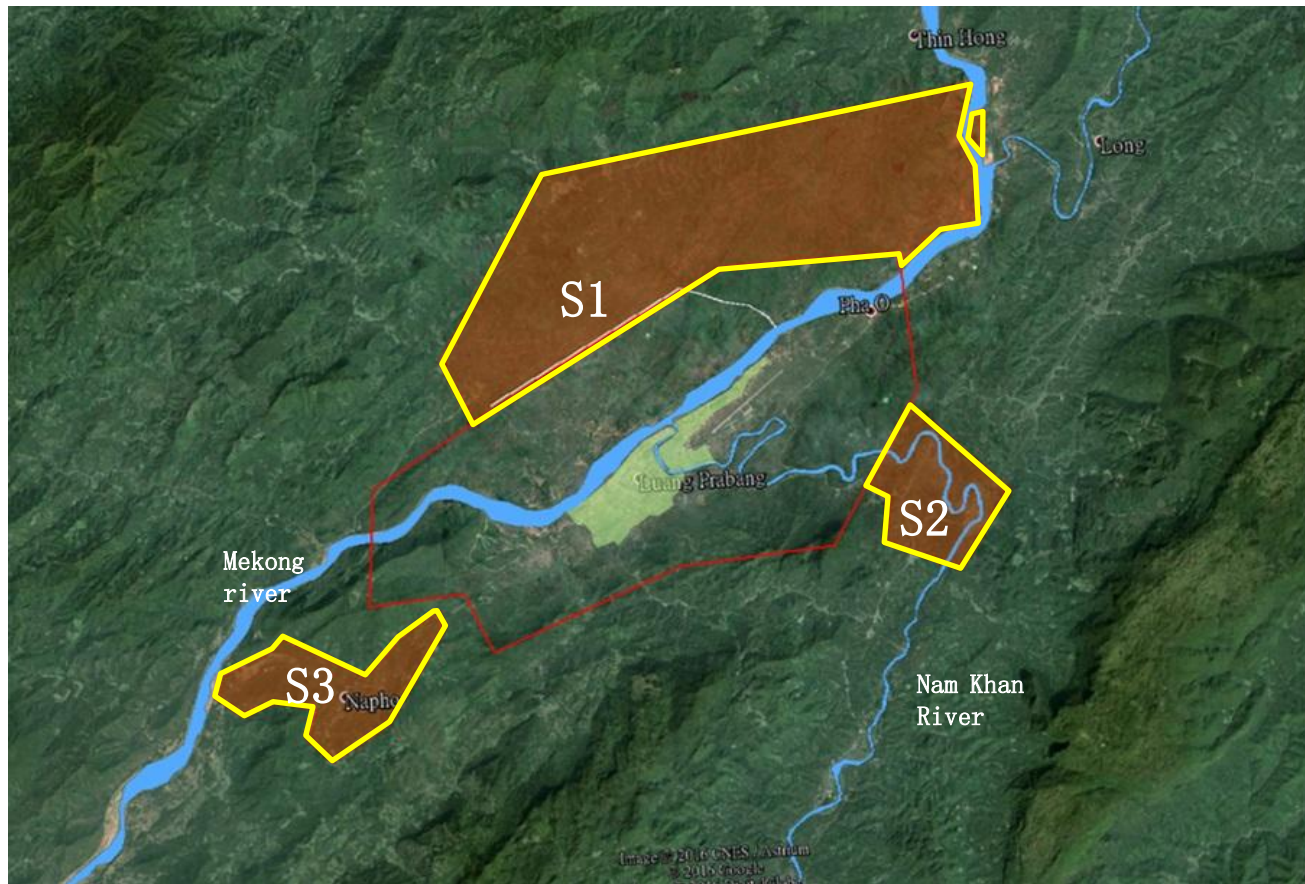


02

Orientation

2.1 Site Analysis

Basic Information on the plot



- Planning scope
- Protected and coordinated area of the Ancient City delineated by UNESCO
- Urban area of Luang Prabang

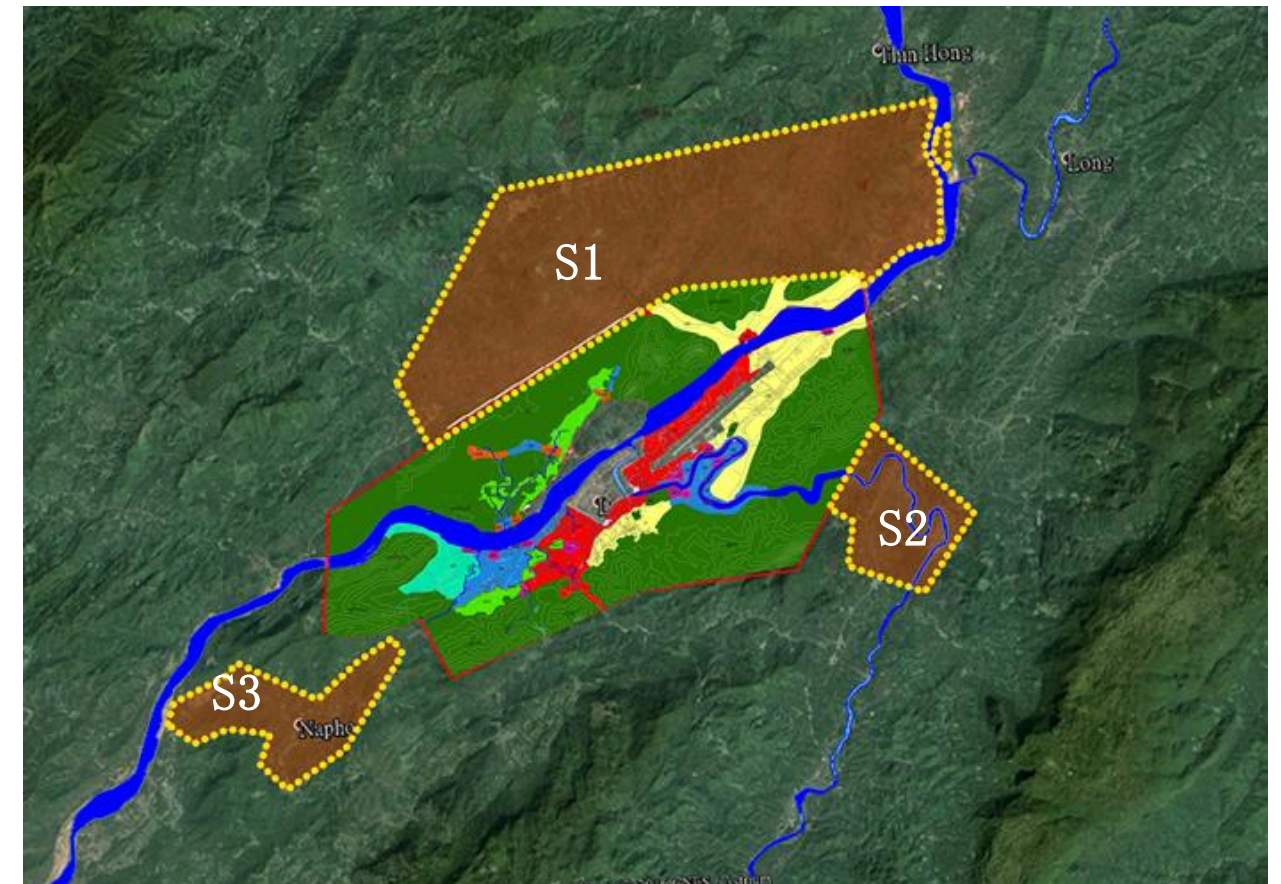
Actually calculated area of the plots:

S1= 80.57 km²

S2= 13.34 km²

S3= 15.30 km²

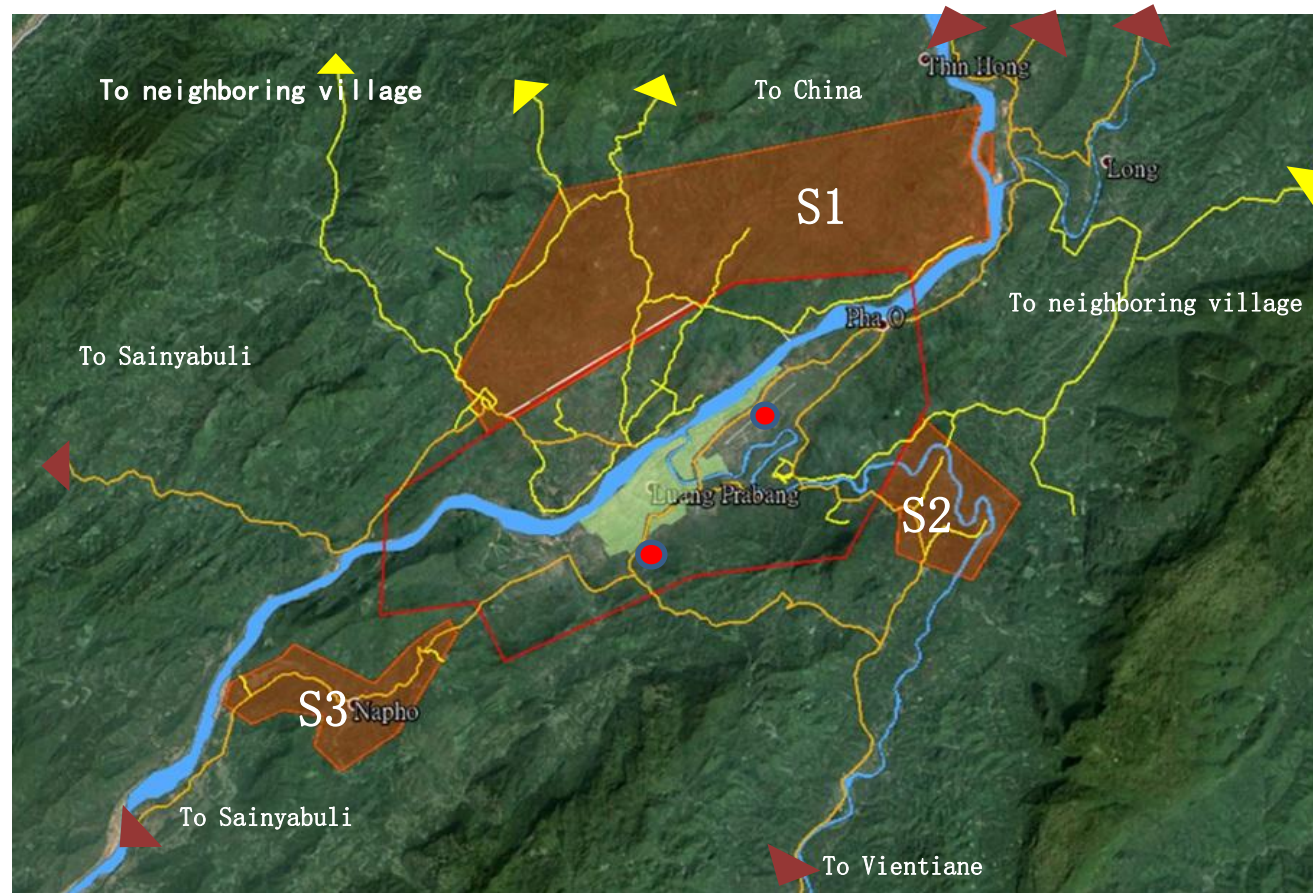
Land use planning for the protected and coordinated area of the ancient city



- Planning scope
- Protected and coordinated area of the Ancient City delineated by UNESCO
- B1—Conservation area along Mekong River—Khan River
- RB2—Conservation area along Nanhui River
- RB3—Conservation area along Huimu River
- NA1—Field conservation area
- NC—Forest conservation areas
- RB4—Area along Mekong River—Khan River
- NA2—Surrounding area of field
- UA1—Villages in the former county seat of Luang Prabang help
- UA2—Villages in the original Chomphet district
- UB—Suburb
- UC—Surrounding area of towns
- UD—Urban development area
- UG—Golf course area

2.1 Site Analysis

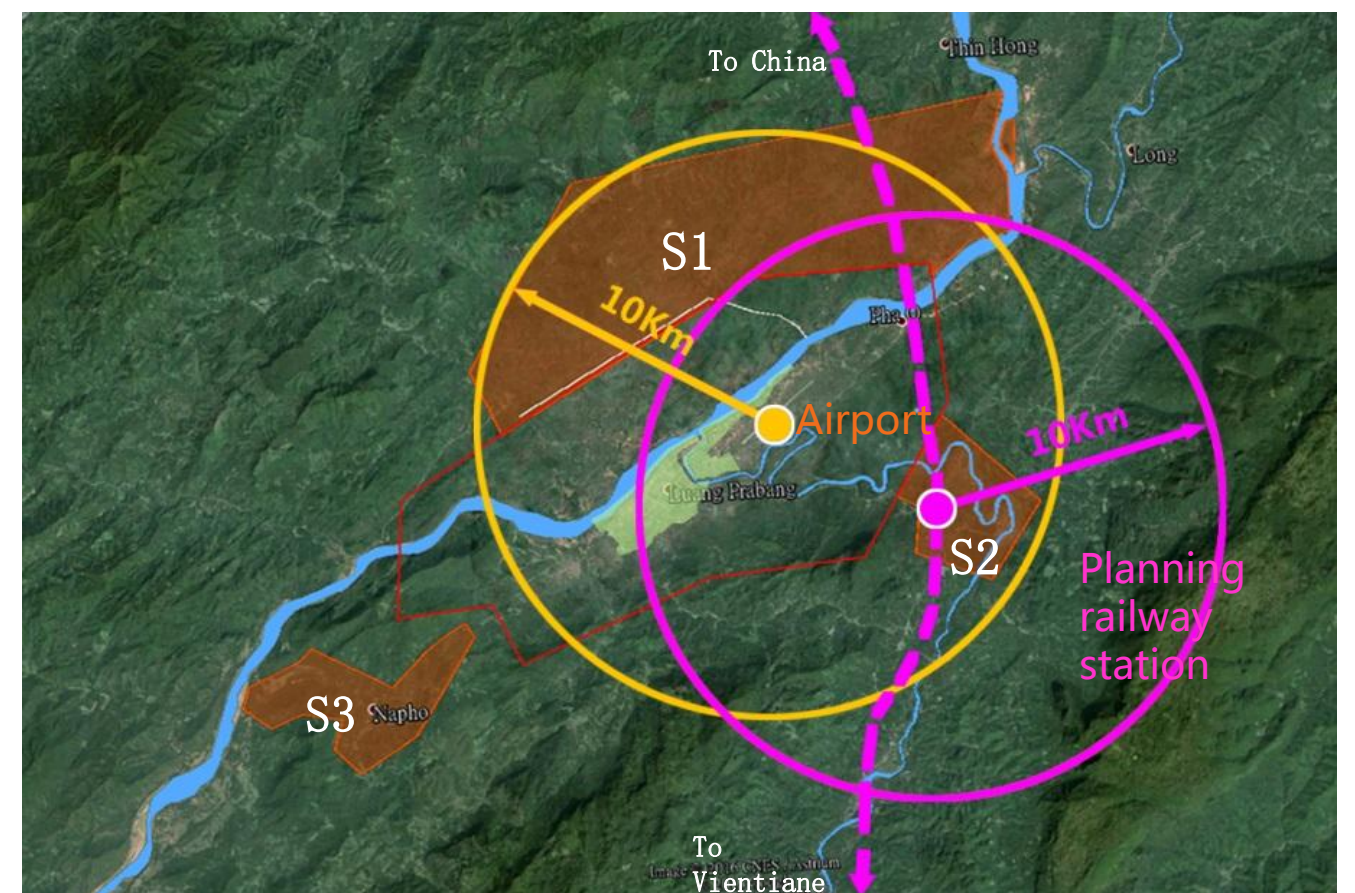
Road traffic



- Planning scope
- Protected and coordinated area of the Ancient City delineated by UNESCO
- Urban area of Luang Prabang
- Bus stop
- Village road
- Urban external traffic

Nested in a place of valleys, the traffic of Luang Prabang links with the outside through the mountain passes in the north and southeast where S2 and S3 exactly situated at such traffic throats, while Plot S1 opposite to Mekong River, is poor in external traffic.

Airport, railway station

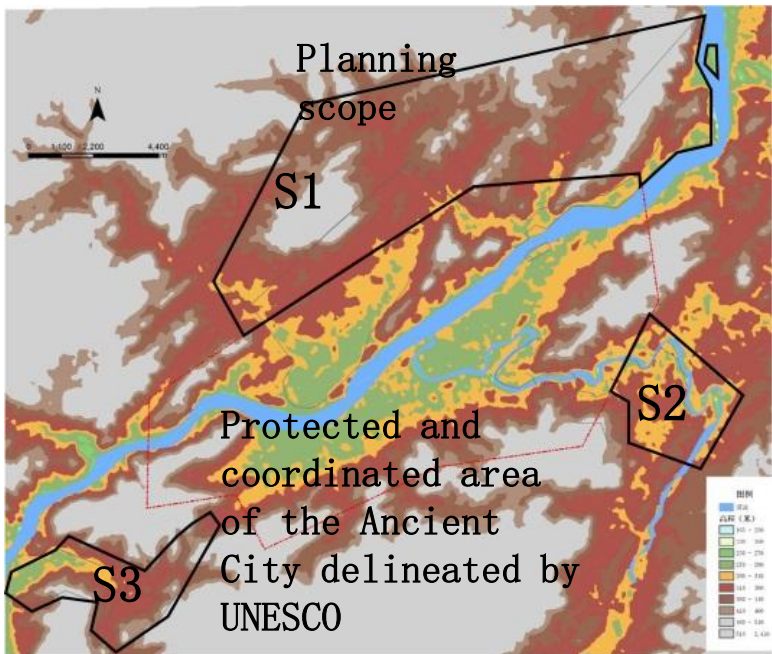


- Planning scope
- Protected and coordinated area of the Ancient City delineated by UNESCO
- Urban area of Luang Prabang
- Airport
- Planned railway station
- Planned railway

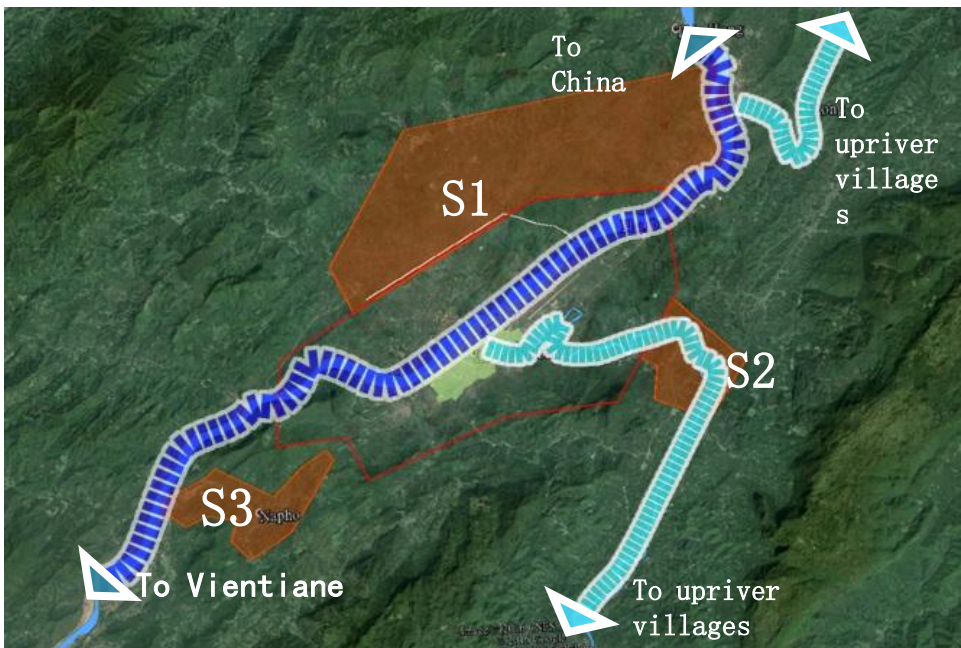
The international airport and planned railway stations of Luang Prabang will provide the city with great opportunities for development.

2.1 Site Analysis

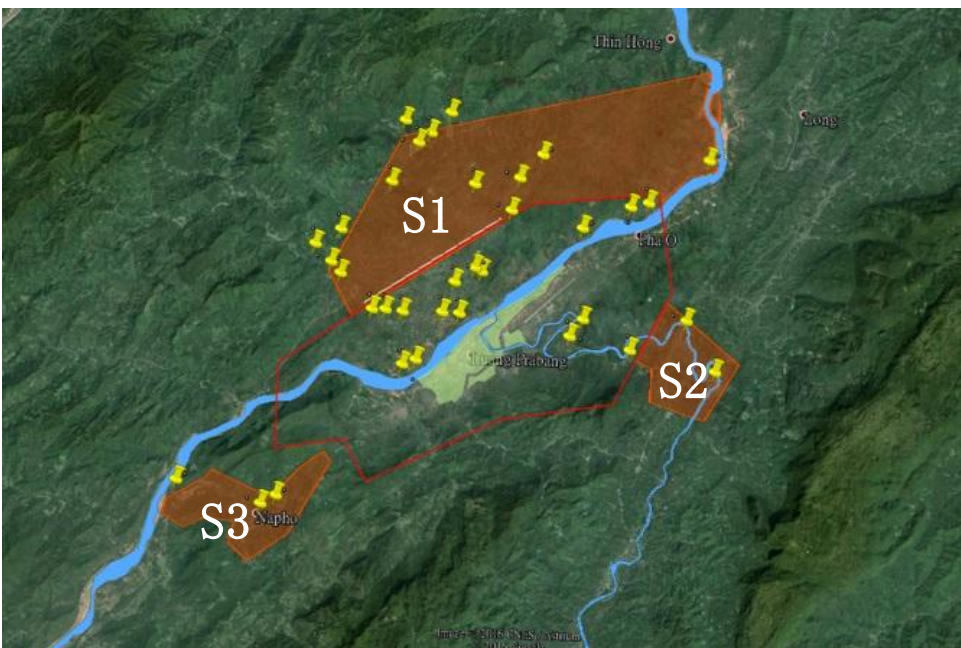
Site terrain conditions



Riverway



Status quo of village distributions at the sites



Plot S1 is mainly surrounded by hilly terrain, While Plots S2 and S3 are between valleys.

In terms of inland water navigation, Mekong River, the section of Laos' s second largest transport line, , is endowed with good resource conditions.

The existing villages at the sites are mainly distributed along the roads and the waterfronts.

2.2 Overall Urban Positioning

Development principles

- (1) Pursuant to the relevant provisions promulgated by UNESCO and governmental authorities for the **protection of local cultural heritage**, , protection of the natural landscape and heritage of humanity history are placed in the first place.
- (2) **The concept of green and sustainable** development
- (3Respect) Respect for**local folk customs and religious culture**
- (4) **Combine short- and long-term plans** , to make rational and efficient use of land in an intensive way
- (5) Keep the new urban area **modest** , so as to organically integrate it into the old one



City Positioning-Three images, four features, five functions

Images

Positioned as a “Pearl of Mekong River” \ “Cultural attraction” \ “Quality life”



Features

Emphasize on “Eco-green \leisure and regime\suitable for living and working\healthy and happy”



Functions

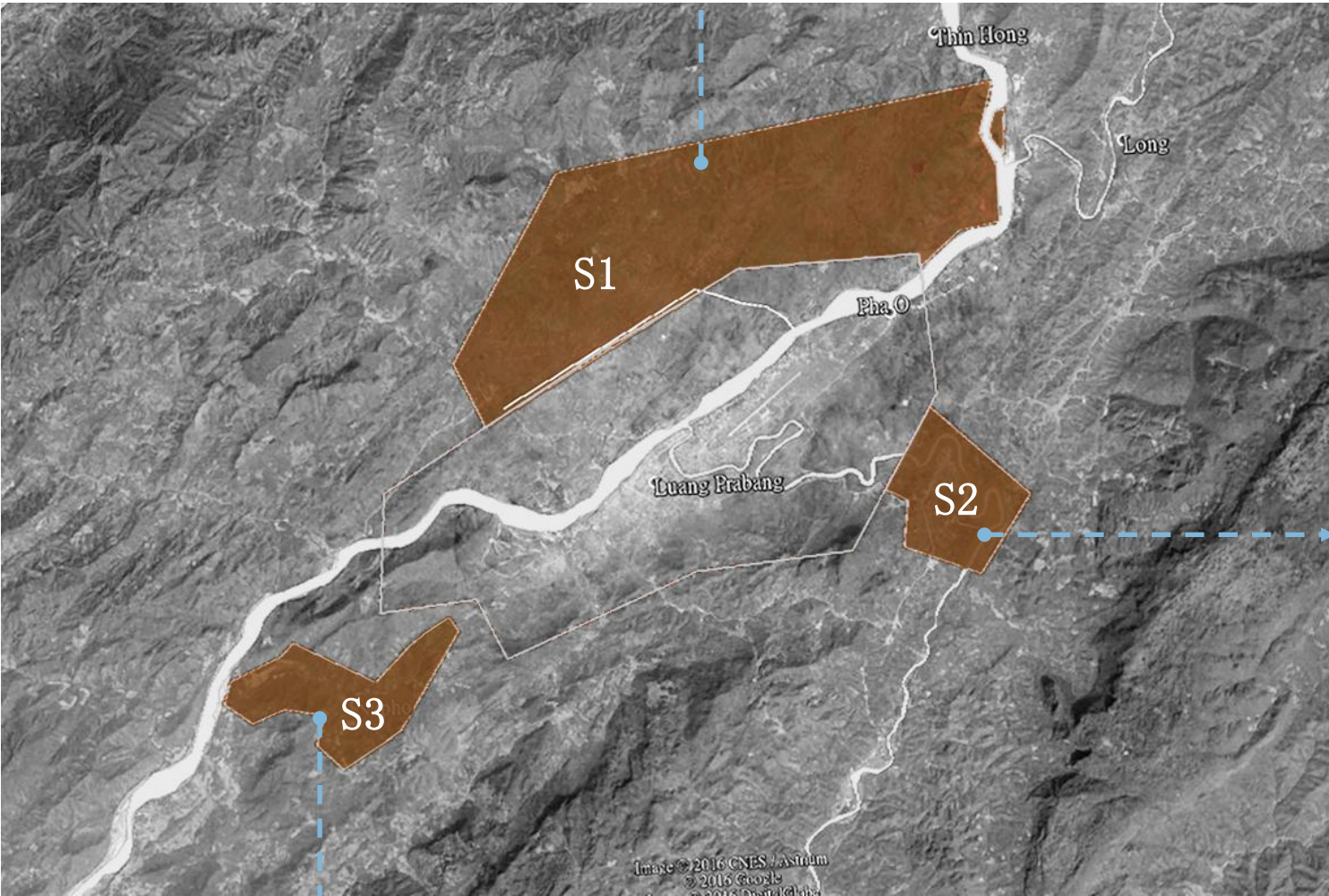
- 1.Create a model of livable city
- 2.foster a new destination of intensive cultural tourism
- 3.Build a new gateway to regional cooperation
- 4.Explore a new model to construct a special zone of regional economy
- 5.A growth pole leading the growth of new industry of the city



2.3Zoning orientation

“One city” “One Zone” “One town”

Follow the hierarchical orientation of One city, One Zone and One town, bring in six vibrant sustainable industries – tourism and resort, education and training, geracomia and regime, enterprise settlement, innovation and research and development, and industrial logistics, effect the industry-city model to attract Chinese, Southeast Asian and even the world’ s best companies and personnel.



“One City”

An eco-green model of urban area that integrates tourism and resort, education and training, and lends itself to living and working,

Zone S1 orientation



“One region”

Take the advantage of railway, draw in enterprise settlement, innovation and R & D, and industrial logistics, provide a special economic zone for regional cooperation and for the development of new industries

Zone S2 orientation



“One town”

Build a town pillared by intensive cultural tourism featuring meditation, leisure and regime,

Zone S3 orientation



2.3Zoning functional scheme

S1 plot location

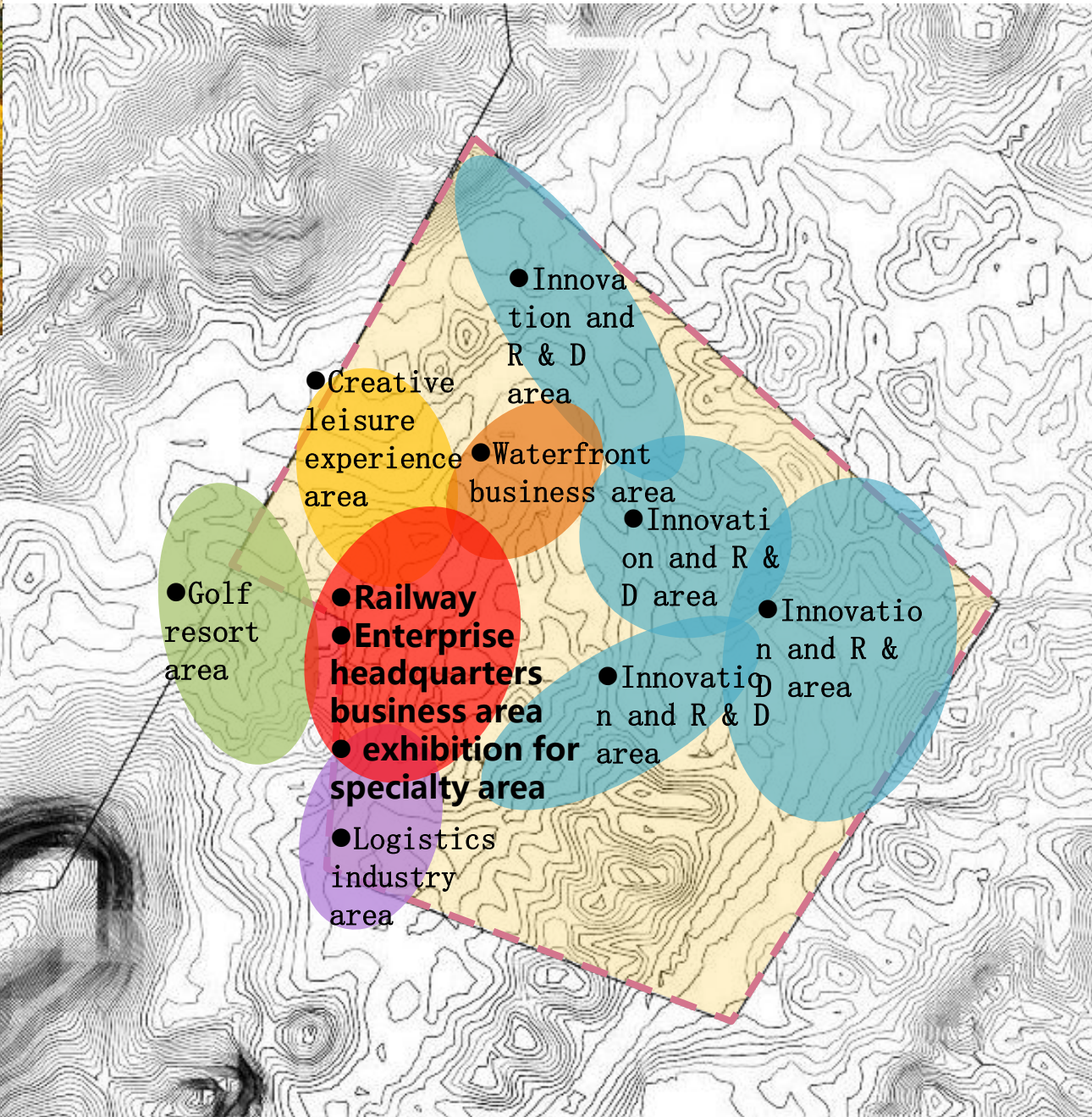
Tourism & resort + education & training
Administration, Commercial center + leisure & entertainment
Cultural experience + ecological residence



2.3Zoning functional scheme

S2 plot location

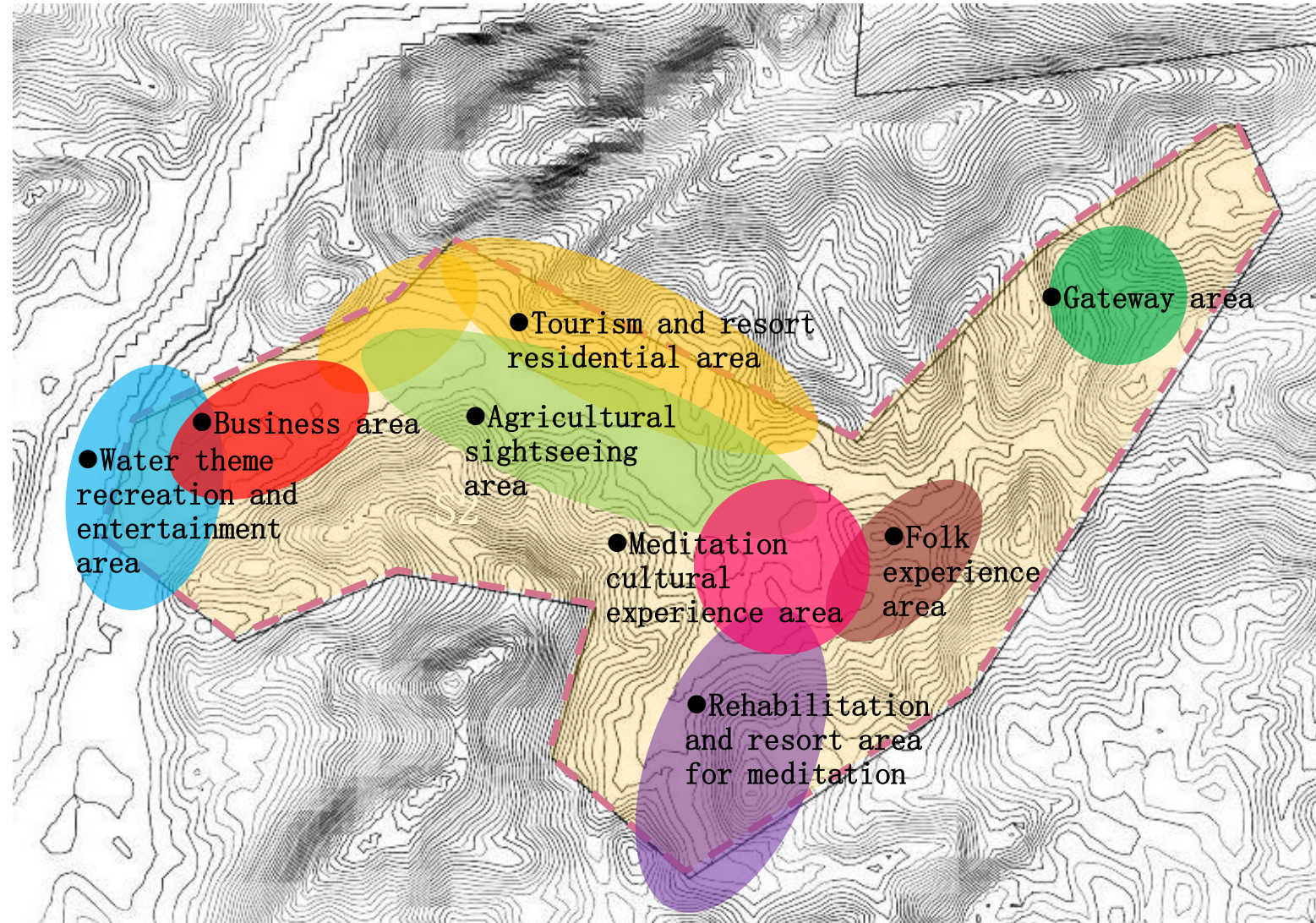
Enterprise headquarters + Business & exhibition
Innovation and R & D+Industry Logistics
Creative industry & leisure



2.3Zoning functional scheme

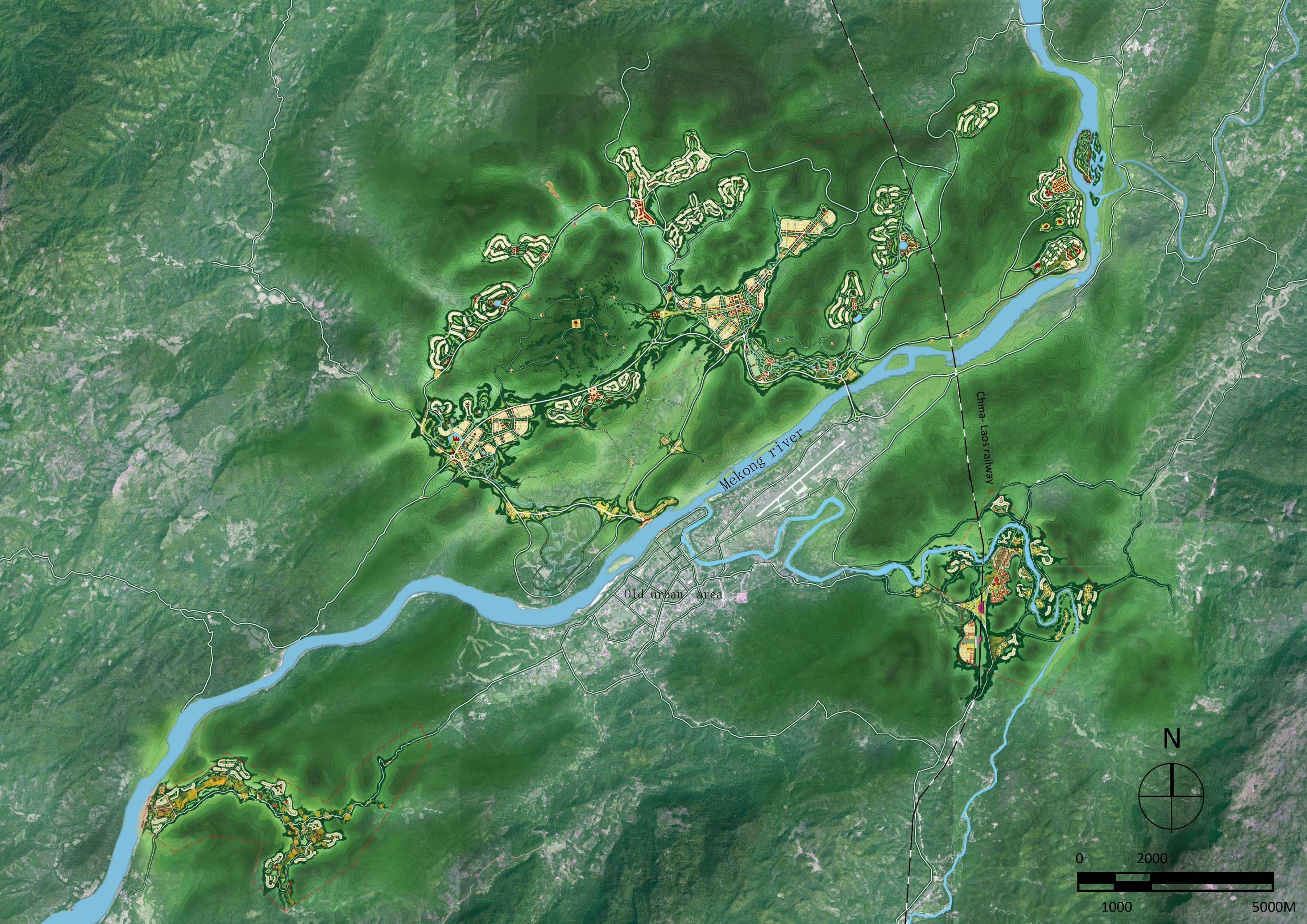
S3 plot location

geracomia + regime+tourism and resort



03

Overall
Design



Mekong river

China-Laos railway

Old urban area



1000 5000M

3.1 Site Plan

- 1 Pagoda and central ecological park
- 2 Administration, commercial & entertainment center area
- 3 Tourist & education service center
- 4 POLO CLUB
- 5 Waterfront rehabilitation and resort group
- 6 Residence group
- 7 Luang Prabang Train Station
- 8 Logistics group
- 9 Enterprise R&D area
- 10 Commerce exhibition area
- 11 Water theme recreation and entertainment area
- 12 Cultural experience zone of meditation & rehabilitation



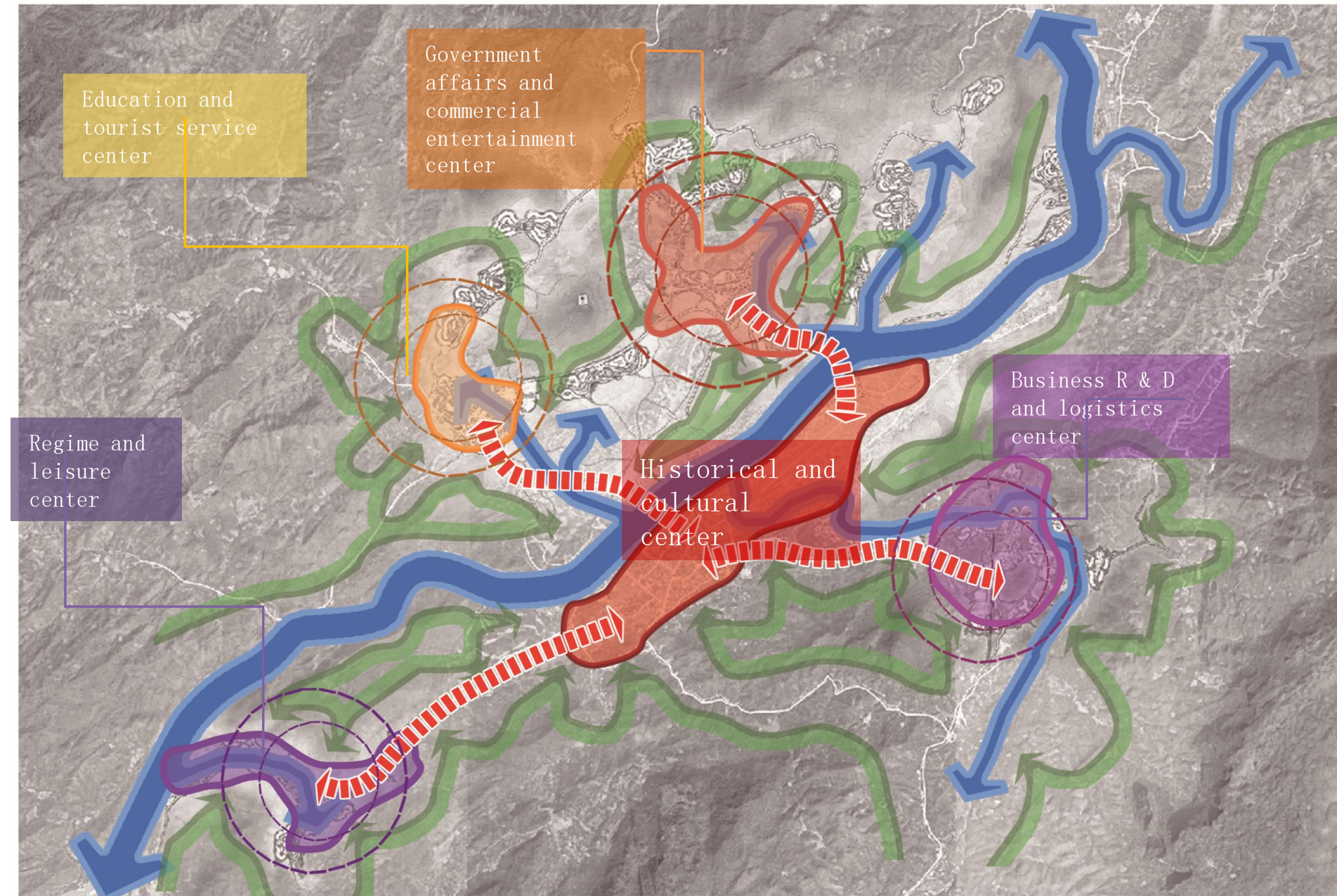
3.2 Overall Urban Design Concept

Follow the “Multiple-center city + Garden city” concept

Since urban development needs support from many new functions, and considering the old urban area is under the burden of too many functions, it is expected to continue the existing low-density dispersion of urban groups and develop a new urban areas of low density multiple centers

Develop a grouped architecture of “one primary center+ four secondary centers+ natural network penetration”

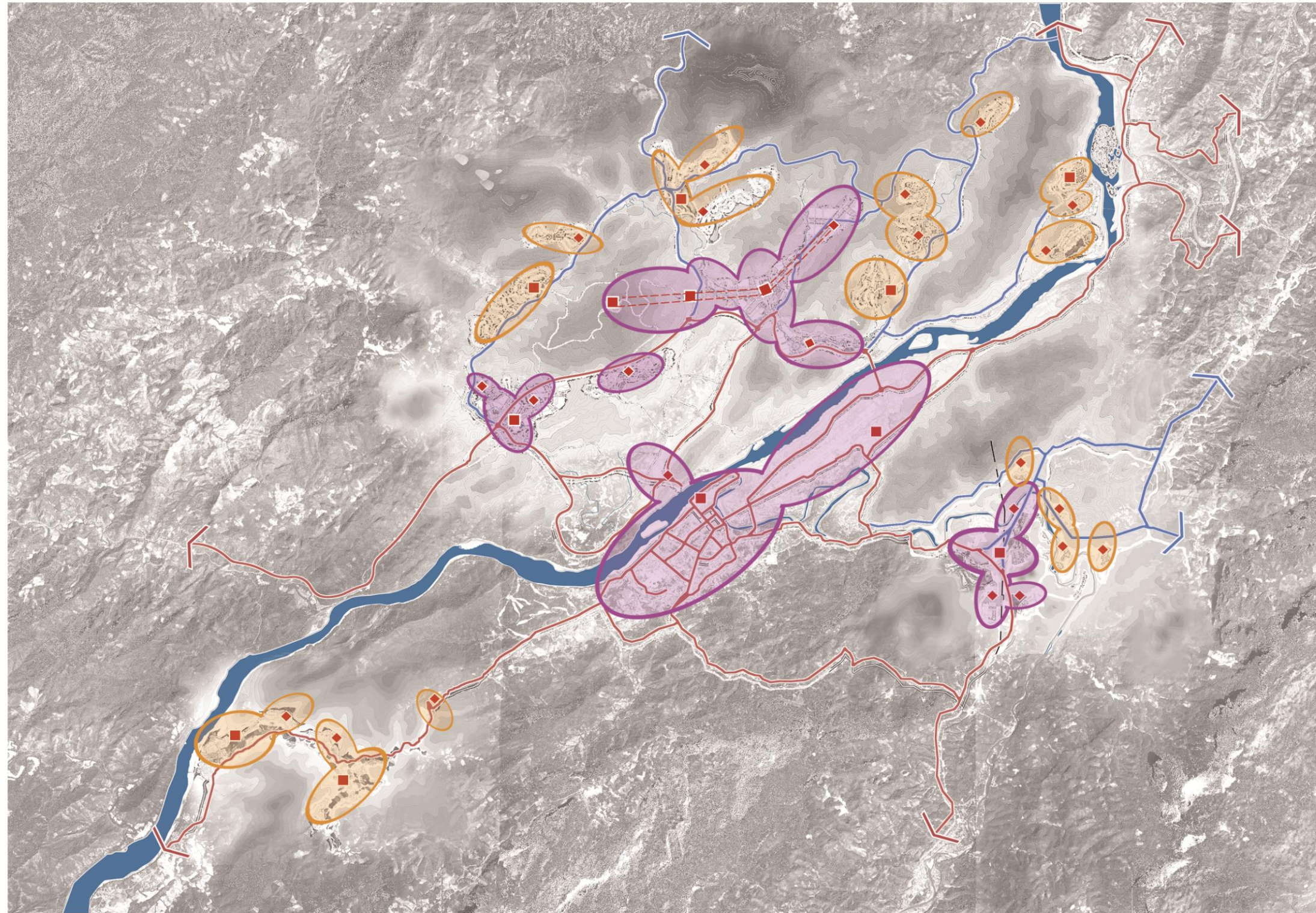
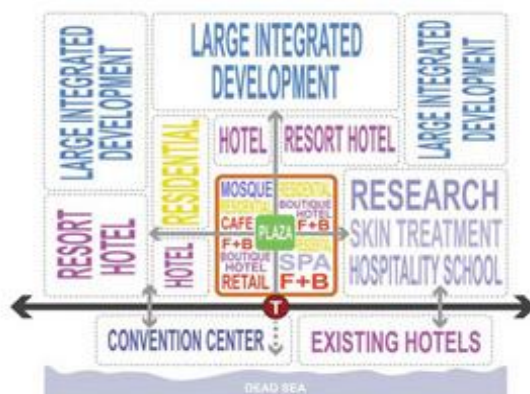
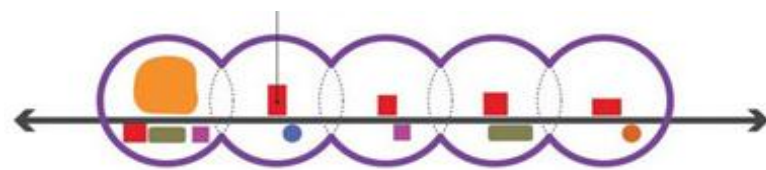
Endow each area with distinct pulling factors and functions , and confine each area to an appropriate scale of development, maintain the ruralized pattern penetrated into/by the natural network, avoid the unlimited sprawling of the urban area, provide residents with accessibility to natural spaces



3.2 Overall Urban Design Concept

Rely on the construction of trunk roads, arrange public service nodes for the groups, and implement the development strategy in the “beaded rolling” pattern

According to roads and other infrastructures, plan and construct groups around the existing roads at the early stage, and arrange the public service facilities close to the trunk roads. At later stages, depending funding, construct other internal groups, and finally line up the dispersed groups, and make the trunk road network the axes leading the urban development.



3.3 Overall Spatial Structure

The overall spatial structure of “four centers, one ring, multiple axes, and one belt”

Main content

Rely on the central area of the old city, turn the two new central areas of the new city within S1 into three main cores, and connect the landscape ring roads to form the links of the main urban functional network . Based on the ring roads, rely on cities external traffic conditions to build other supplementary urban functional groups, each having its own axis of development. Turn the natural elements of Mekong River into a landscape belt that links the urban ecological network, to maintain the existing good urban natural environment.

Four centers:

Assign leadership to the center of the old city, enhance it with the primary urban area of S1 and the secondary urban area of S1 to form three primary spatial cores.

One ring:

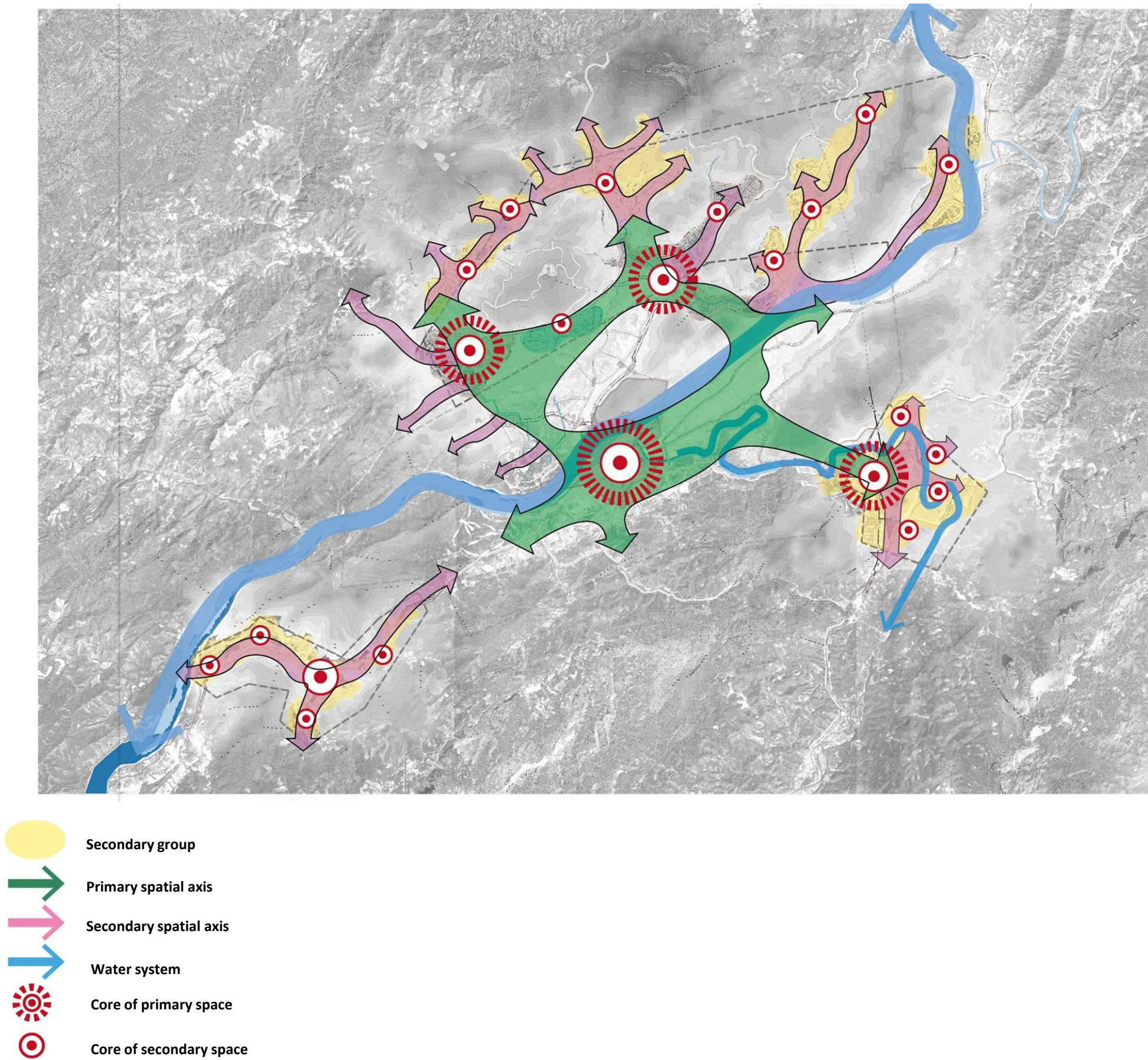
Link up the landscape ring roads of the old city, the primary urban area of S1 and the secondary urban area of S1 to form the main spatial ring.

Multiple axes:

The trunk road sustaining the residence groups in S1, the extension of the existing Highway 13 and the main roads of the business area of s2 to each residence groups, and the existing external trunk roads of S3 to Mekong River, form multiple secondary diverging spatial axes.

One belt:

Ecological landscape belt of Mekong River and along both riversides.



3.4 Overall function layout

“three sites, four centers, ten groups” Overall function layout

Main contents

Given protection on the old town, it is supposed to dredge the transfer of the industrial function to the new town reasonably and to reserve the residential and tourism functions. Moreover, the new town should be added with administration, vocational education, cultural customer services and other functions. It is supposed to guarantee the sufficient residential and living land in the city and reasonable layout function, complement the existing urban functions of the old town, and guide Town of Luang Prabang to develop better and more healthily.

S1:

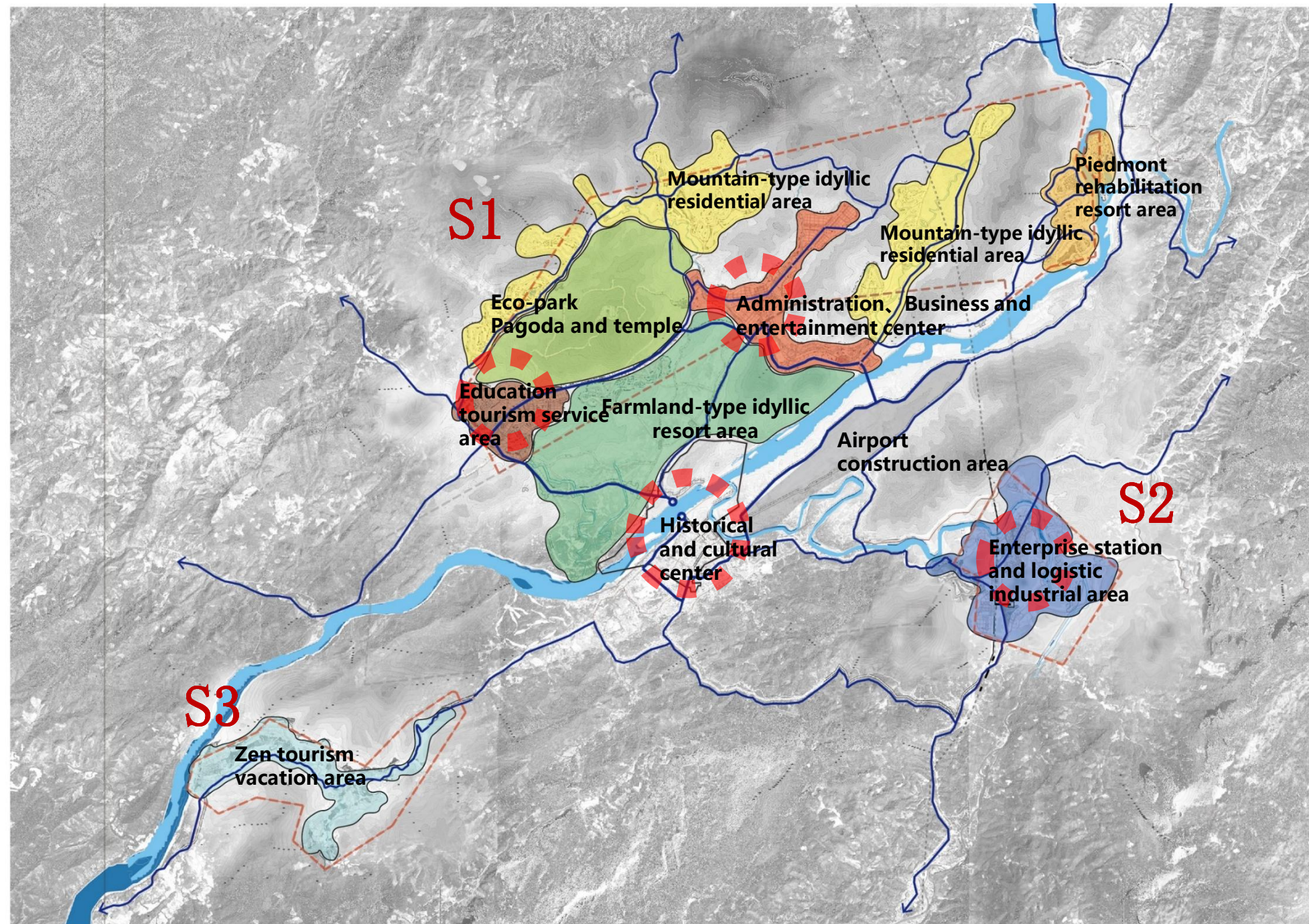
Due to large site area and natural barrier to the old town, the site should be selected as the complete new town center area. Administration, education, commercial services and other public service functions should be arranged. In addition, based on the mountain region landscape around the base and the rich natural tourism resources, it is supposed to arrange living and vacation groups, develop tourism and leisure and tourism health maintenance industries, and thus to form multi-functional integrated new town district.

S2:

Area S2 relies on planning railway stations and in-transit national roads, considers traffic regional advantages, arrange logistic dutiable goods declaration and enterprise station etc. In addition, Elephant Village, Golf Site and other scenic spots are relied on to perfect the commercial services, and arrange vacation and residential groups.

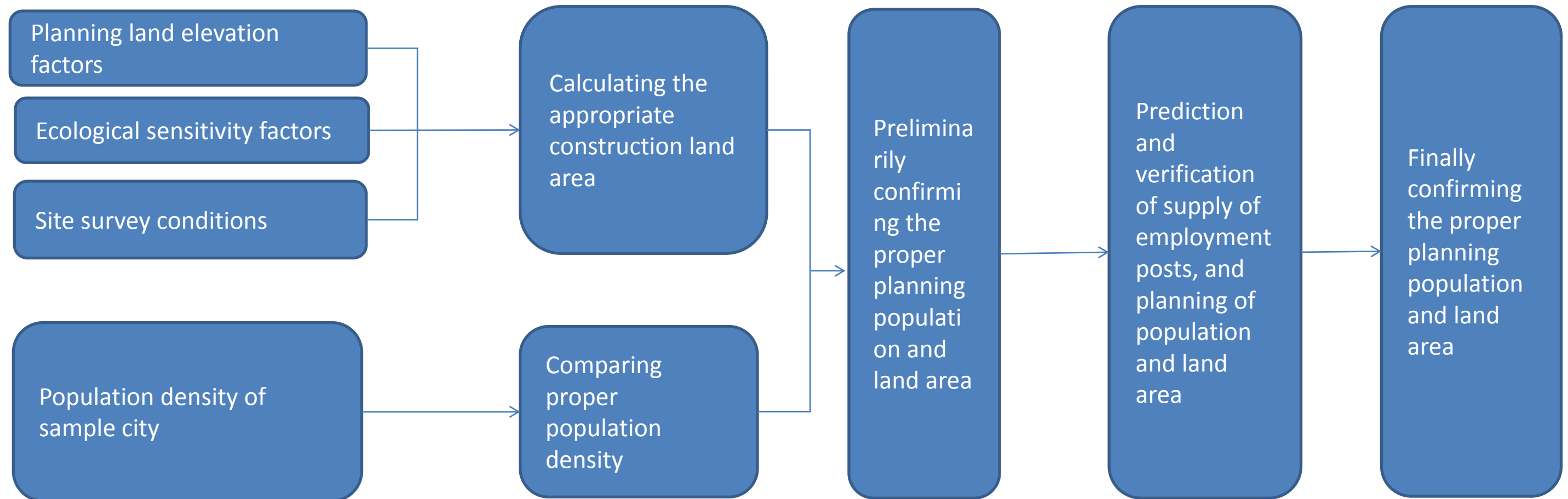
S3

As it is near Tat Kuang Si Waterfall, and due to favorable landscape, farmland resources, the vacation and residential groups are organized with provision of tourism services themed zen health maintenance. At the same time, we will provide sufficient customer service support, in order to build it into a leisure, experiential, and health maintenance typed tourism town, integrated with zen health maintenance, adventure tourism, entertainment and vacation.



3.5 Research on population size and land scale

Research framework



Population size measuring thought

The traditional population size prediction range generally adopts the trend extropolation method, specifically, obtaining general growth rules via regression or averaging method as per current population, in order to determine the urban population size in a certain period in the future. However, as to new Town of Luang Prabang, the population is bound to increase sharply with the growth of tourism development and construction of Sino-Laos railways. So the traditional population prediction will be futile.

According to the planning, the population size of the future new town depends on the development orientation, development process and environment bearing capacity. **Therefore, the planning adopts density analogy method to determine a proper population size and verifies the possibility of realization of this size via provisions of employment posts.**

3.5 Research on population size and land scale

Comprehensive land assessment

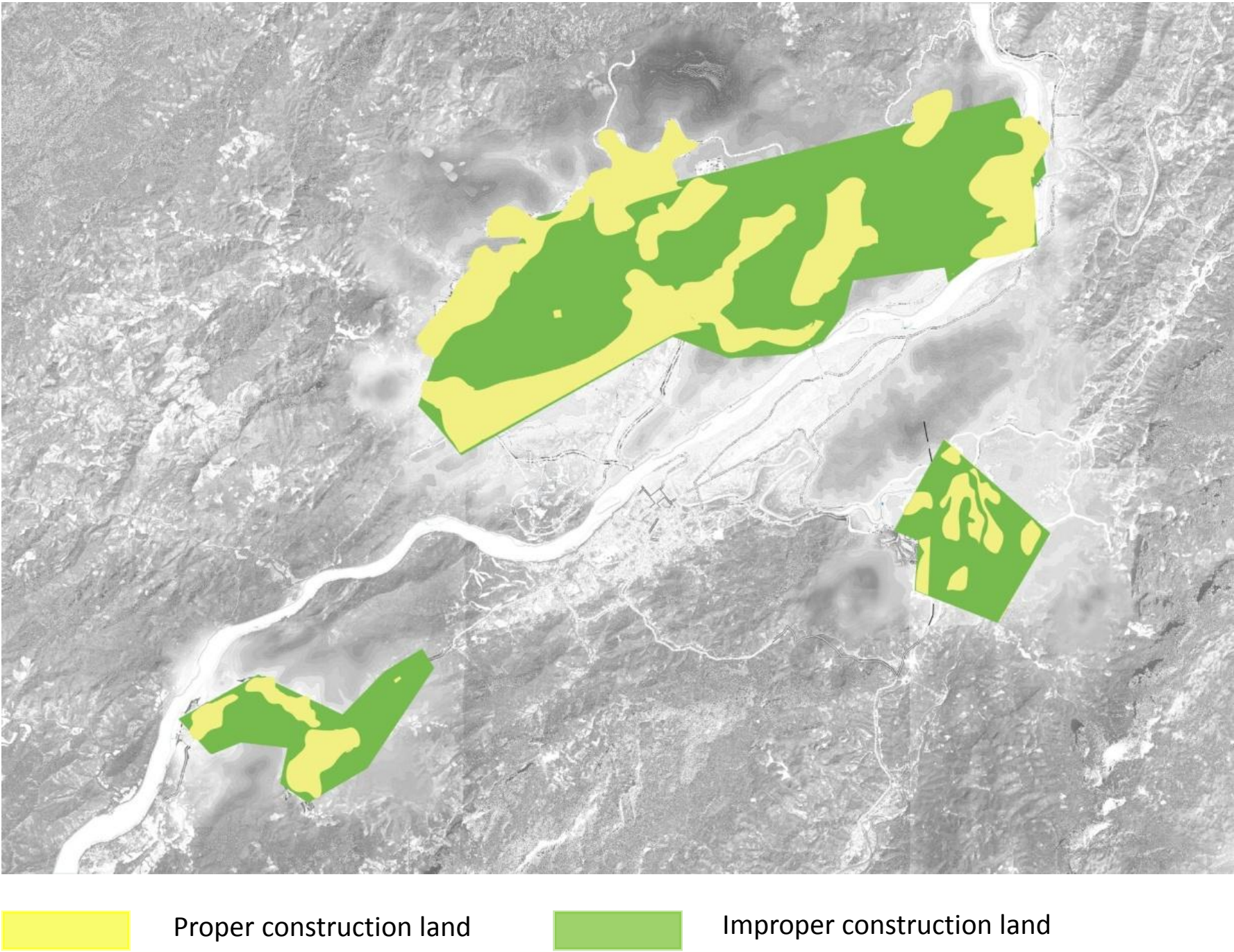
The planning integrates the land suitable for construction in the program for overall consideration on the basis of red line domain, in order to ensure the integrity of the development region.

According to the planning land elevation factors, ecologically sensitive factors, present situation of land use and site investigation surveys, the planning make the suitability analysis of the the construction of the Luang Prabang new city. the results will classify the planning land into two levels: suitable for construction and unsuitable for construction..

Lands of unsuitable construction are mainly mountain forest of steep slope, wetlands of high ecological sensitivity, streams water, protected farmlands, existing village land and so on. Lands of suitable construction are mainly flat terrain and land with less impact on environment.

Final suitable construction area of the new town obtained is 40.9 sq. km. (S1+S2+S3).



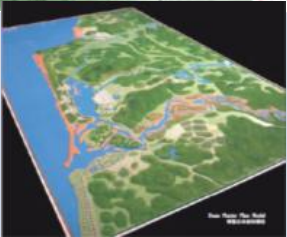


| Unit: km² | Planning land area | Proper construction land area |
|-----------|--------------------|-------------------------------|
| S1 | 80.57 | 32.7 |
| S2 | 13.34 | 4.9 |
| S3 | 15.3 | 3.3 |
| Total | 109.21 | 40.9 |



3.5 Research on population size and land scale

Population density analogy method

The new Town of Luang Prabang boasts advantageous natural environment. The interior of the base is embraced by many mountain regions and is adjacent to Mekong. The three main functional districts of the new town are: administration-culture-tourism-education center, logistic industrial comprehensive service center, and the senior care center. Therefore, the selection of the sample cases adheres to two main principles, i.e. Favorable landscape and culture tourism orientation.

| | Sample city comparison | Planning land (sq. km) | Construction land (sq. km) | Planning population (10 thousand persons) | Population density (ratio to construction land: people/km ²) | Description |
|--|---|------------------------|----------------------------|--|--|---|
| New tourism town of Dengfeng “inbetween the heaven and the earth” |  | — | 10 | 7–9 (permanent resident population + tourism population) | 7000–10000 | Only for zen, fitness, health maintenance tourism development; 24m high, about 6 floors of building in central area |
| Conceptual planning of Xinglong Tourism Town in Jinan, Shandong |  | 19 | 8.6 | 4–5 (resident population) | 4651–5814 | About 2–3 floors of building |
| Overall planning and design of Boao, Hainan |  | 122 | 31.26 | 17.13 (resident population) | 5480 | About 2–3 floors of building |
| Conceptual overall planning and design of Shandong Nishan cultural tourism vacation area |  | 35 | 4 | 1.5 (resident population) | 3750 | About 2–3 floors of building |
| Western new town planning of Fengjie, Chongqing |  | — | 9.6 | 10 | 10417 | about 12 floors of the building in the center |

3.5 Research on population size and land scale

Preliminarily confirming the proper planning population and land area

The population density of the new town is determined to be **3800-8000 people/sq.km**, according to the planning population statistical caliber, construction land scale, population density and development intensity of each case, and the actual situation of low-density development of new Town of Luang Prabang.

Based on about 9 sq.km construction land scale and about 40,000 people in the old town of Luang Prabang, the population density of the old town is thereby calculated to be about **4500 people/sq.km**. Given the population of the new town is not larger than that of the old town, the bound population density of the new town is about **3800-4500**. Therefore, the maximum population capacity of new Town of Luang Prabang is 185,000 people. Given the current tourism population size of Luang Prabang and the local resident size of the new town, the planning population size is suggested to be **100,000**. The planning recommends adopting the **proper population density (4500/sq.km)** in new Town of Luang Prabang for calculation; the planning urban construction land area is about **22 sq.km**.

Verifying the reliability of planning population-prediction method of provisions of employment

The urban population size significantly relies on the provisions of employment posts. Therefore, the planning predicts the possible provisions of employment posts in new Town of Luang Prabang; based on the value, the population size calculated based on the proper population density will be verified.

Industrial land category and area

- (1) Central commercial area, with an area of about 0.36 sq.km;
- (2) Scientific research and innovation industry land, with an area of about 0.413 sq.km;
- (3) Logistic land, with an area of about 0.336 sq.km;
- (4) Commercial and service land, with an area of about 9.330 sq.km.
- (5) High-tech industry land, with an area of about 0 sq.km;
- (6) Recreation land, with an area of about 1.061961 sq.km.

3.5 Research on population size and land scale

Definition of relevant parameters

● CBD is the area with the highest urban employment density. In contrast to the international cities, the employment density of CBD (Denver, Phoenix, and Armstrong) is 3500-9800 people/sq.km. Given the actual situation of new Town of Luang Prabang, the employment density of CBD is 9000 people/sq.km, which is slightly lower than Armstrong.

● Given the employment density of Taiwan Xinzhu Scientific Industrial Park is about 5000 people/sq.km, and the actual development amount of the new town is supposed to be less than that of Taiwan case, so the scientific research and innovation industry land is 4000 people/sq.km.

● Given the land of the tertiary industry in Beijing is the average land index, and it in new Town of Luang Prabang uses the lower limit, the average employment density in commercial service land and logistic land are determined to be 9200 people/sq.km. and 3000 people/sq.km. respectively.

● Referring to the actual standard in Suzhou Singapore Industrial Park, and on the basis of industry selection orientation and harmonious style and feature of development intensity in new Town of Luang Prabang, the average employment density in hi-tech industry land in the new town is 2500 people/sq.km., which is about a half of that of Suzhou Industrial Park (5250 people/sq.km.).

● Referring to the design standards in the scenic spots, combining the conditions of the new town, taking away 50 sq.m./people occupant activity area on the recreation land, the service population takes up 15% of the tourists, so the average employment density of the recreation land is 3000 people/sq.km.

| BY CBD EMPLOYMENT DENSITY | | | | | | |
|---------------------------|--------------------|---------------------------------|-------------------------|----------------------------|---------------------------------|------|
| Urban Area | Business District | Employment in Business District | Land Area: Square Miles | Employment per Square Mile | Employment per Square Kilometer | Year |
| New York | Midtown Core | 739,452 | 1.2 | 606,108 | 233,838 | 1990 |
| Hong Kong | Core CBD | 193,520 | 0.4 | 443,897 | 171,257 | 1990 |
| New York | Downtown Core | 340,028 | 0.8 | 441,595 | 170,368 | 1990 |
| Chicago | CBD Core (Loop) | 385,399 | 1.0 | 374,902 | 144,638 | 1990 |
| Paris | La Defence | 140,000 | 0.6 | 233,333 | 90,021 | 2000 |
| New York | South of 59 St.+++ | 1,967,000 | 8.9 | 221,672 | 85,522 | 1990 |
| Hong Kong | Victoria-Kowloon+ | 1,107,593 | 5.5 | 200,901 | 77,508 | 1990 |
| Toronto | CBD | 143,650 | 0.7 | 198,054 | 76,410 | 1990 |
| San Francisco | CBD | 291,036 | 1.5 | 192,932 | 74,434 | 1990 |
| Washington | CBD | 316,723 | 1.8 | 178,467 | 68,853 | 1990 |
| Seoul | CBD | 1,226,830 | 8.2 | 150,210 | 57,951 | 1990 |
| Tokyo | CBD Core | 2,434,163 | 16.3 | 149,795 | 57,791 | 2001 |
| Seattle | Seattle CBD Core | 98,620 | 0.7 | 146,104 | 56,367 | 1990 |
| Melbourne | CBD | 126,286 | 0.9 | 137,535 | 53,061 | 1990 |
| Brisbane | CBD | 61,844 | 0.5 | 137,008 | 52,858 | 1990 |
| Frankfurt | CBD | 119,735 | 0.9 | 129,314 | 49,890 | 1990 |
| Brussels | CBD | 144,906 | 1.2 | 121,947 | 47,047 | 1990 |
| Ottawa | CBD | 82,307 | 0.7 | 121,908 | 47,032 | 1990 |
| Los Angeles | L.A. CBD Core | 167,297 | 1.4 | 116,178 | 44,822 | 1990 |
| London | CBD | 1,260,500 | 11.5 | 109,829 | 42,372 | 1990 |
| Sydney | CBD | 175,620 | 1.6 | 109,425 | 42,216 | 1990 |
| Zurich | CBD | 63,410 | 0.6 | 108,131 | 41,717 | 1990 |
| Adelaide | CBD | 73,868 | 0.7 | 105,782 | 40,811 | 1990 |
| Portland | CBD | 108,372 | 1.1 | 100,322 | 38,704 | 1990 |
| Singapore | CBD | 280,000 | 2.8 | 100,105 | 38,621 | 1990 |
| Vienna | CBD | 112,770 | 1.1 | 98,087 | 37,842 | 1990 |
| Chicago | CBD+ | 592,301 | 6.2 | 95,811 | 36,964 | 1990 |
| Tokyo | Yamanote Loop++ | 4,245,853 | 46.1 | 92,033 | 35,506 | 2001 |
| Osaka-Kobe-Kyoto | Osaka Core CBD | 1,317,926 | 14.4 | 91,714 | 35,383 | 2001 |
| Paris | CBD | 1,025,000 | 11.2 | 91,614 | 35,345 | 1990 |
| Hamburg | CBD | 153,590 | 1.8 | 86,545 | 33,389 | 1990 |
| Tokyo | Shinjuku | 604,468 | 7.0 | 85,984 | 33,173 | 2001 |
| Vancouver | CBD | 104,000 | 1.3 | 79,991 | 30,861 | 1990 |
| Houston | CBD | 118,889 | 1.5 | 78,612 | 30,329 | 1990 |
| Osaka-Kobe-Kyoto | Osaka Loop+ | 1,532,745 | 19.7 | 77,765 | 30,002 | 2001 |
| Boston | CBD | 258,240 | 3.3 | 77,115 | 29,751 | 1990 |
| Calgary | CBD | 86,700 | 1.1 | 75,412 | 29,094 | 1990 |
| Tokyo | Shibuya | 438,895 | 5.8 | 75,282 | 29,044 | 2001 |
| Munich | CBD | 219,518 | 3.1 | 71,571 | 27,612 | 1990 |
| Copenhagen | CBD | 122,770 | 1.8 | 69,938 | 26,982 | 1990 |
| Los Angeles | Freeway Loop+ | 310,321 | 4.5 | 68,960 | 26,605 | 1990 |
| Stockholm | CBD | 111,233 | 1.6 | 67,999 | 26,234 | 1990 |
| Detroit | CBD | 93,012 | 1.4 | 66,599 | 25,694 | 1990 |
| Seattle | Seattle CBD+ | 171,510 | 2.7 | 64,706 | 24,964 | 1990 |
| Nagoya | Core CBD | 402,040 | 6.6 | 61,008 | 23,537 | 2001 |
| Manila | CBD | 815,400 | 13.9 | 58,709 | 22,650 | 1990 |
| Montreal | CBD | 273,203 | 4.7 | 57,855 | 22,321 | 1990 |
| Edmonton | CBD | 63,200 | 1.1 | 55,156 | 21,279 | 1990 |
| Denver | CBD | 111,887 | 2.5 | 45,599 | 17,592 | 1990 |
| Canberra | CBD | 22,521 | 0.5 | 41,696 | 16,086 | 1990 |
| Osaka-Kobe-Kyoto | Kyoto CBD | 107,629 | 2.6 | 40,924 | 15,788 | 2001 |
| Winnipeg | CBD | 68,593 | 1.7 | 40,408 | 15,590 | 1990 |
| Bangkok | CBD | 271,944 | 7.9 | 34,284 | 13,227 | 1990 |
| Perth | CBD | 99,819 | 2.9 | 34,088 | 13,151 | 1990 |
| San Diego | CBD | 72,964 | 2.2 | 33,179 | 12,801 | 1990 |
| Hiroshima | CBD | 190,794 | 5.9 | 32,229 | 12,434 | 2001 |
| Sacramento | CBD | 54,121 | 1.8 | 30,364 | 11,715 | 1990 |
| Tokyo | Yokohama CBD | 312,446 | 10.7 | 29,310 | 11,308 | 2001 |
| Nagoya | Rail-River Ring+ | 735,106 | 26.6 | 27,646 | 10,666 | 2001 |
| Osaka-Kobe-Kyoto | Kobe CBD | 255,904 | 9.9 | 25,954 | 10,013 | 2001 |
| Amsterdam | CBD | 80,722 | 3.2 | 25,392 | 9,796 | 1990 |
| Phoenix | CBD | 85,267 | 1.6 | 23,268 | 8,974 | 1990 |
| Denver | Tech Center | 54,845 | 6.0 | 9,141 | 3,527 | 1990 |

+ Includes Core CBD.
++Includes Core CBD, Shinjuku & Shibuya
+++Includes Midtown & Downtown
Estimated from Jeffrey R. Kenworthy, Felix B. Laube and others, "An International Sourcebook of Automobile Dependence in Cities: 1960-1990," US Census Bureau, Japan Statistics Bureau & Statistics Centre, Statistics Office of the UK and Demographia.
United States data differs from Census Bureau data due to differing area definitions.

3.5 Research on population size and land scale

Measurement of provisions of employment posts

| Category | Area (sq. km) | | | | Employment density (people/sq. km) | Employed population (people) |
|--|---------------|-------|----------|----------|---------------------------------------|---------------------------------|
| | S1 | S2 | S3 | total | | |
| Central commercial area land | 0.18 | 0.18 | 0 | 0.36 | 9000 | 3240 |
| Scientific research and innovation industry land | 0 | 0.413 | 0 | 0.413 | 4000 | 1652 |
| Logistic land | 0 | 0.336 | 0 | 0.336 | 9200 | 3091.2 |
| Commercial and service land | 8.7 | 0.313 | 0.317315 | 9.330315 | 3000 | 27990.9 |
| Hi-tech industry land | 0 | 0 | 0 | 0 | 2500 | 0 |
| Recreation land | 0.64 | 0.294 | 0.127961 | 1.061961 | 3000 | 3185.88 |
| Total | 9.52 | 1.536 | 0.445276 | 11.50128 | —— | 39160 |

Conclusions of population size measurement

The national population in Laos is about 6million; the employed population is about 3 million, of which, 80% of the employed population subjects to stable employment (including farmers, permanent staff of public employment and enterprises), about 20% is transfer employment (source: China ASEAN website). Based on this, the stable employment population in Laos occupies about 40% of the national population.

Therefore, nearly 40,000 employed people in the new town matches the planning 100,000 total people.

| Population density analogy method | | |
|-----------------------------------|--------------------|------|
| Proper population density | People/sq*km | 4500 |
| Proper population | 10 thousand people | 10 |

| Prediction of provisions of employment posts | | |
|--|--------------------|------|
| Employed population | 10 thousand people | 3.9 |
| Total population | 10 thousand people | 9.75 |
| Total planning population | 10 thousand people | 10 |

3.6 Overall road and traffic system planning

Traffic planning

Traffic structure of one-ring + radiation

Main content

The planed road of new town can perfect the structure of road network and achieve the complementary effect based on the old town. The total network structure is overviewed as one ring and road network structure around the core protection area of old town. The type of the total road is free along the maintain type and combined with the landscape and green to reflect the Southeast Asia style.

One ring

The road of landscape avenue is within 24m of the red line; it is roughly set around the contour line of maintain; it is ring; and core protection area of the old town and two main construction groups are contacted.

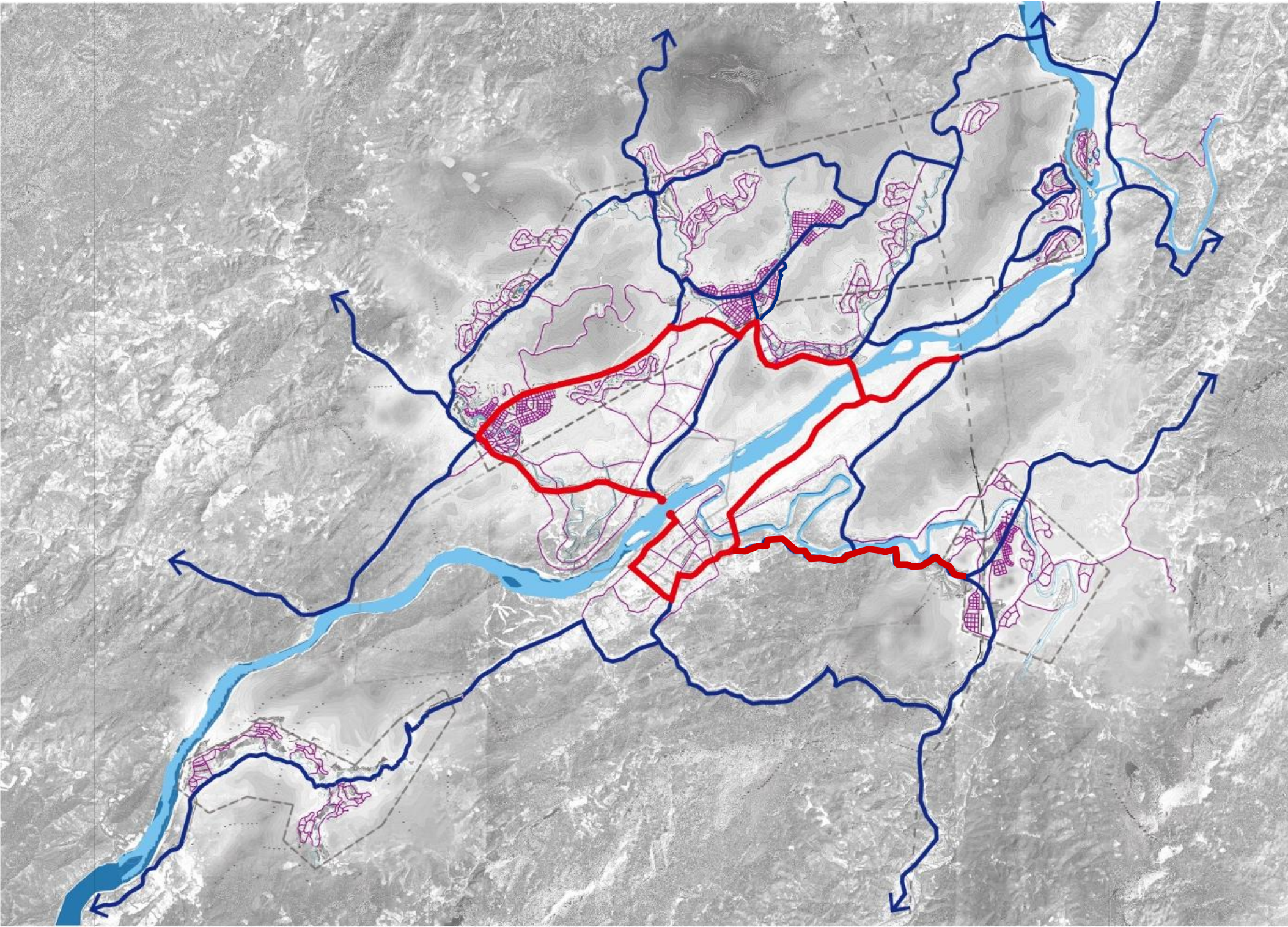
Traffic contact in city

Three plots of the new town are built on the main road to contact with the old town; and complete secondary road network is built in each new town to dredge the inner traffic.

Traffic contact of city

The planned road structure is contacted with the roads in north of China, Wanxiang in south and Sainyabuli in west so as to improve the road level; meanwhile, the influence of external traffic on the clam environment of old town can be reduced maximally.

| | Landscape avenue (km) | Main road (km) | Secondary road (km) |
|-------|-----------------------|--|---------------------|
| S1 | 18.24 (newly built) | 48.62 (newly built) | 92.02 (newly built) |
| S2 | 0 | 2.88 (widening based on the current condition) | 20.52 (newly built) |
| S3 | 0 | 9.18 (widening based on the current condition) | 10.96 (newly built) |
| Total | 18.24 | 60.68 | 123.5 |



3.6 Total road and traffic system planning

Water traffic planning

Convenient water traffic contact

Main contents

The abundant coastline and internal water area are in and around the base. The city traffic is perfected by the current water condition; the water traffic is developed by urban important group and around scenic spots; and integrated and effective water traffic line is formed.

1. Wharf

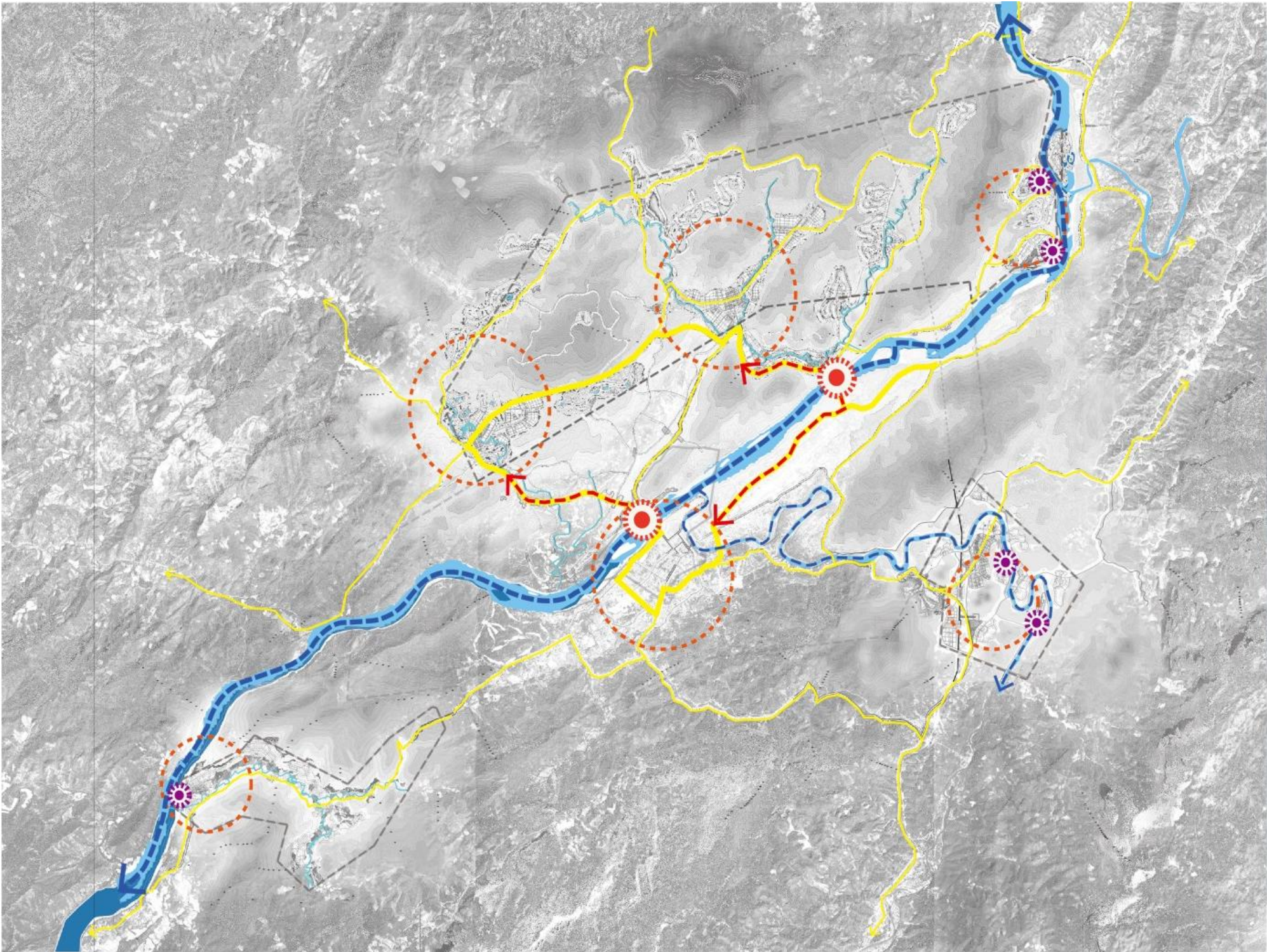
Based on setting wharfs in old town and scenic spots, the wharfs are set in three new towns closing to the water' edge; s1 is provided with wharfs in central town and sub-center town; it can cover the inside; the wharf is set around the recuperating and holiday group to convenient for the travelers. S2 is provided with wharfs in Daxiang village and shore position of commercial area to cover the scenic spots and railway station. S3 is provided with wharf around the water part to cover the commercial street.

2. Line

It must consider Mekong River and Nam Khan River. It must have better condition and beautiful scenery; the regular and reliable water air line service can increase tourist experience and reduce the flow of land traffic.

3. Connection with other traffic

The railway station, airport and coach station are connected by tour bus, so that the water traffic contacts with the external traffic.



3.7 System planning of public service facility

Public facilities

Electricity transformer substation

The negative electricity core is assessed; it must have fire water, convenient traffic and line.

Sewage treatment

It is manly set at the downstream of river in core residence area.

Garbage treatment

The daily garage in the treatment area must be in harmless, resource, reduction and social treatment.

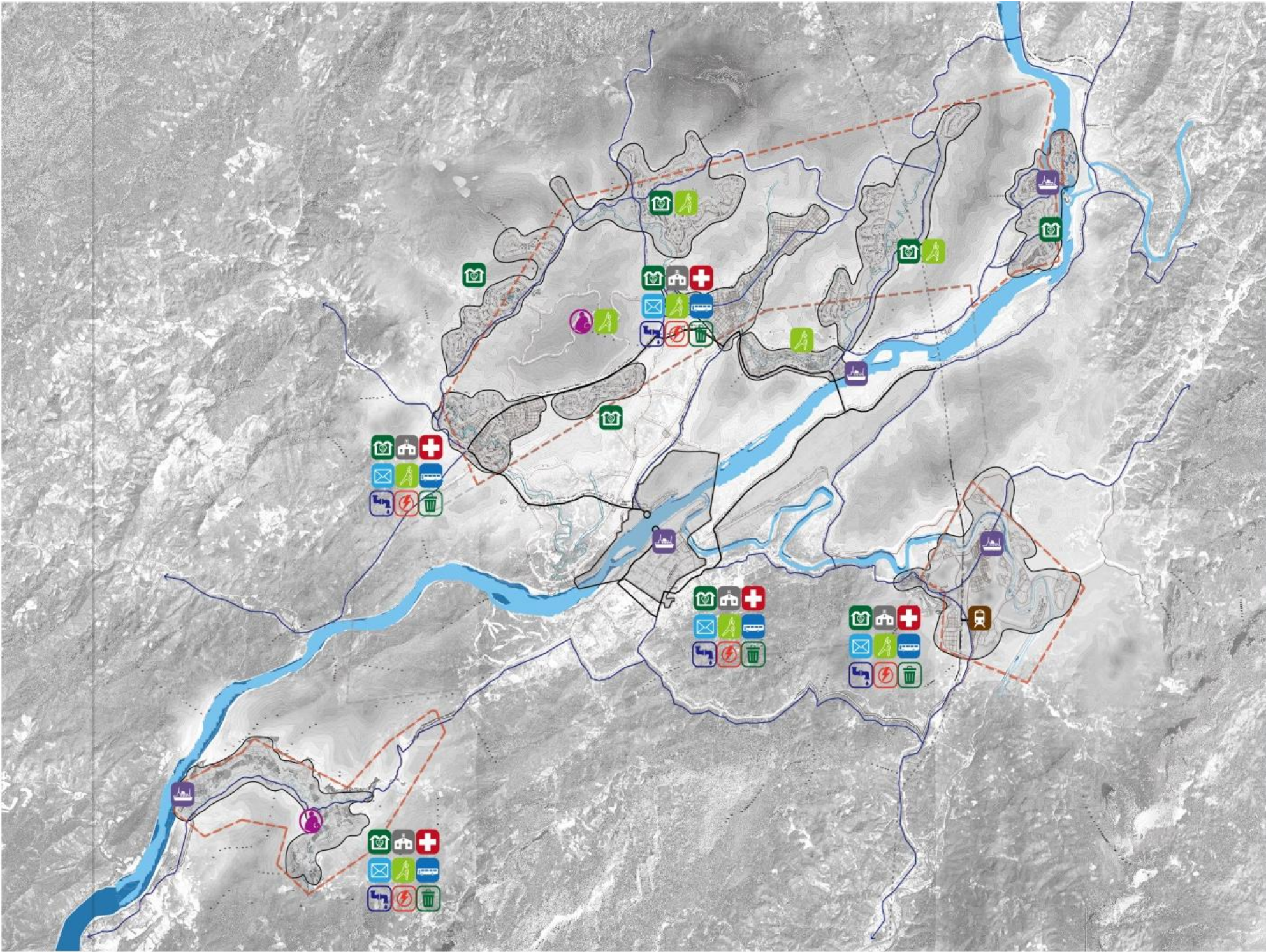
Public service facility system

Service facility in community

The service facilities, such as movement spot, medical station and the like area arranged in main nodes and population density place.

Transportation facility

The traffic facilities are set in main plot node and around the main road to improve the traffic convenience and efficiency.



| Traffic facility | Public facilities | Service facility in community |
|------------------|------------------------------|-------------------------------|
| Airport | Sewage treatment | Service station in community |
| Wharf | Power distribution treatment | Post office |
| Railway station | Garbage treatment | School |
| | | Sport field |
| | | Medical center |
| | | Bus terminal |

3.8 Landscape and greening system planning

Natural infiltrating landscape structure

Main content

In view of the feature of natural environment of the whole city, the natural maintain is infiltrated to the group; the high mountain or valley land scope corridor system are used; and main landscape of Mekong Rivers is serially connected with the landscapes of three new town plots.

Landscape belt of Mekong River

In view of maintaining the natural environment around the Mekong River, the city development strength is reduced maximally.

S1:

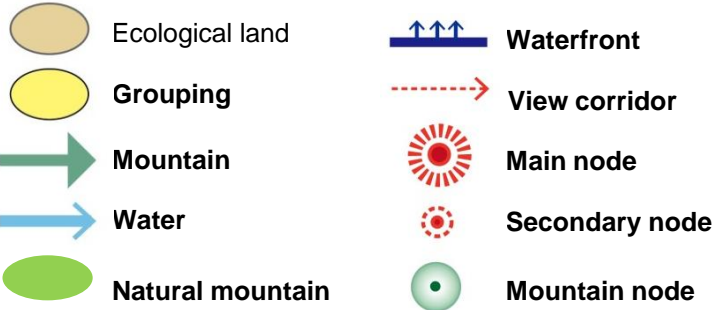
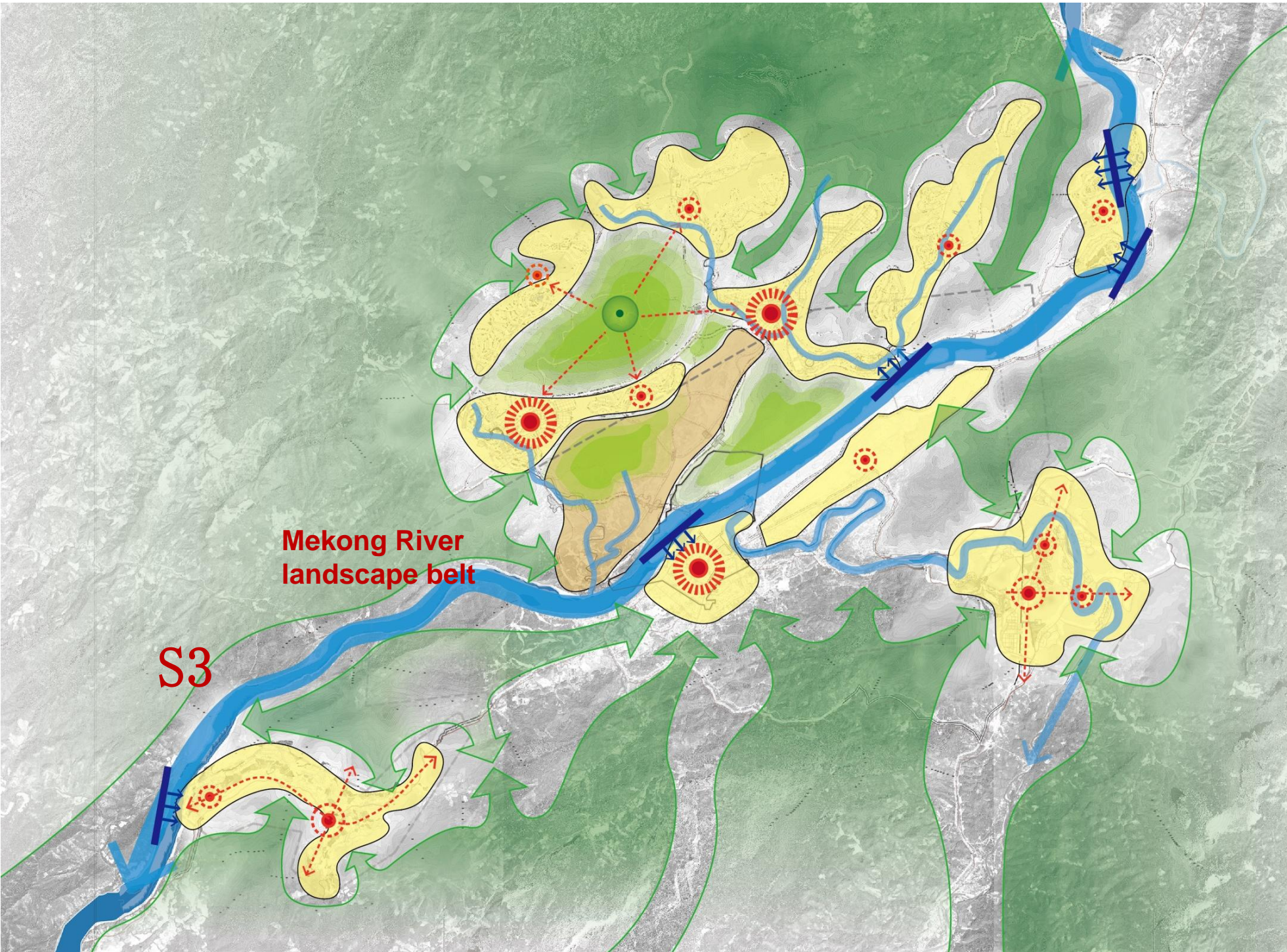
Usually, the maintain is infiltrated in the group; multiple landscape corridors are built around the central eco-park and pagoda; and level-I sight gallery is formed by the maintain and water in the valley.

S2:

The railway station is the visual landscape center; in the direction of the old town, multiple landscape galleries are set in the direction of natural water. In view of the around natural maintain, the landscape system interacting and permeating with the maintain is built.

S3:

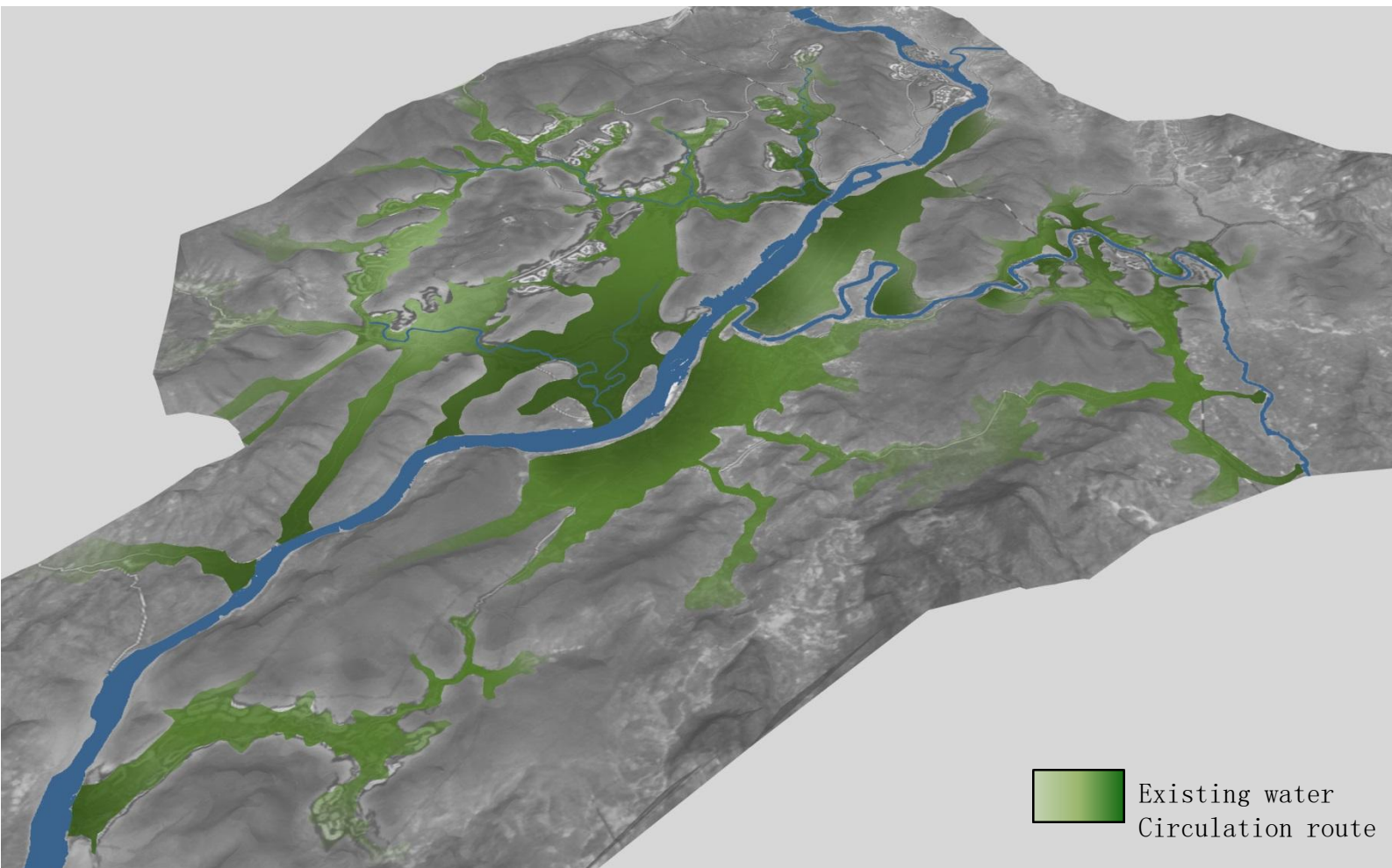
Depending on the external traffic axis of Mekong river and old town, the main visual landscape is built; the around farmland, forest are built; the natural permeating and contact of maintain at the two sides of the gallery are ensured to form the system, network and belt green landscape system.



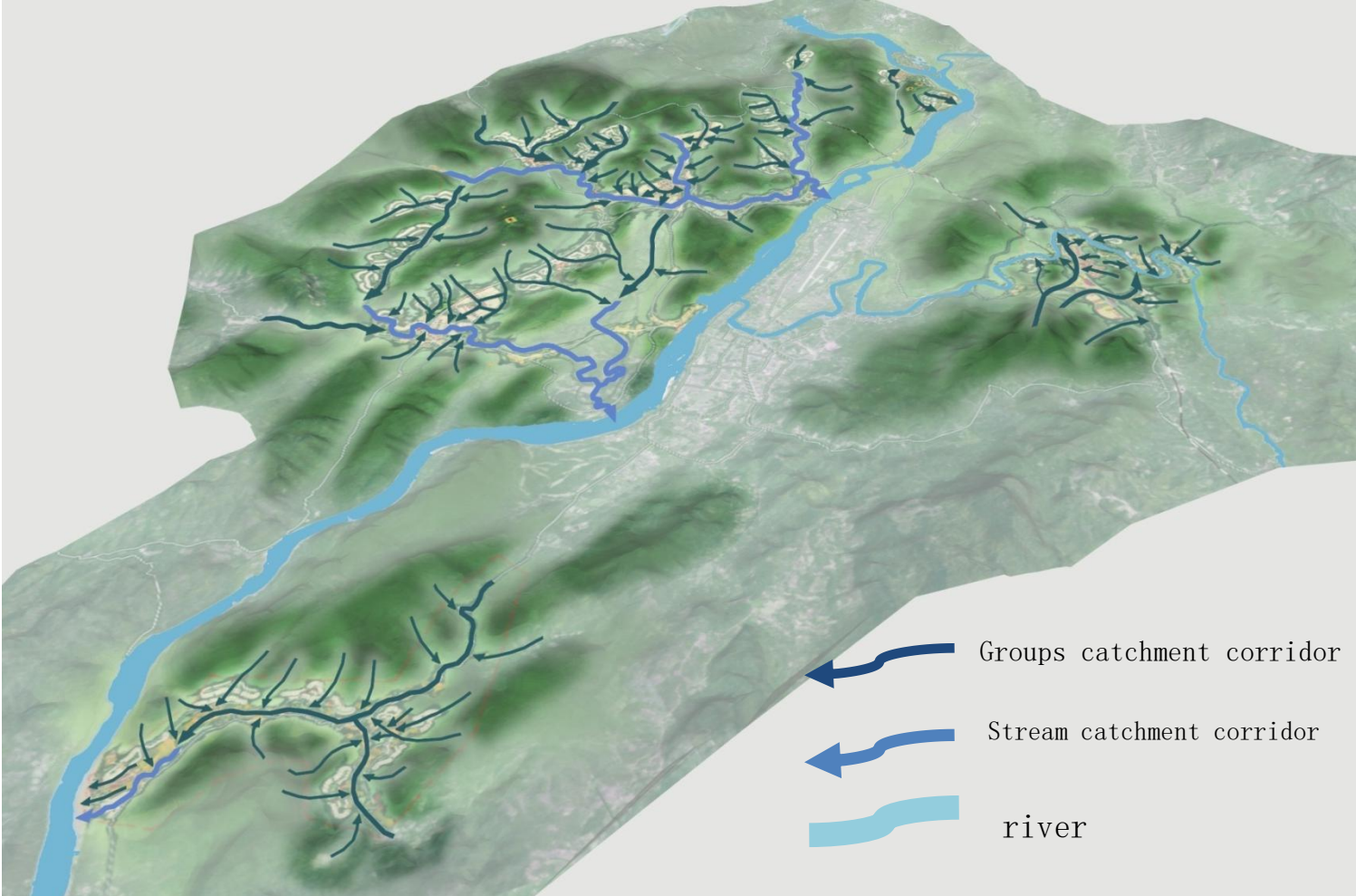
3.9 Ecological system planning

Natural permeability, naturally purified sponge city theory

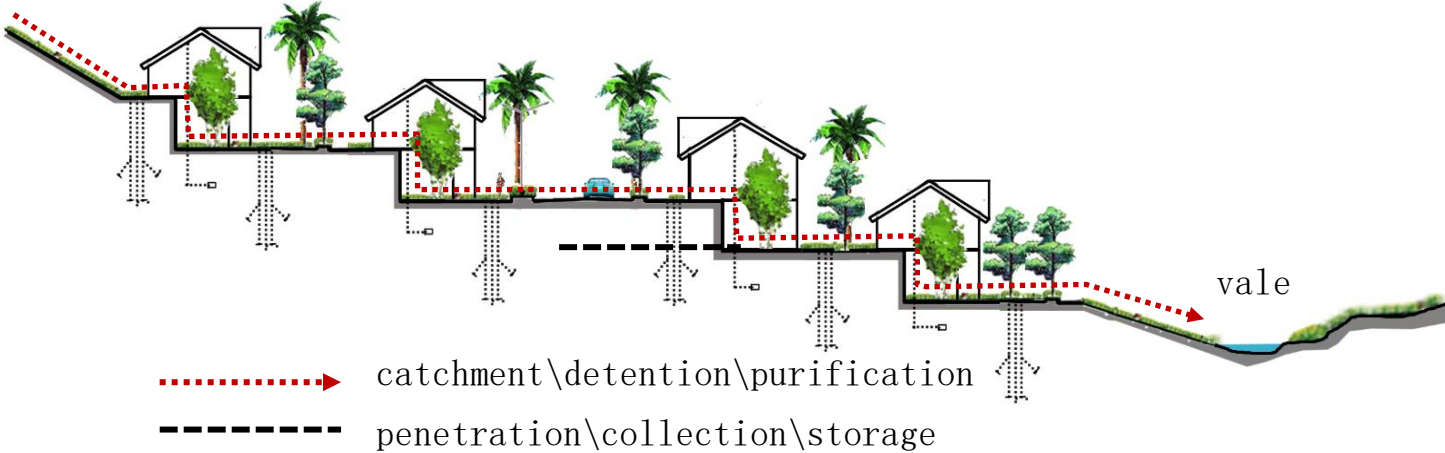
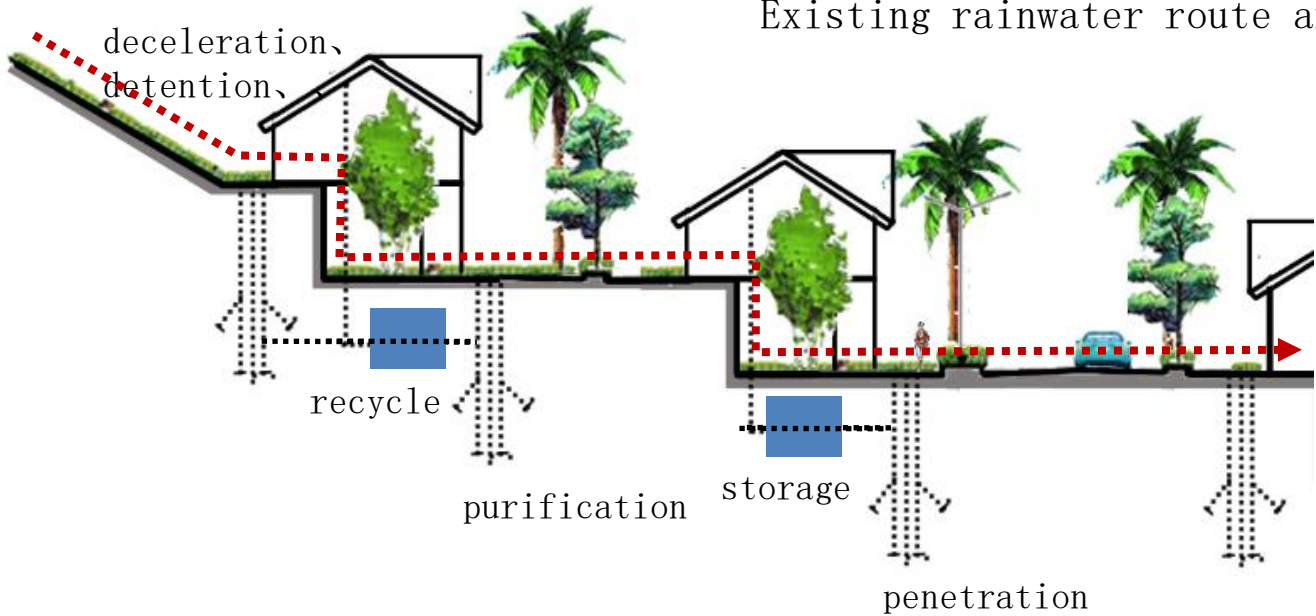
Abide by the design principle of better zoology, the natural path is combined with the human measure; the rain is purified maximally in the town to promote the water resource using and ecological environment protection; the current Mekong river, pond and creek and the like are used; the city matching facilities, such as greening, garden, permeability pavement and the like are used. The rain is infiltrated, kept, purified and recycled to reduce the waste of natural water source and stress of urban inland inundation.



Existing rainwater route analysis



Planning mountain area rainwater catchments analysis



Orientation of mountain area rainwater utilization

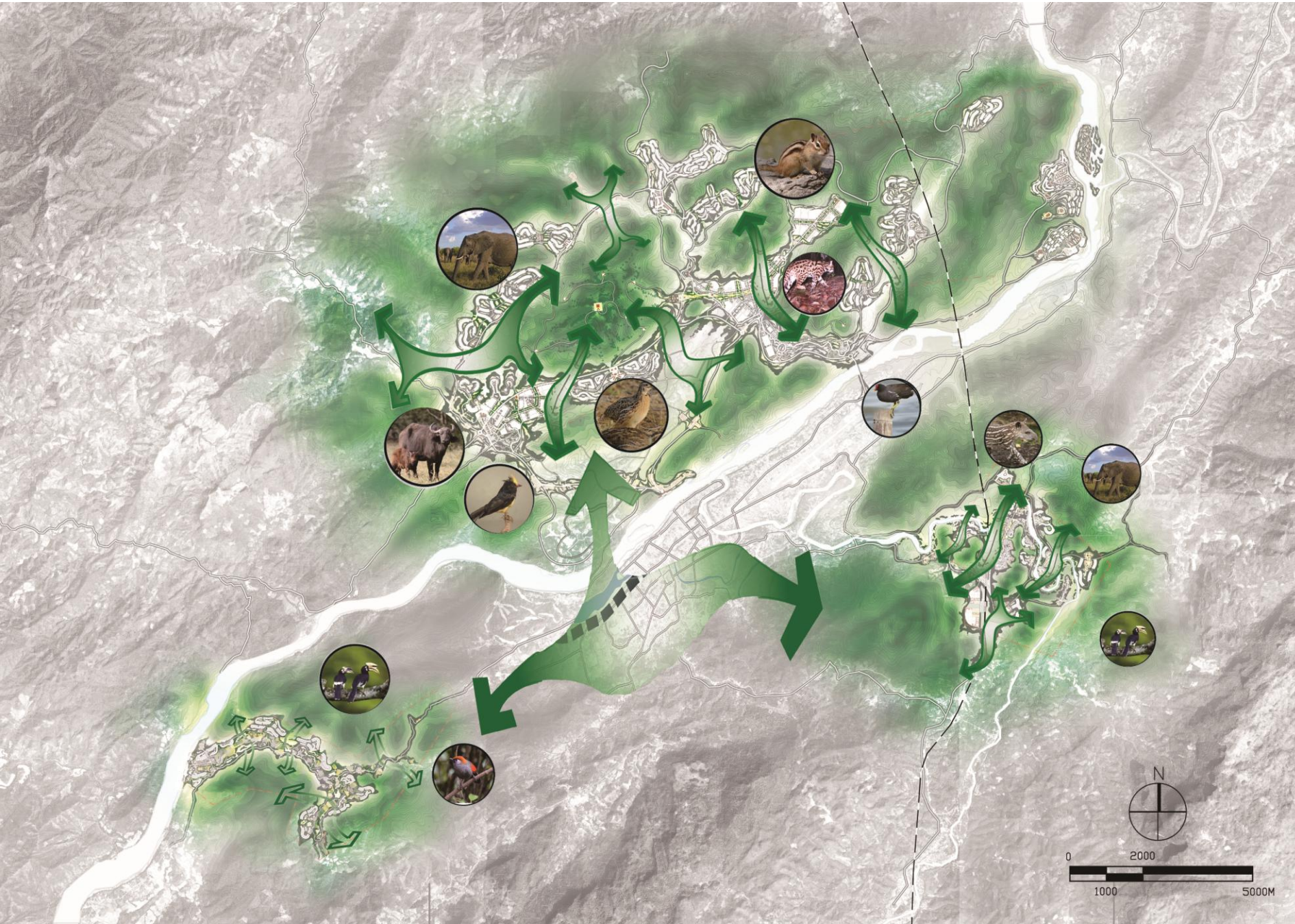
3.9 Ecological system planning

Protection and continue of biology

The town of luang prabang has abundant forest landscape and natural landscape as well as various animal and plants; the whole design adheres to ecological and sustainable idea; it is combined with the terrain to be in grouping development; the biology migrate corridor is kept maximally; the low-impact development strategy is insisted; the ecological environment and resource are kept maximally; and organic growth development policy lives in harmony with the people and animal and plant.



Ecological migrating corridor of wildlife



City

Reserved forest

Eco wetland

Wide meadow

Shrub forest

Section structure figure of wildlife plant ecological corridor

04

Plot design

4.1 S1 plot design

4.1.1 General layout



4.1 S1 plot design

4.1.2 Planning structure

The total planning structure adopts the structure of one-ring, two-center and six-group;

Elastic finger permeating structure majoring in Mekong River and maintain, etc;

One-ring

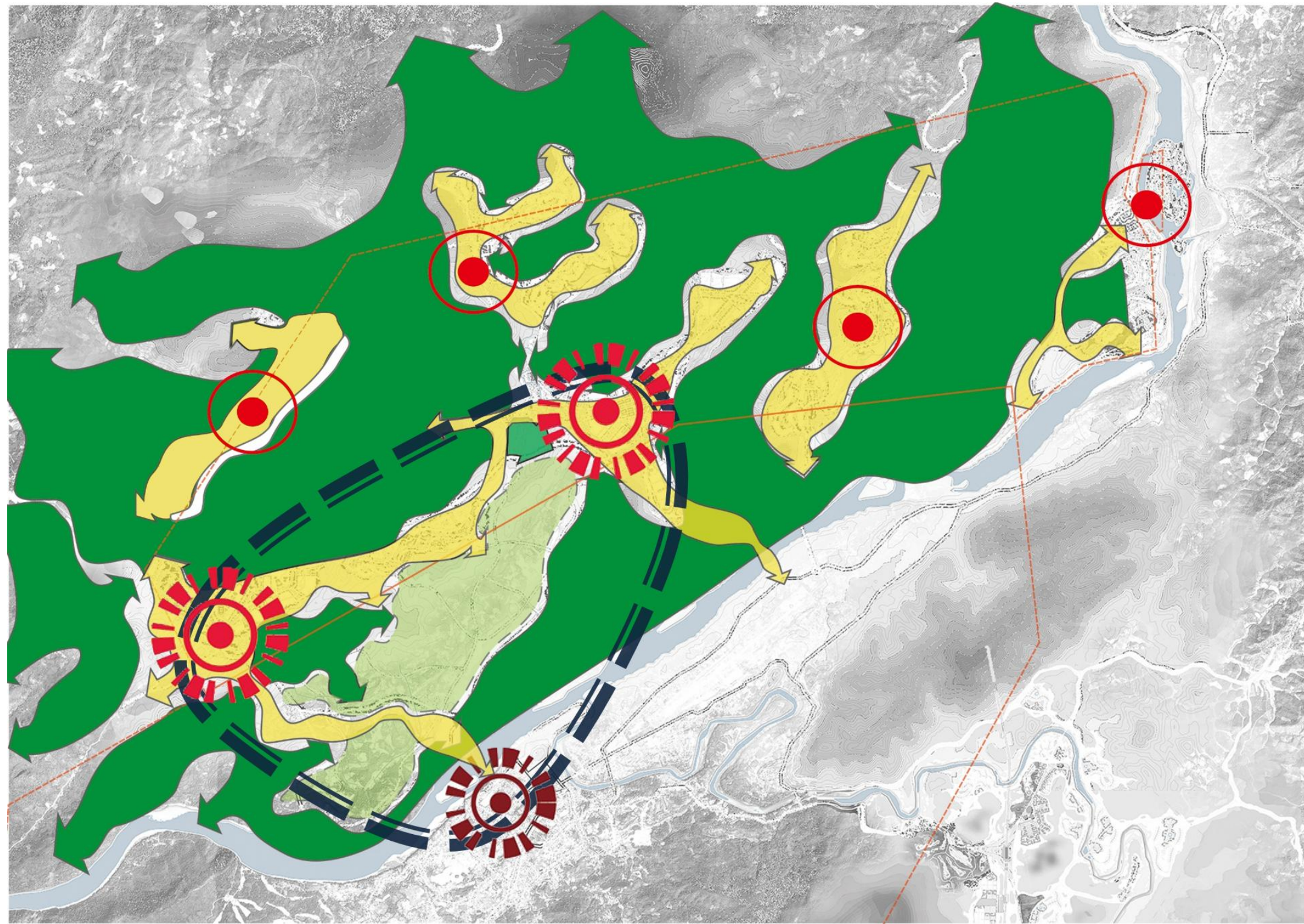
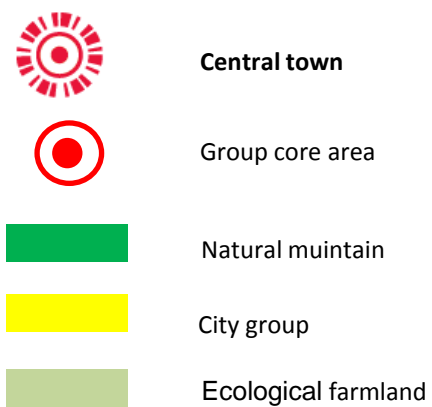
The old town and main town are in ring by landscape road; the ferry and planning bridge are connected with the new and old town.

Two centers

Main center town, and sub center town;

Six groups

Main center town, sub center town, health resort and three resident areas



4.1 S1 plot design

4.1.3 Function layout

Overall functional orientation

The central natural maintain is landscape core; and the main road is framework s1 plot city function. It majors in developing public service functions, such as administration, education, commercial service and the like to support the resident group and travel group. The comprehensive new town integrated with life, entertainment, work and travel is formed.

Administrative commercial town

As the main city comprehensive function group, the public service function integrated with administration, commercial service, culture facility and the like is formed to maintain the around group.

Education and travel service town

Based on the education facility and travel service, the s1 plot sub center area new town is built.

Polo field group: based on the foundation construction, the polo holiday area is arranged; and better farmland low-density new town image is formed.

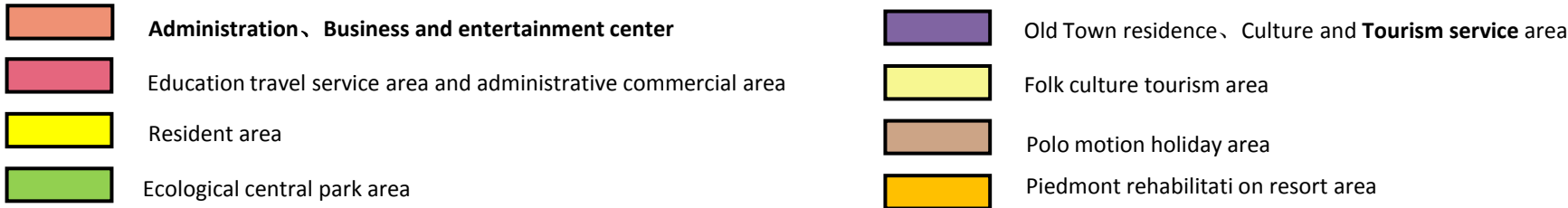
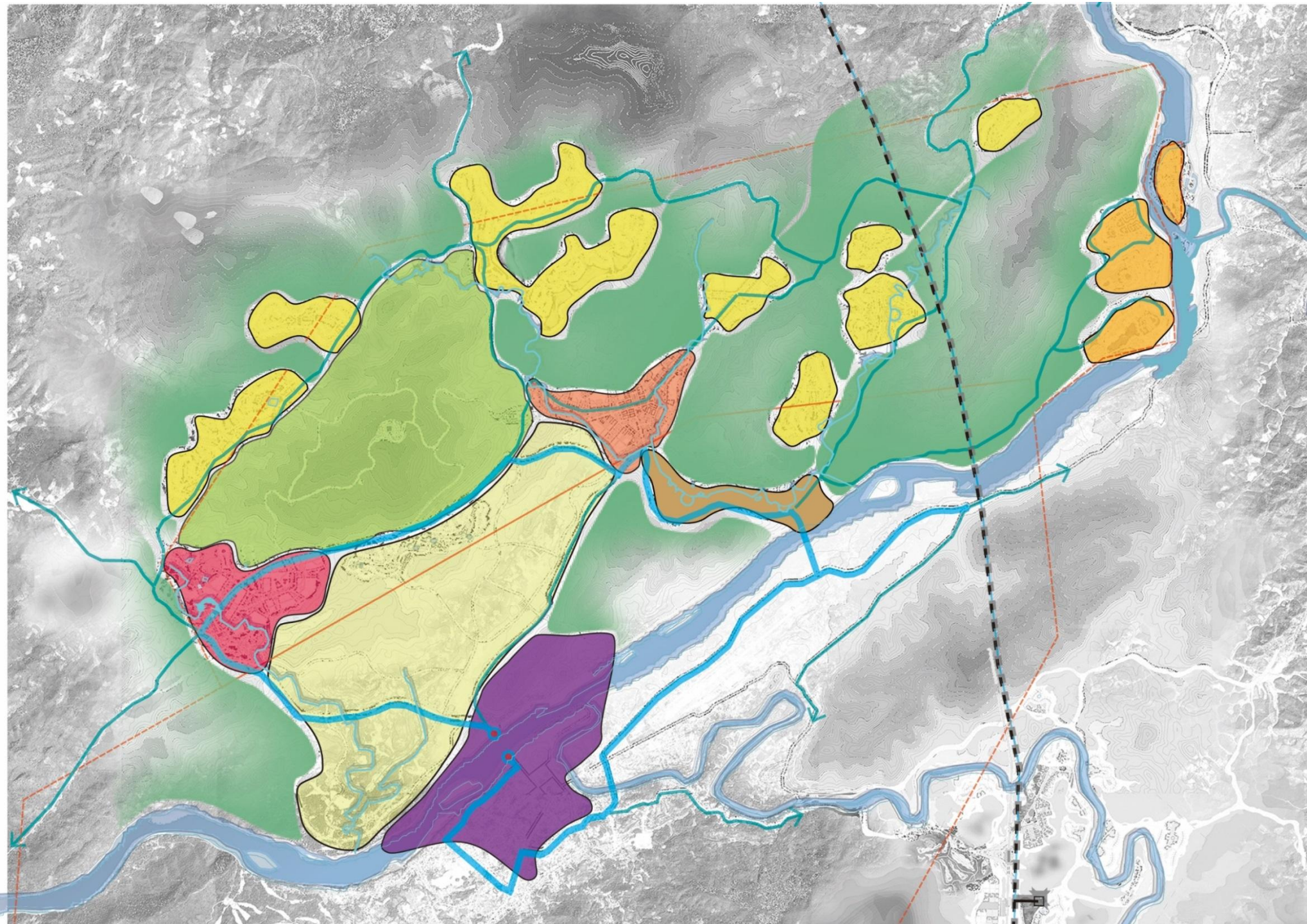
Holiday and recuperating group

It is arranged at the remote position on the Mekong River to reduce the influence on the external environment maximally; and the better natural environment is used.

Agricultural sightseeing resident group

It is arranged along the main landscape road; the traffic resource and the ecological natural environment are used; and it is used as the theme of the resident group.

Multiple resident groups are arranged in beautiful areas along the main road; and meanwhile, the public service facility is configured.



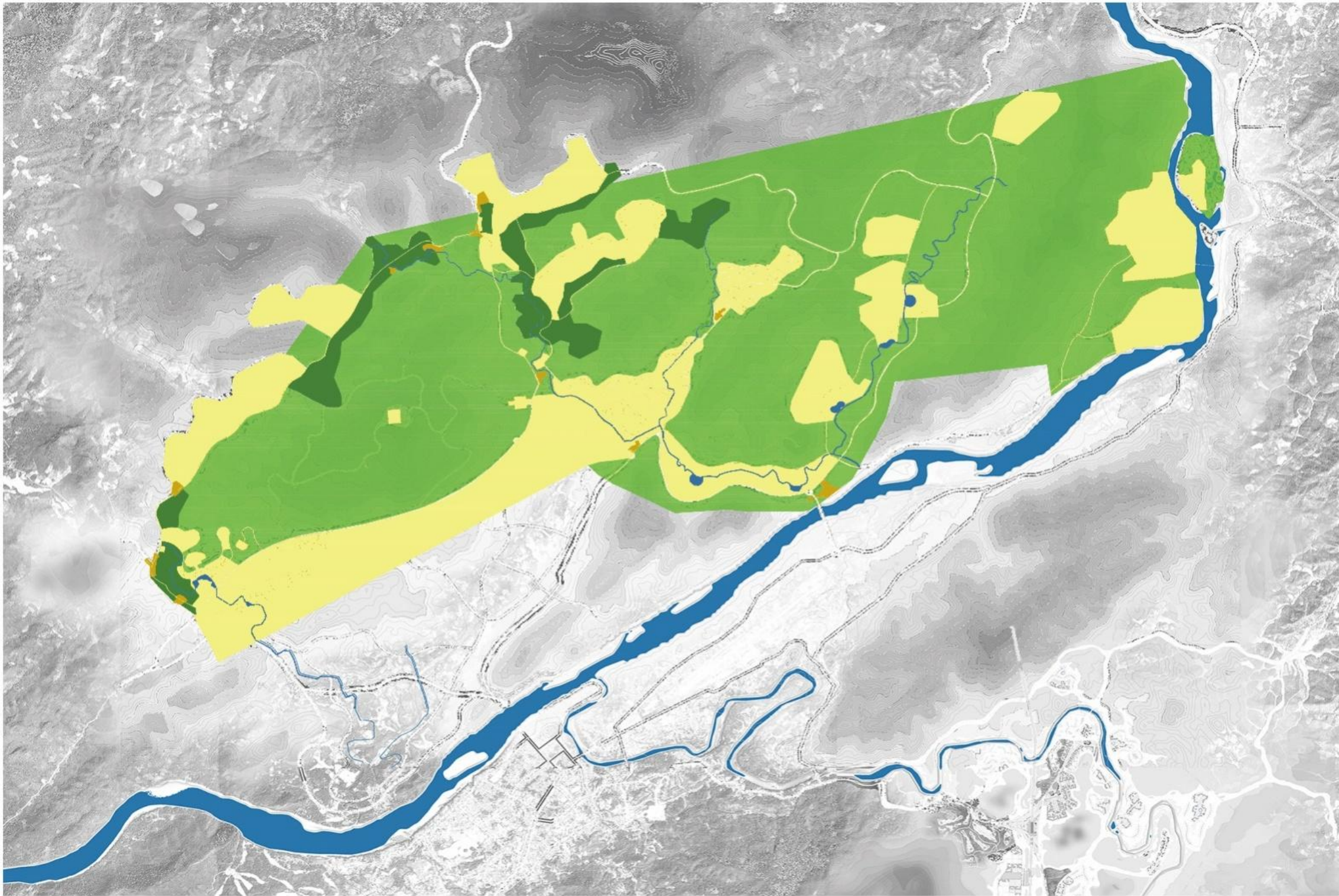
4.1 S1 plot design

4.1.4 Land using plan

S1 plot land using analysis

The planning integrates the land suitable for construction in the program for overall consideration on the basis of red line domain, in order to ensure the integrity of the development region. S1total land area is **9403.68ha**, of which **29.3%** is urban construction land, with total area **2753.83ha**.

Urban construction land includes existing construction land, valley of more gentle slope, gentle hills and some farmland; Non-urban construction land is mainly mountainous, forest, water, protected farmland.

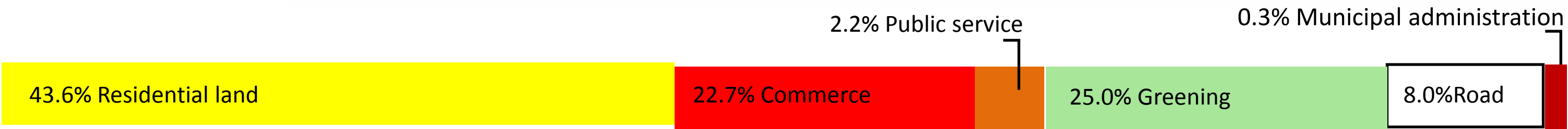
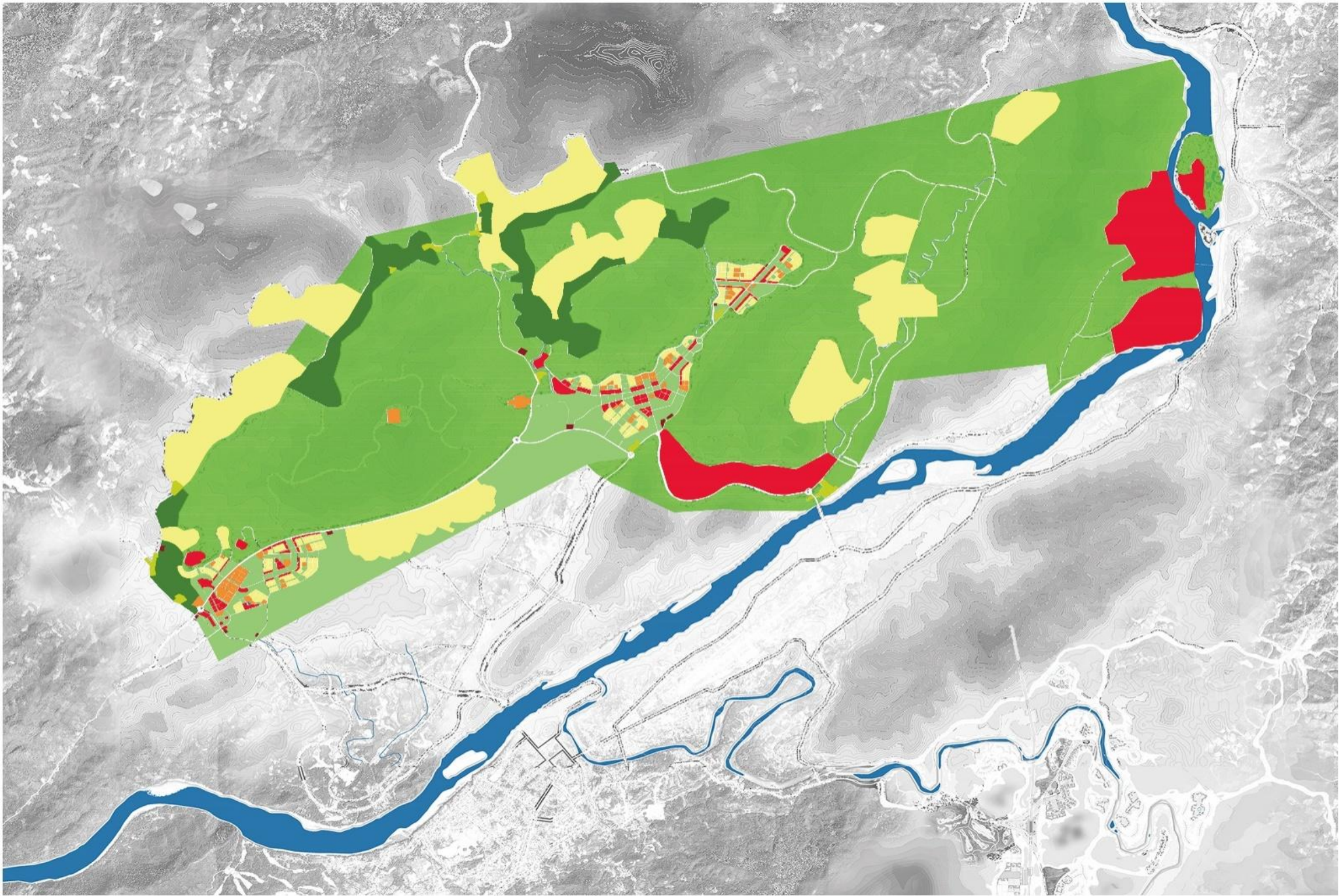


4.1 S1 plot design

4.1.4 Land using plan

land using analysis of S1 plot
city construction

residential land takes 43.6% of the urban construction land while green land takes 25%, which reserves the beautiful landscape environment at the maximum extent, creates idyllic residential new town.



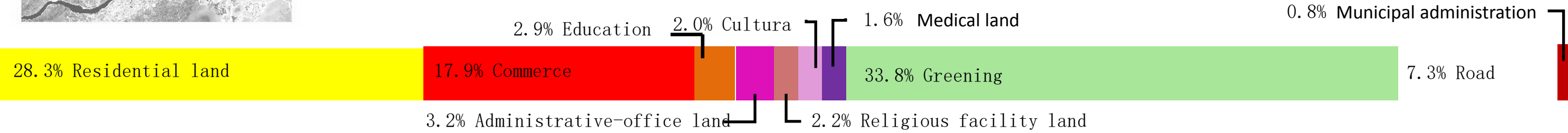
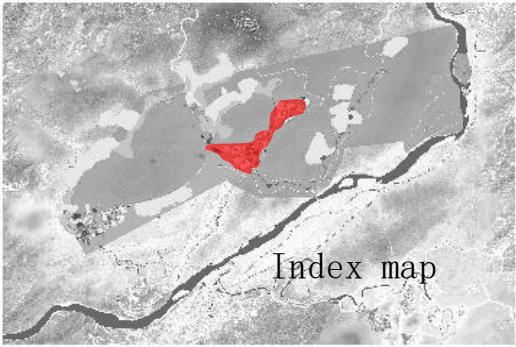
4.1 S1 plot design

4.1.4 Land using plan

S1 plot, partitioned index for land using analysis of city land construction– main town group

Apart from the residential land and public service land of religion and medical, Commerce & entertainment land take 17.9% of the urban construction land while administration land takes 3.2%, demonstrating the orientation of S1 main town center as administration and commerce & entertainment.

--- Town analytical range

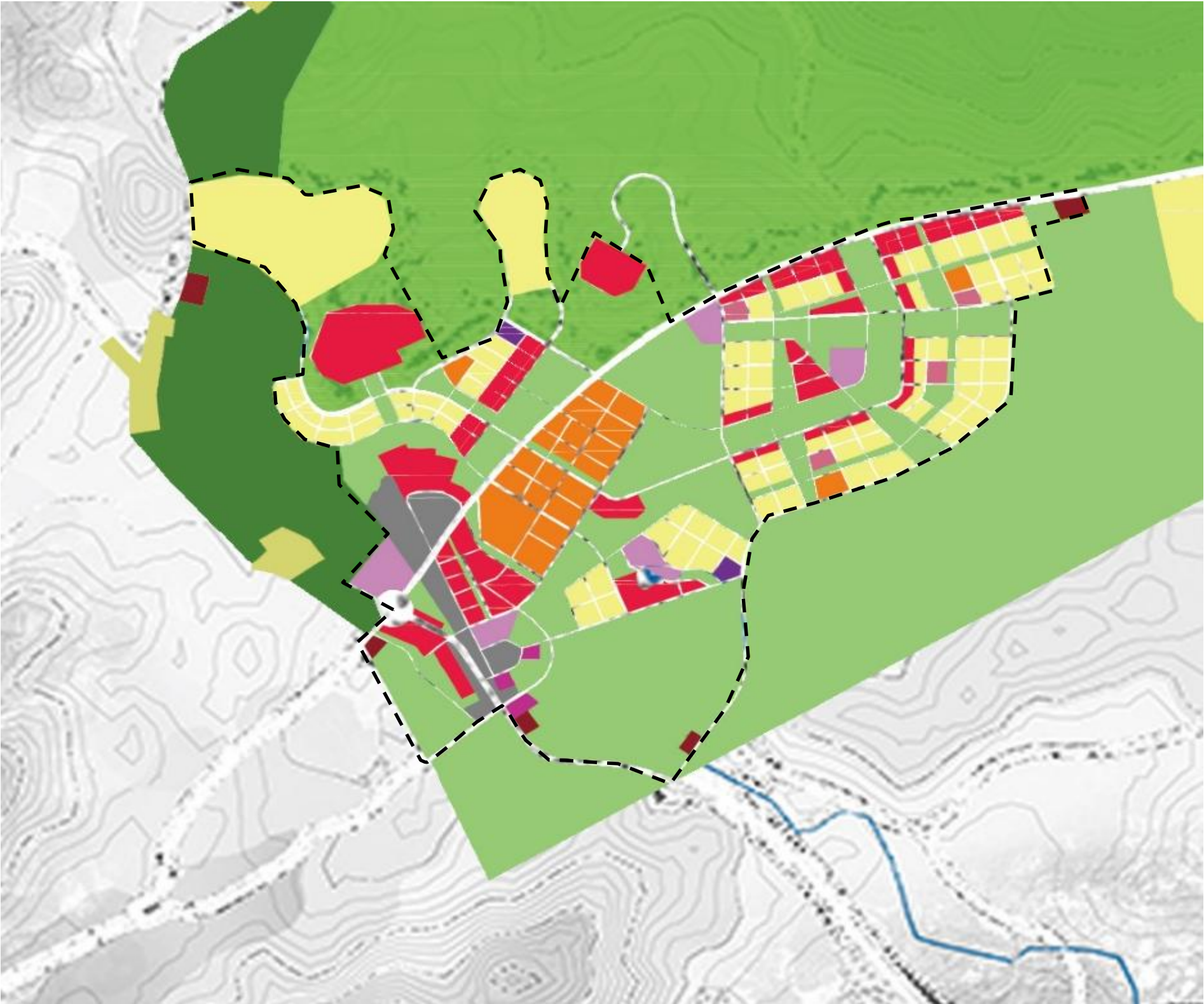


4.1 S1 plot design

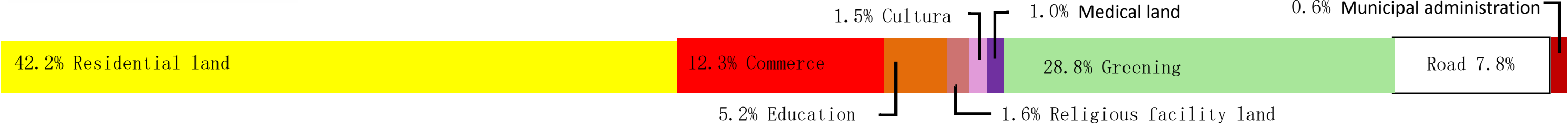
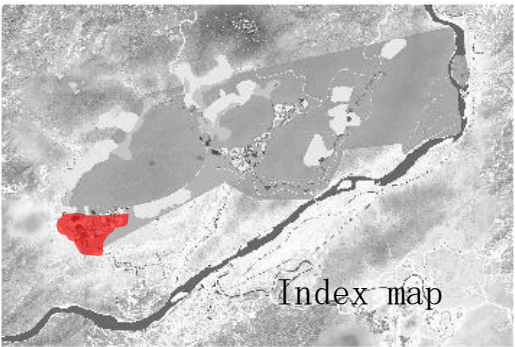
4.1.4 Land using plan

S1 plot, partitioned index for land using analysis of city land construction– sub town group

Apart from the large part of residential land and green land, Commerce & entertainment land take 13.0% of the urban construction land while education facility land takes 7.1%, demonstrating the orientation of S2 secondary town center as education and tourist service center.



--- Town analytical range



4.1 S1 plot design

4.1.4 Land using plan

Balance sheet of S1 plot land

| Land property | Land area (ha) | Land area (mu) | Land ratio |
|---------------------------|----------------|----------------|------------|
| Urban construction land | 2753.83 | 27538300 | 29.28% |
| Village construction land | 35.55 | 355500 | 0.38% |
| Water town | 48.66 | 486600 | 0.52% |
| Farm land | 452.91 | 4529100 | 4.82% |
| Forest land | 6112.75 | 61127500 | 65.00% |
| Total | 9403.68 | 94036800 | 100.00% |

Balance sheet of S1 plot urban construction land

| Land property | Land area (ha) | Land area (mu) | Land ratio |
|--|----------------|----------------|------------|
| Resident land | 1199.19 | 17987.85 | 43.55% |
| Administrative-office land | 5.57 | 83.55 | 0.20% |
| Cultural facilities land | 11.36 | 170.4 | 0.41% |
| Education research land | 21.72 | 325.8 | 0.79% |
| Medical land | 3.03 | 45.45 | 0.11% |
| Religious facility land | 17.78 | 266.7 | 0.65% |
| Urban commercial service facility land | 127.83 | 1917.45 | 4.64% |
| Commercial office land | 3.74 | 56.1 | 0.14% |
| Holiday hotel land | 341.97 | 5129.55 | 12.42% |
| POLO CLUB land | 152.49 | 2287.35 | 5.54% |
| Public facilities land | 7.06 | 105.9 | 0.26% |
| Square land | 11.76 | 176.4 | 0.43% |
| Road land | 220.1247 | 3301.871 | 7.99% |
| Green | 630.21 | 9453.15 | 22.88% |
| Total | 2753.8347 | 41307.52 | 100.00% |

4.1 S1 plot design

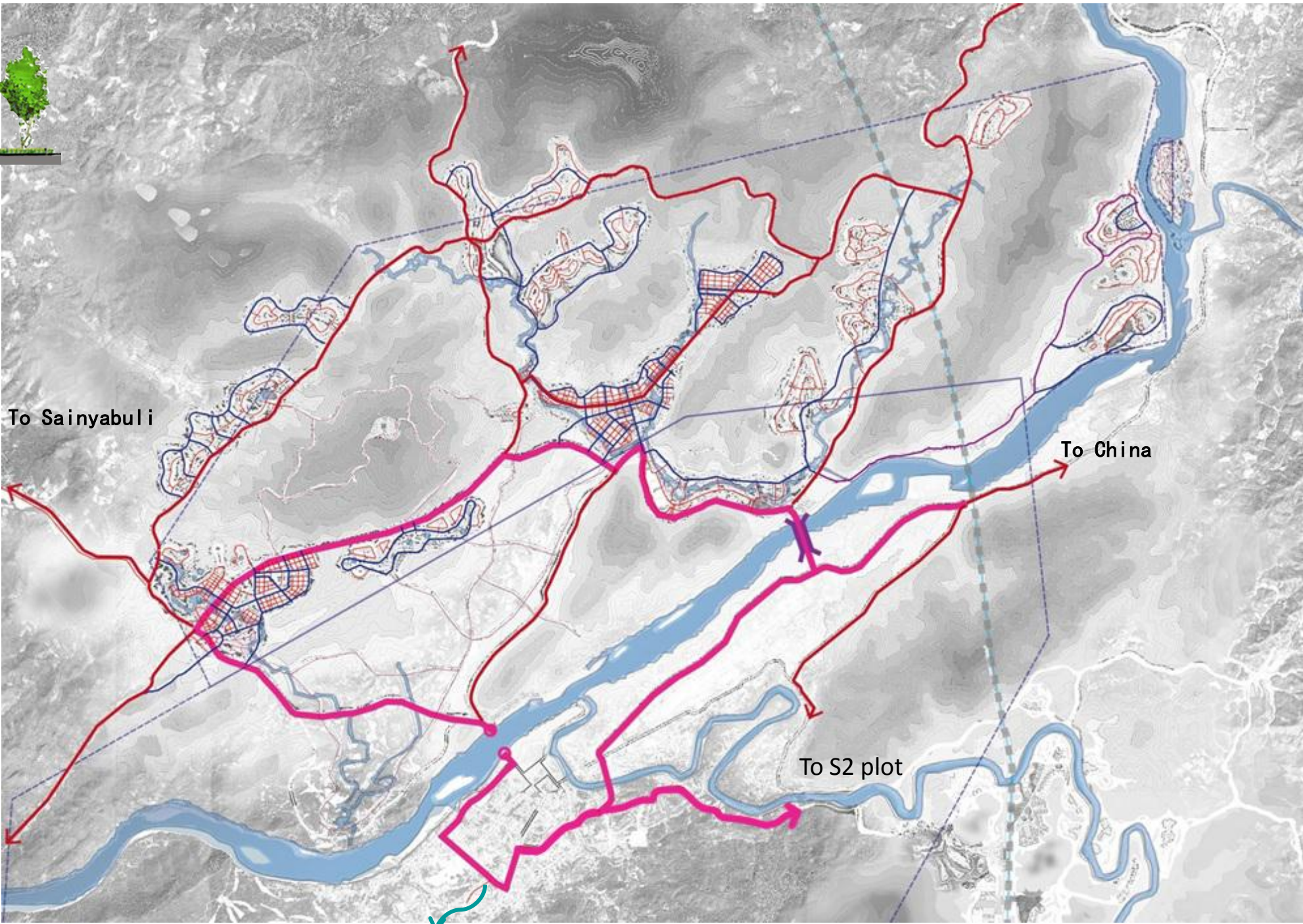
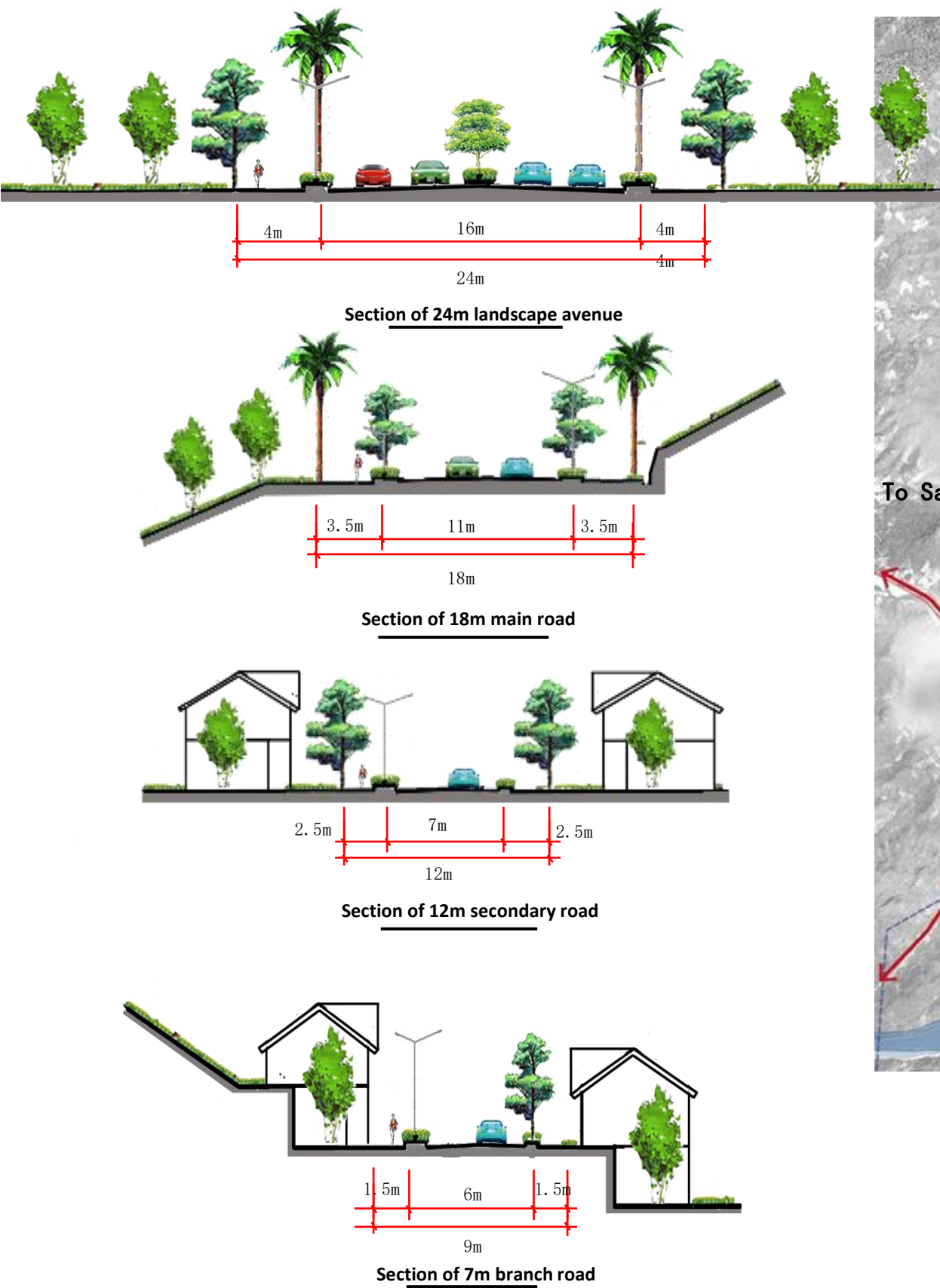
4.1.4 Land using plan

the Development capacity statistics of S1plot each group

| Site | Num ber | Name of 10 groups | Index map | Public (3-5c) | Commer cial (2- 3c) | Residen tial (2c) | Resort (2c) | School (2-3c) | Office (2-3c) | Railway station | Logis tics | R&D | Polo | ... | Total floor area (m2) | Site area of group (m2) | Plot ratio |
|------|------------|--|---|------------------|---------------------------|----------------------|----------------|------------------|------------------|--------------------|---------------|-----|--------|-----|--------------------------------|----------------------------------|---------------|
| S1 | 1 | Farmland-type idyllic resort area |  | 9000 | 20500 | 195600 | 81250 | 6000 | 0 | | | | | | 312350 | 1210000 | 0.25814 |
| | 2 | Administrative and commercial service area |  | 359800 | 756000 | 1175000 | 88000 | 85800 | 102000 | | | | 136010 | | 2702610 | 3318246 | 0.81447 |
| | 3 | Education tourism service area |  | 150000 | 592000 | 1132400 | 226000 | 151350 | 52000 | | | | | | 2303750 | 2853000 | 0.80748 |
| | 4 | Eco-park central area |  | 6000 | 0 | 0 | 0 | 0 | 0 | | | | | | 6000 | 16500000 | 0.00036 |
| | 5 | Rehabilitation and vacation area |  | 5000 | 61600 | 15000 | 165000 | 3000 | 0 | | | | | | 249600 | 1230000 | 0.20293 |
| | 6 | Mountain & farmland-type idyllic residential area |  | 9800 | 35000 | 622400 | 0 | 12000 | 0 | | | | | | 679200 | 2140000 | 0.31738 |
| | 7 | Mountain-type idyllic residential area |  | 5000 | 50000 | 822500 | 3000 | 15000 | | | | | | | 895500 | 3050000 | 0.29361 |
| | 8 | Vale-type idyllic residential area |  | 43084 | 44466 | 475070 | | 6000 | | | | | | | 568620 | 1755300 | 0.32394 |

4.1 S1 plot design

4.1.5 Road traffic planning











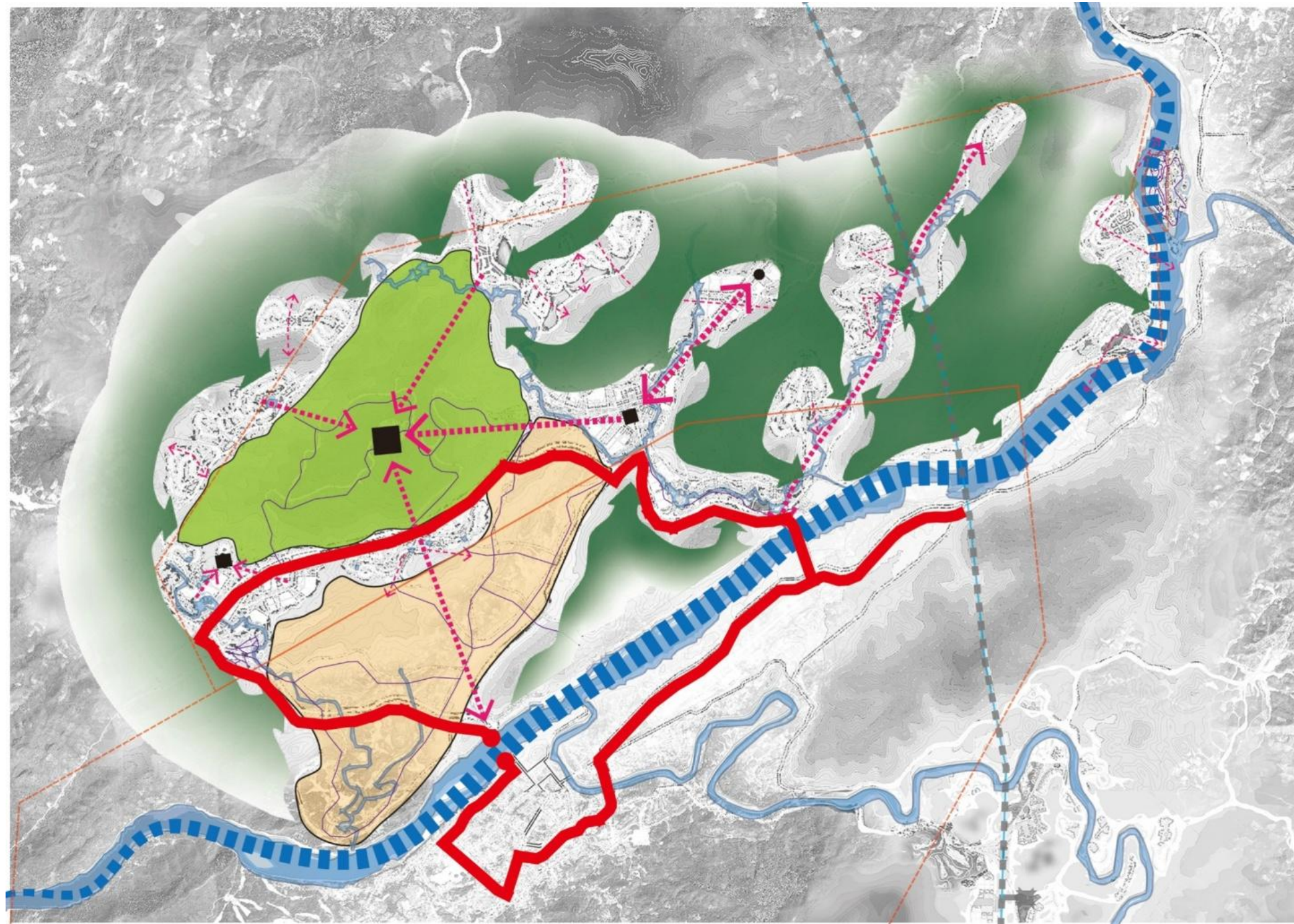
| | Landscape avenue (km) | Main road (km) | Secondary road (km) | |
|----|-----------------------|---------------------|---------------------|------------------------------|
| S1 | 18.24 (newly built) | 48.62 (newly built) | 92.02 (newly built) | <div></div> Landscape avenue |
| | | | | <div></div> Main road |
| | | | | <div></div> Second road |
| | | | | <div></div> Branch |
| | | | | <div></div> Bridge |

4.1 S1 plot design

4.1.6 Open space and greening landscape plan

The maintain is permeated to the group; the visual center and step system is formed by center ecological park; and system green landscape is formed by the kept ecological farmland and new ecological road; and the groups are communicated by water.






-  Landscape node
-  Landscape avenue
-  Central ecological park
-  Ecological farmland
-  Water system
-  Viiew corridor
-  Mountain
-  Group

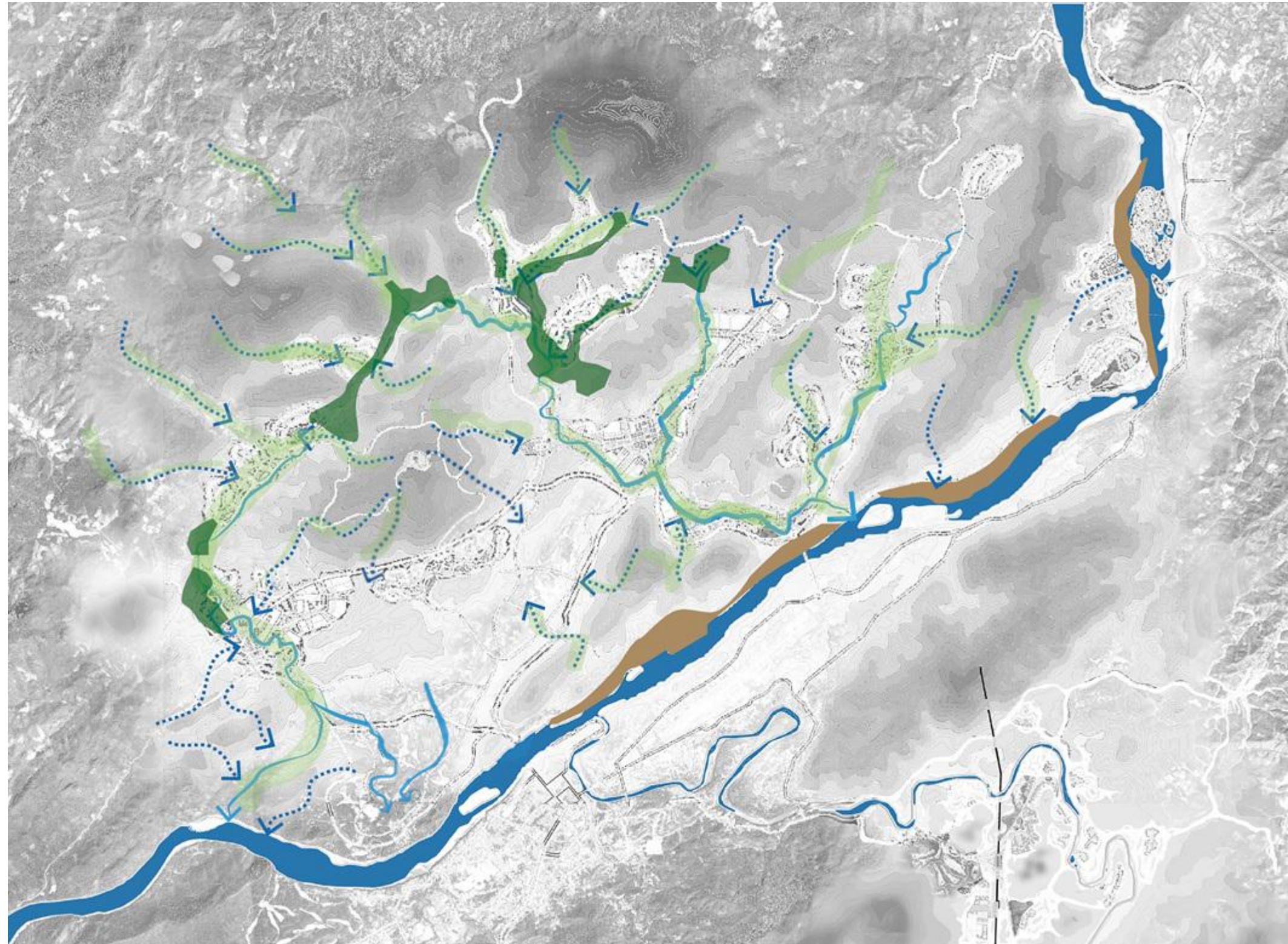


4.1 S1 plot design

4.1.7 Drainage organization intention

The organized drainage system is formed by the Mekong River and the current water and natural terrain. The water has increased runoff in the urban construction to process and landscape and form water network. Mekong River becomes the final water collection; and before entering the Mekong River, the urban rain sewage is treated.

-  River
-  Farmland
-  Water greening
-  Water collection area of valley
-  Water flow direction



4.1 S1 plot design

4.1.8 Municipal administration and public service facility planning

Municipal administration and sewage treatment

Electricity transformer substation

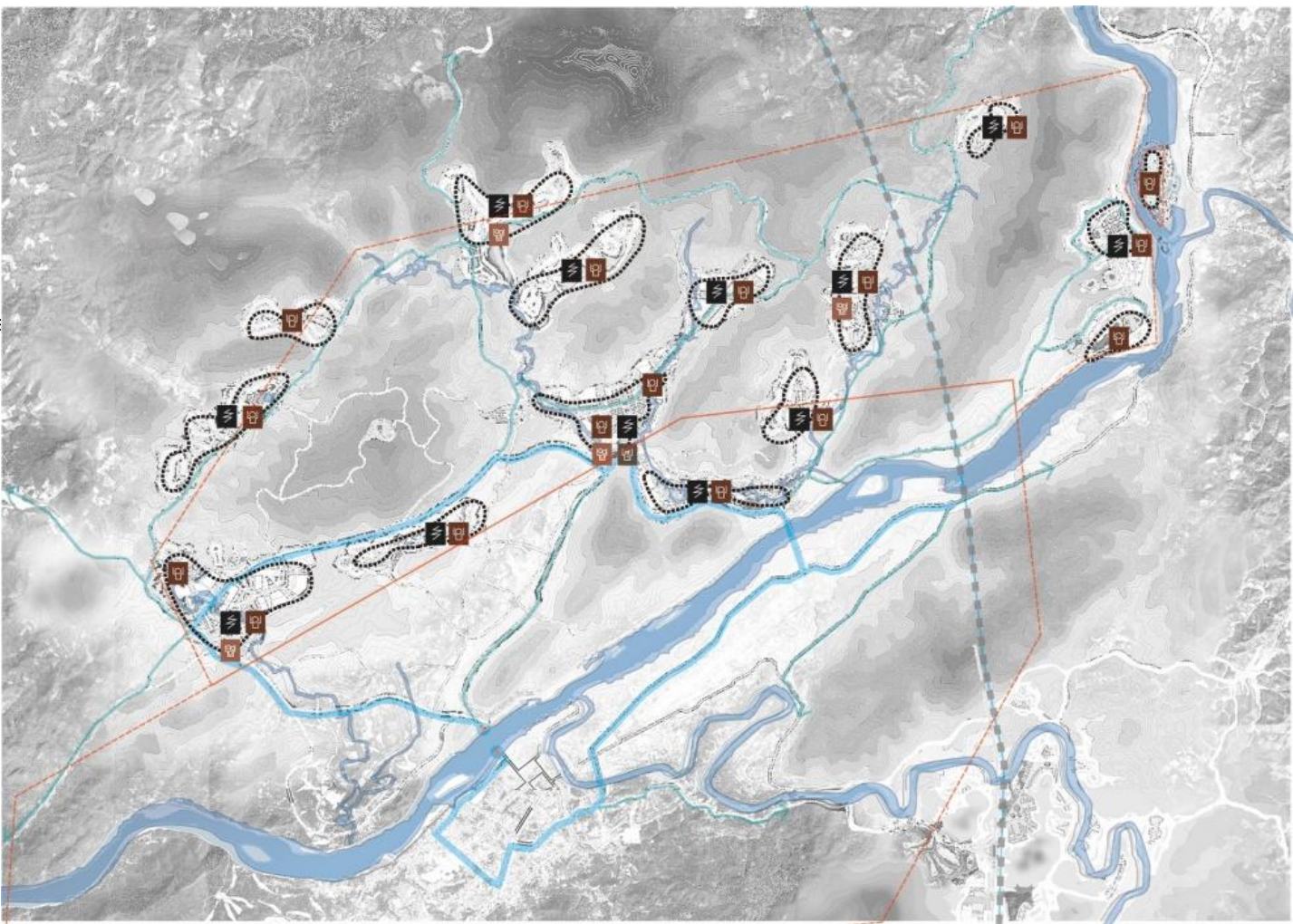
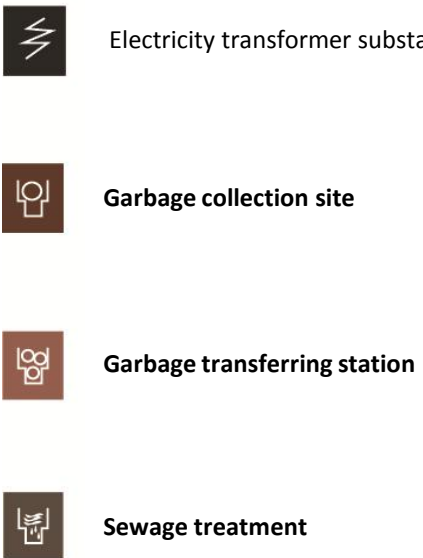
The negative electricity core is assessed; and it has fire water, convenient traffic and line.

Garbage collection point

It is mainly set at the main travel point, commercial collection area and traffic convenient part.

Garbage transferring station

It is set at the main road away from the public service area.



Public service facility system

Community service facility

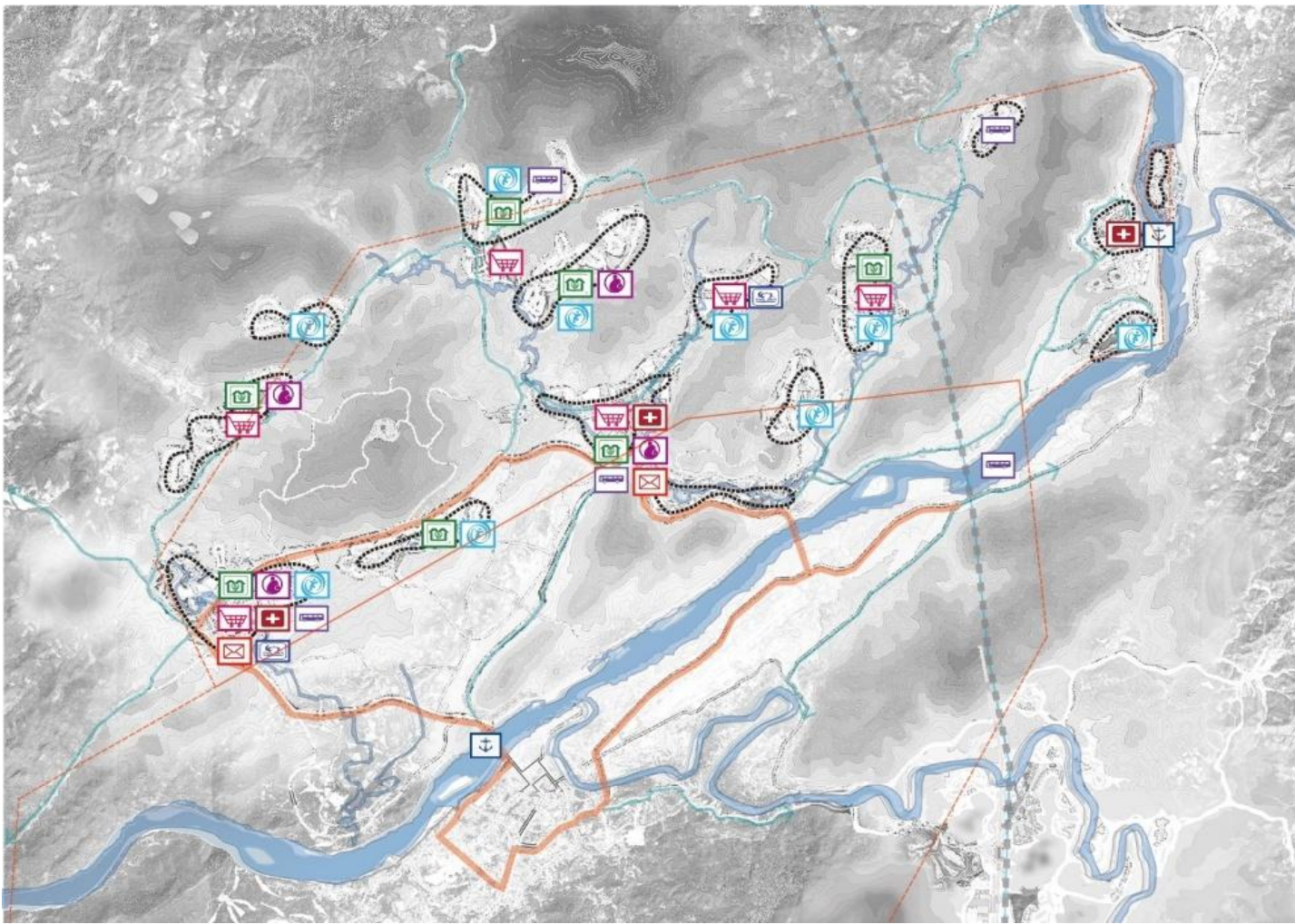
The service facilities, such as store, fitness site and the like are arranged in main node and population part.

School

According to the population scale and entering number, a school is set; it is arranged at the population dense and convent traffic part.

Transportation facility

It is arranged at the main node and main road to improve the traffic convenience and efficiency



4.1 S1 plot design

4.1.9 intention of main site

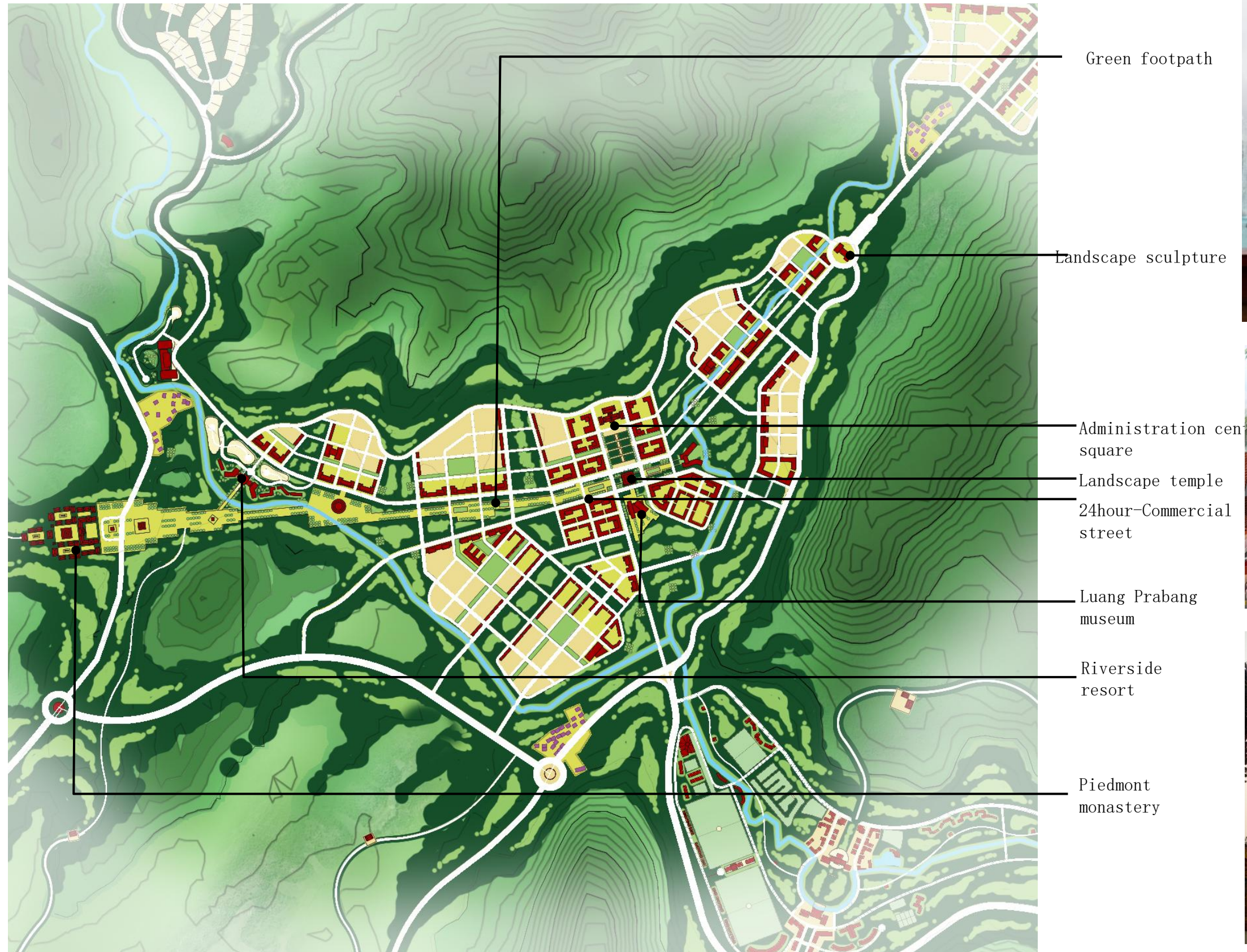
■ Administration, Business and entertainment center



4.1 S1 plot design

4.1.9 intention of main site

■ Administration, Business and entertainment center



4.1 S1 plot design

4.1.9 intention of main site

■ Education and tourist service center



4.1 S1 plot design

4.1.9 intention of main site

■ Education and tourist service center



4.1 S1 plot design

4.1.9 intention of main site

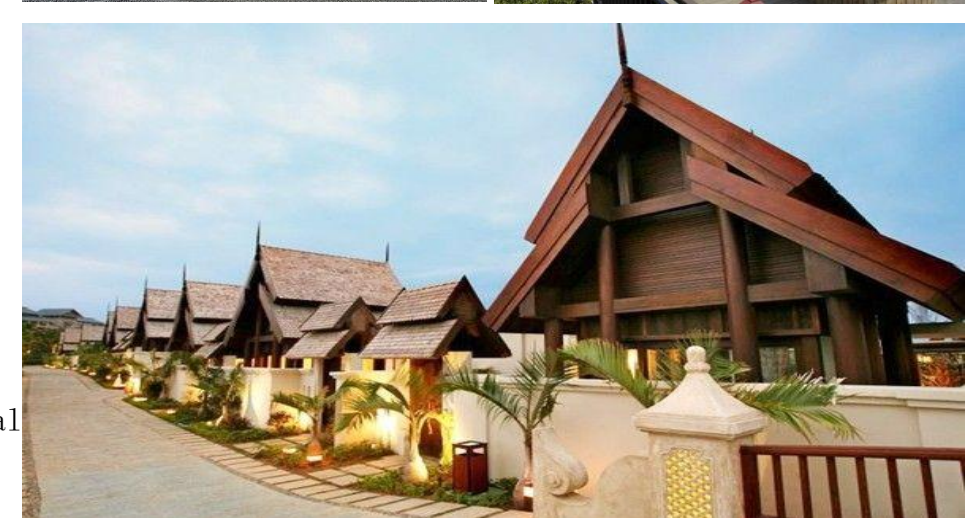
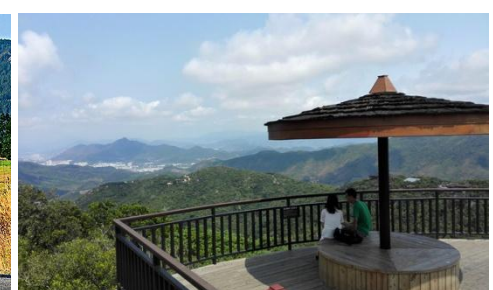
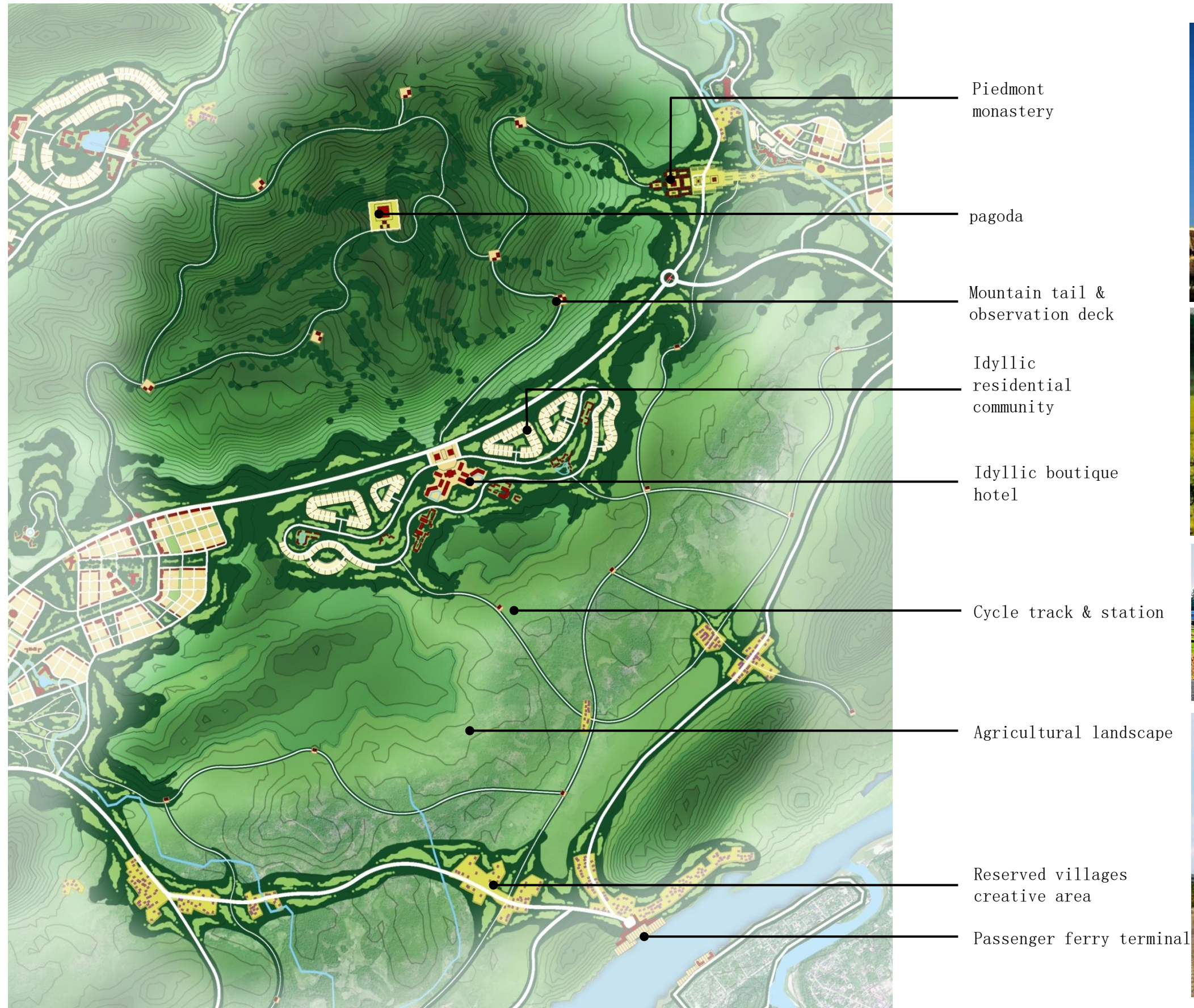
- idyllic & countryside folk culture tourism area



4.1 S1 plot design

4.1.9 intention of main site

■ idyllic & countryside folk culture tourism area + central eco-park



4.1 S1 plot design

4.1.9 intention of main site

■ POLO CLUB



4.1 S1 plot design

4.1.9 intention of main site

■ POLO CLUB



4.1 S1 plot design

4.1.9 intention of main site

■ Rehabilitation resort residential area

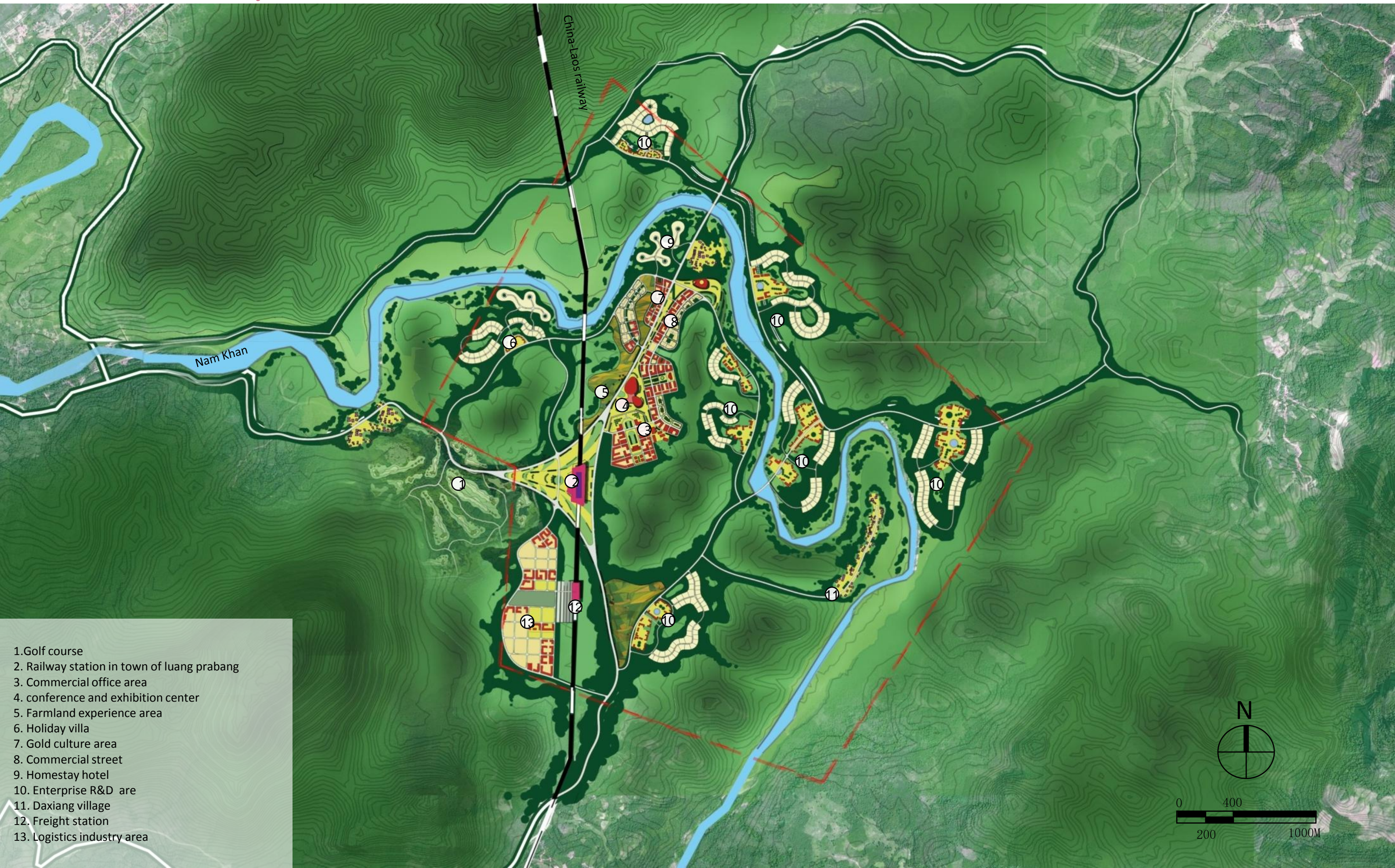


- Wetland park
- Rehabilitation resort hotel
- restaurant
- Cultural Commercial street
- Mekong hotel
- Resort Villa on cliffs
- Sunlight rehabilitation baths
- Mountain-type resort villa
- Commercial & public services area
- Agricultural sightseeing
- Sandy beach entertainment area



4.2 S2 plot design

4.2.1 General layout



4.2 S2 plot design

4.2.2 Planning structure

Planning structure

One-core and four-area, three-axis and one-belt

One-core

The railway station is area core.

Four-area

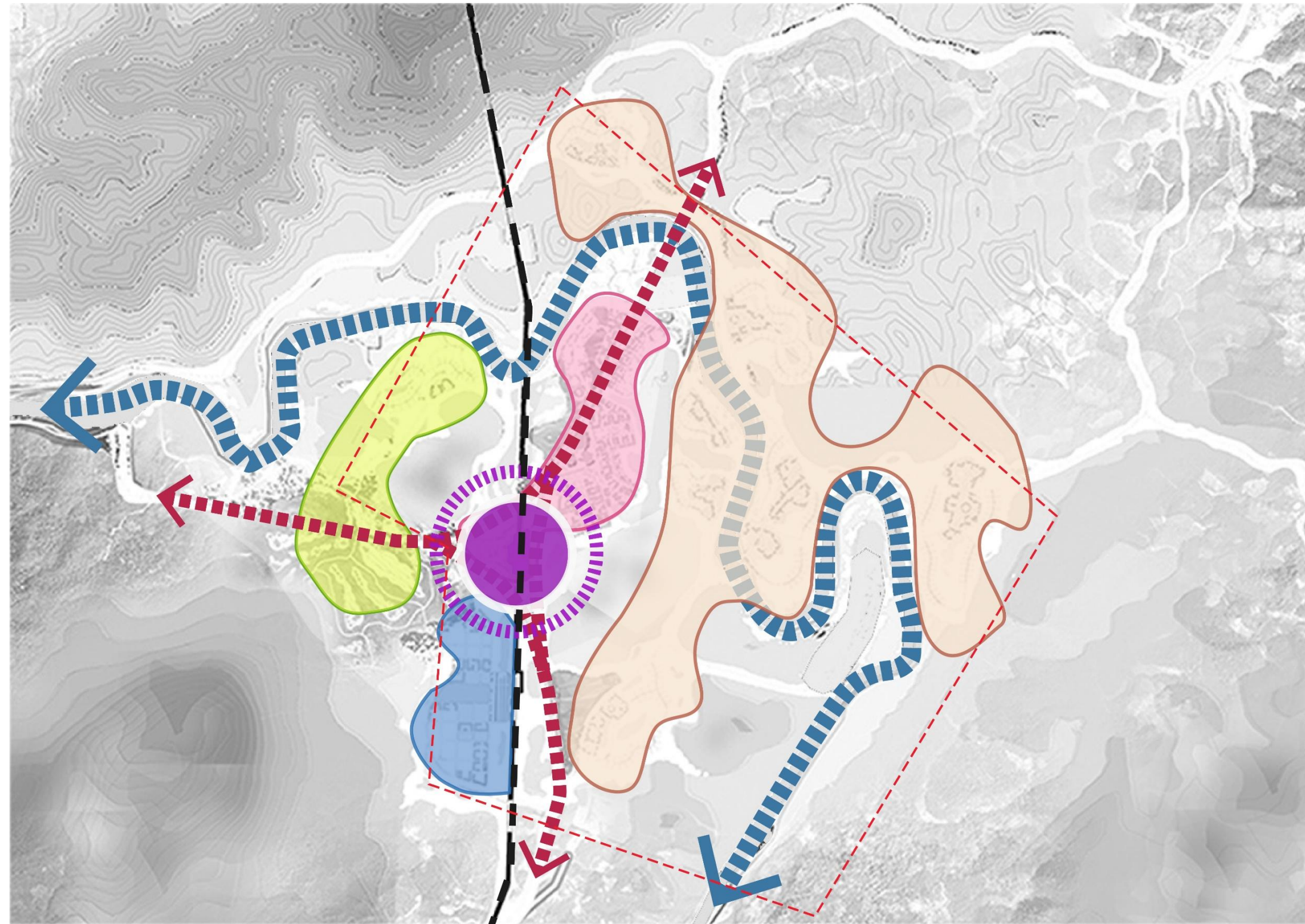
The main function area distributed around the railway station is core commercial area, railway Logistics Park, research base and Golf resort.








Three-axis

Based on the railway station, a landscape axis is around the old town; it accesses to the core commercial area and railway logistics park.

One belt

The enterprise research base is arranged along the Nam Khan; and the ground is arranged along the river.



-  Railway station
-  City axis
-  River landscape belt
-  Core commercial area
-  Railway logistics area
-  Golf resort
-  Headquarter of enterprise

4.2 S2 plot design

4.2.3 Function layout

Overall functional orientation

Depending on the planning railway station and intransit national road and interpenetrative rural style, it must avoid the unlimited spread; the resident is easy to contact with better natural space; and the main function is **located as commercial research and logistics center**.

The special function area is as follows :

Core commercial area

The railway station store built in future is closely combined; high-end composite commercial area is created; the office, commerce, hotel, special gold industry and meeting exhibition center are integrated.

Railway logistic area

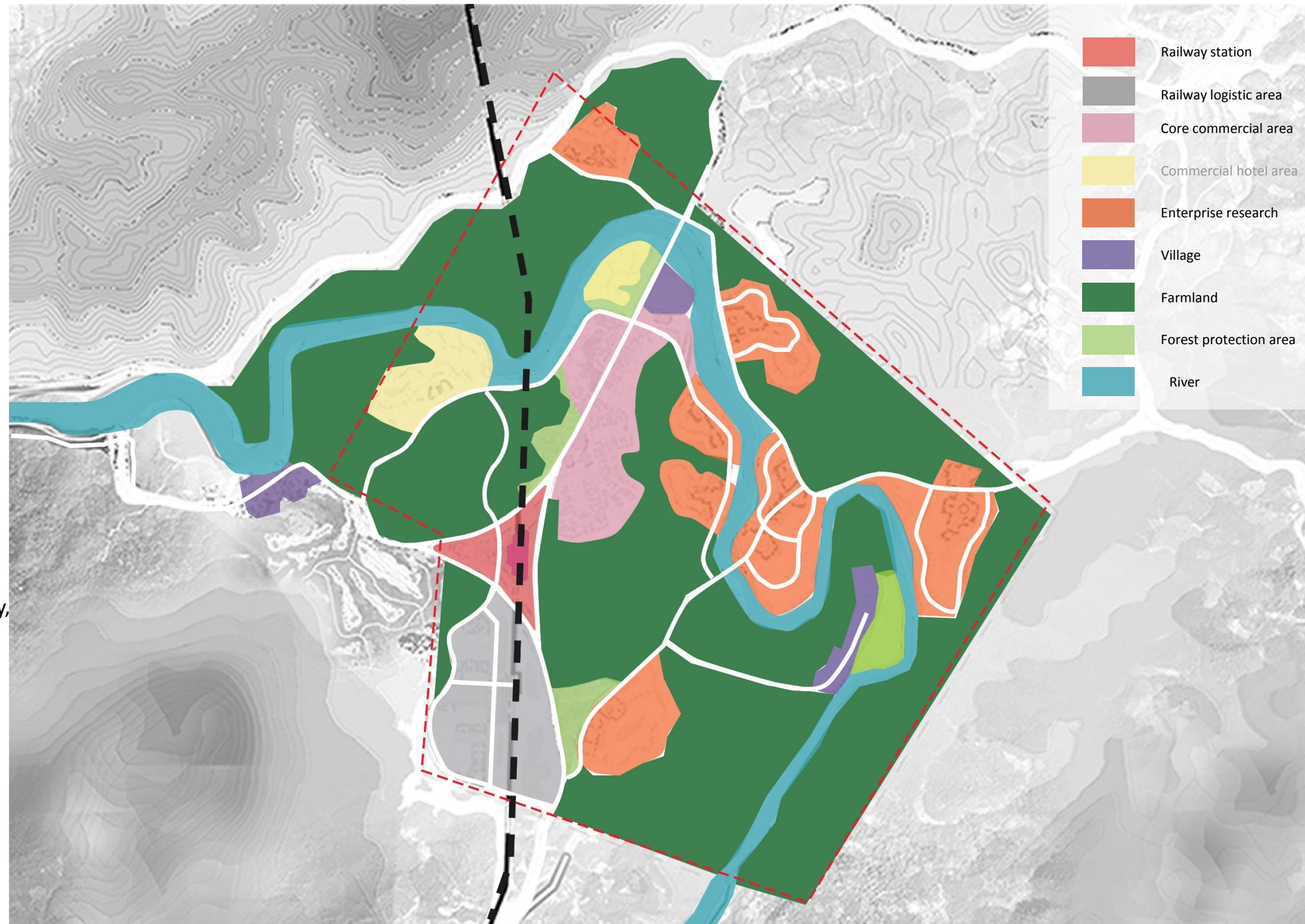
Based on the railway development modern logistics, multiple function of logistics, railway, free zone, processing, exhibition and the like is integrated.

Enterprise research area

The research group is arranged along Nam Khan; the environment and traffic condition are used; many functions of office, research, accommodation, commerce, exhibition and the like are integrated.

Golf resort

The service functions of golf, commercial, chamfer and villa and the like are combined.



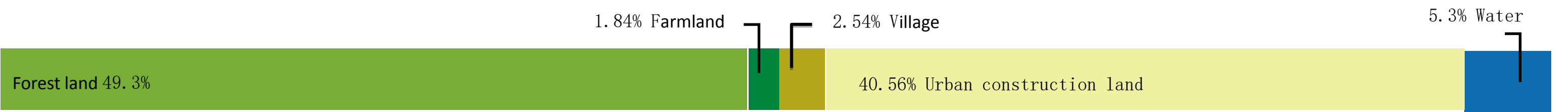
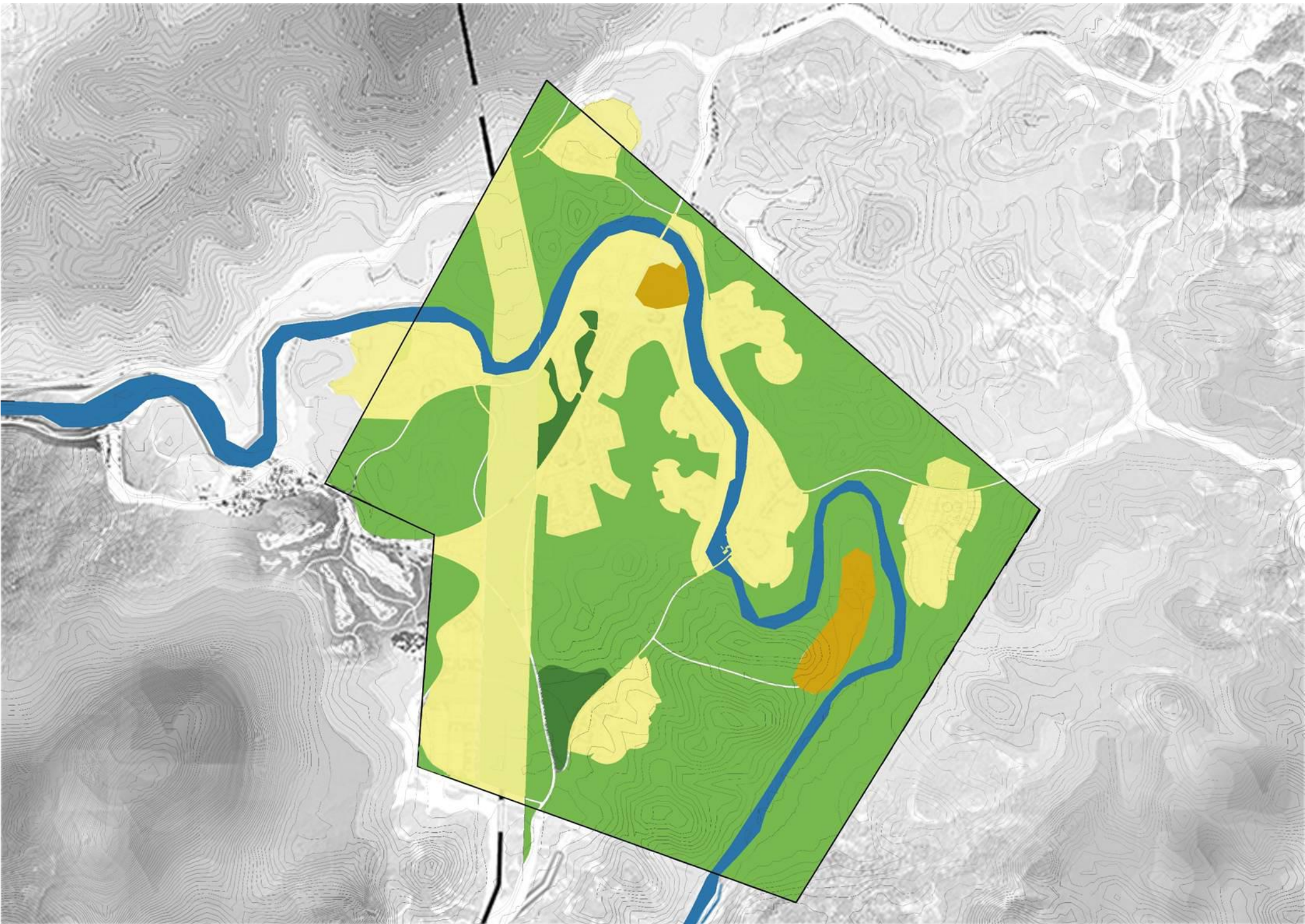
4.2 S2 plot design

4.2.4 Land using plan

land using analysis

The planning integrates the land suitable for construction in the program for overall consideration on the basis of red line domain, in order to ensure the integrity of the development region. S2total land area is 1335.56ha, of which 40.56% is urban construction land, with total area 541.66ha.

Urban construction land includes existing construction land, valley of more gentle slope, gentle hills and some farmland; Non-urban construction land is mainly mountainous, forest, water, protected farmland.

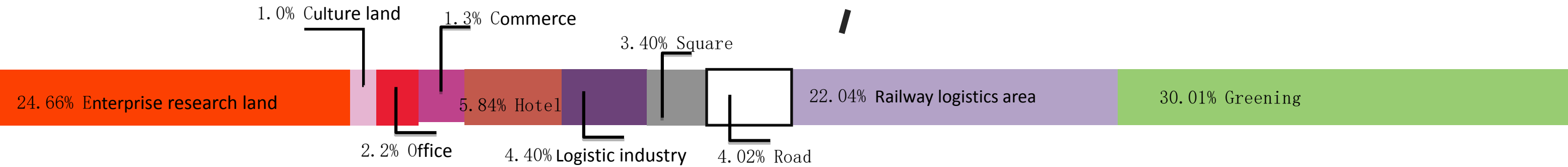
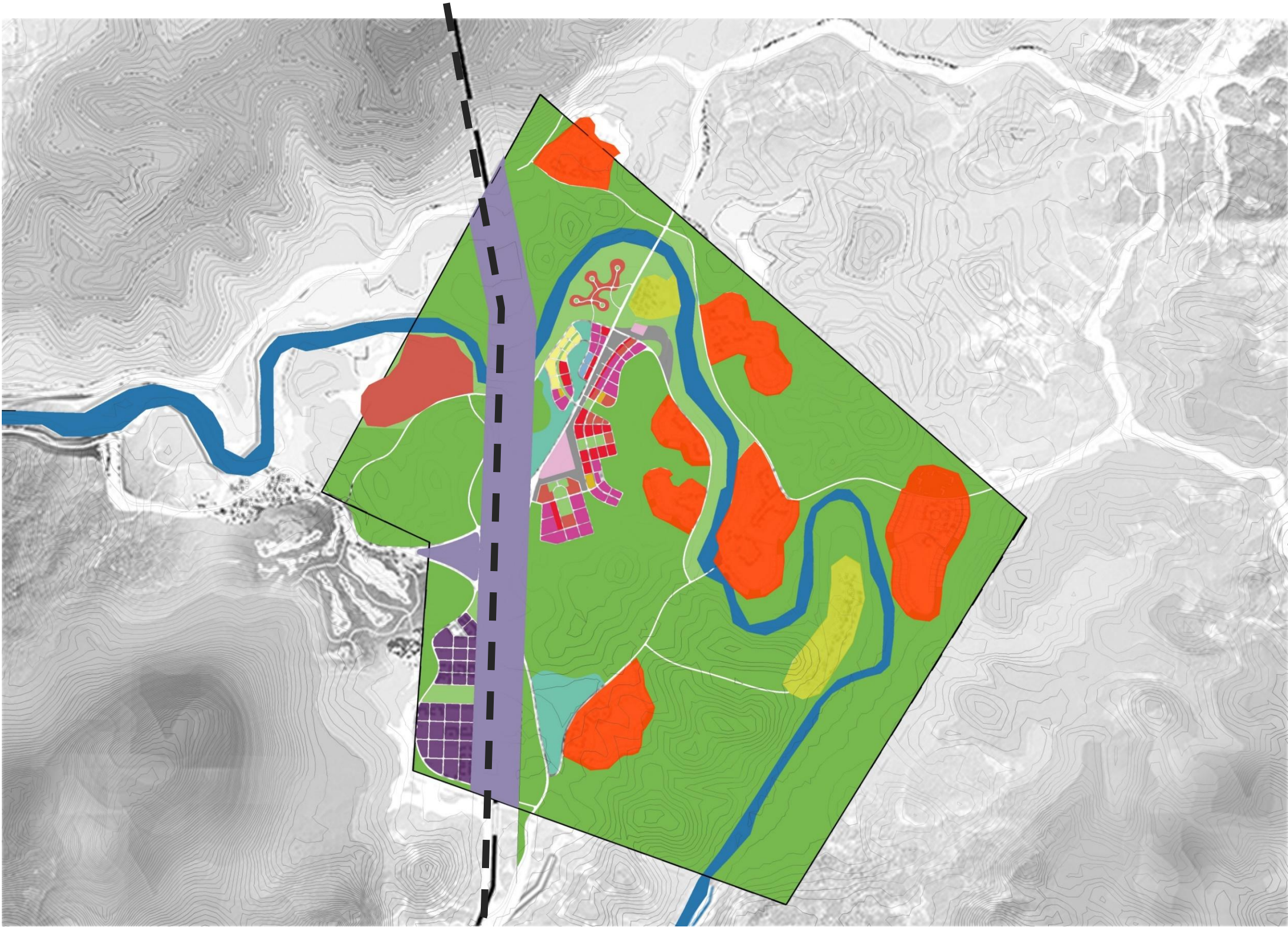


4.2 S2 plot design

4.2.4 Land using plan

land using analysis of City construction land

Enterprise R&D, Commercial office and industry logistics take 42.8% of the urban construction land, greenland takes 30.01% of it, which reserves the beautiful landscape environment at the maximum extent, creates a beautiful new economic area as well as developes new industry functions based on the railway resources.



4.2 S2 plot design

4.2.4 Land using plan

S2 balance sheet of plot land

| Land property | Land area (ha) | Land area (mu) | Land ratio |
|-------------------------------|----------------|----------------|------------|
| Urban construction land | 422.16 | 6332.4 | 31.61% |
| Rural Construction Land | 32.75 | 491.25 | 2.45% |
| Water area | 70.76 | 1061.4 | 5.30% |
| Farm land | 24.54 | 368.1 | 1.84% |
| Forest land | 665.85 | 9987.75 | 49.86% |
| Land for railway construction | 119.50 | 1792.5 | 8.95% |
| Total | 1335.56 | 20033.4 | 100% |

S2 balance sheet of plot city construction land

| Land property | Land area (ha) | Land area (mu) | Land ratio |
|--|----------------|----------------|------------|
| Residential land | 2.04 | 30.6 | 0.48% |
| Enterprise research land | 133.6 | 2004 | 31.64% |
| Cultural facilities land | 5.61 | 84.15 | 1.32% |
| Education land | 0.59 | 8.85 | 0.14% |
| Medical land | 0.81 | 12.15 | 0.2% |
| Urban commercial service facility land | 7.06 | 105.9 | 1.67% |
| Commercial office land | 11.66 | 174.9 | 2.76% |
| Holiday hotel land | 31.65 | 474.75 | 7.49% |
| Logistics industry | 23.84 | 357.6 | 5.65% |
| Public facilities land | 1.08 | 16.2 | 0.26% |
| Square land | 18.43 | 276.45 | 4.36% |
| Road land | 22.74 | 341.1 | 5.38% |
| Greening | 163.05 | 2445.75 | 38.65% |
| Total | 422.16 | 6332.4 | 100% |

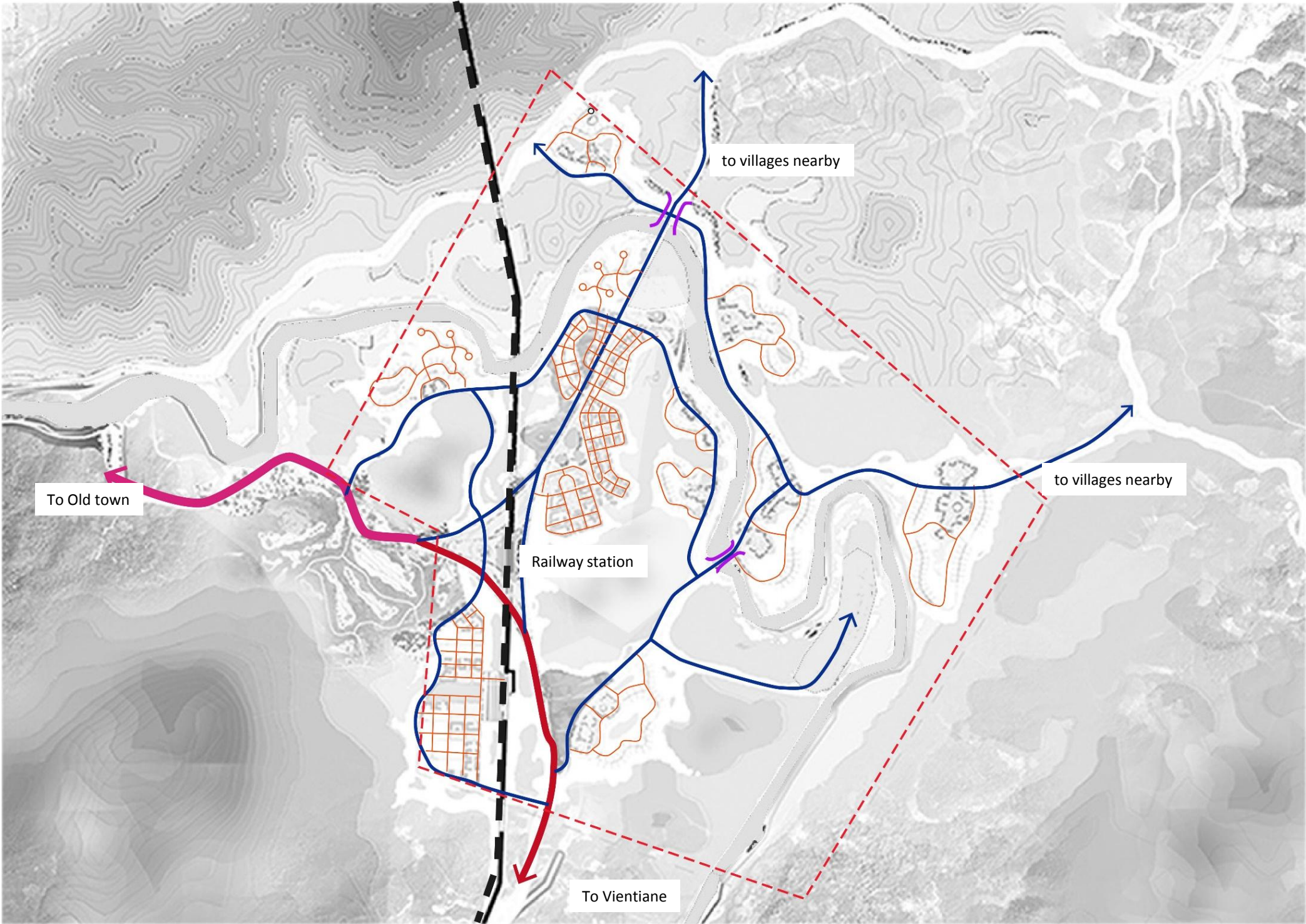
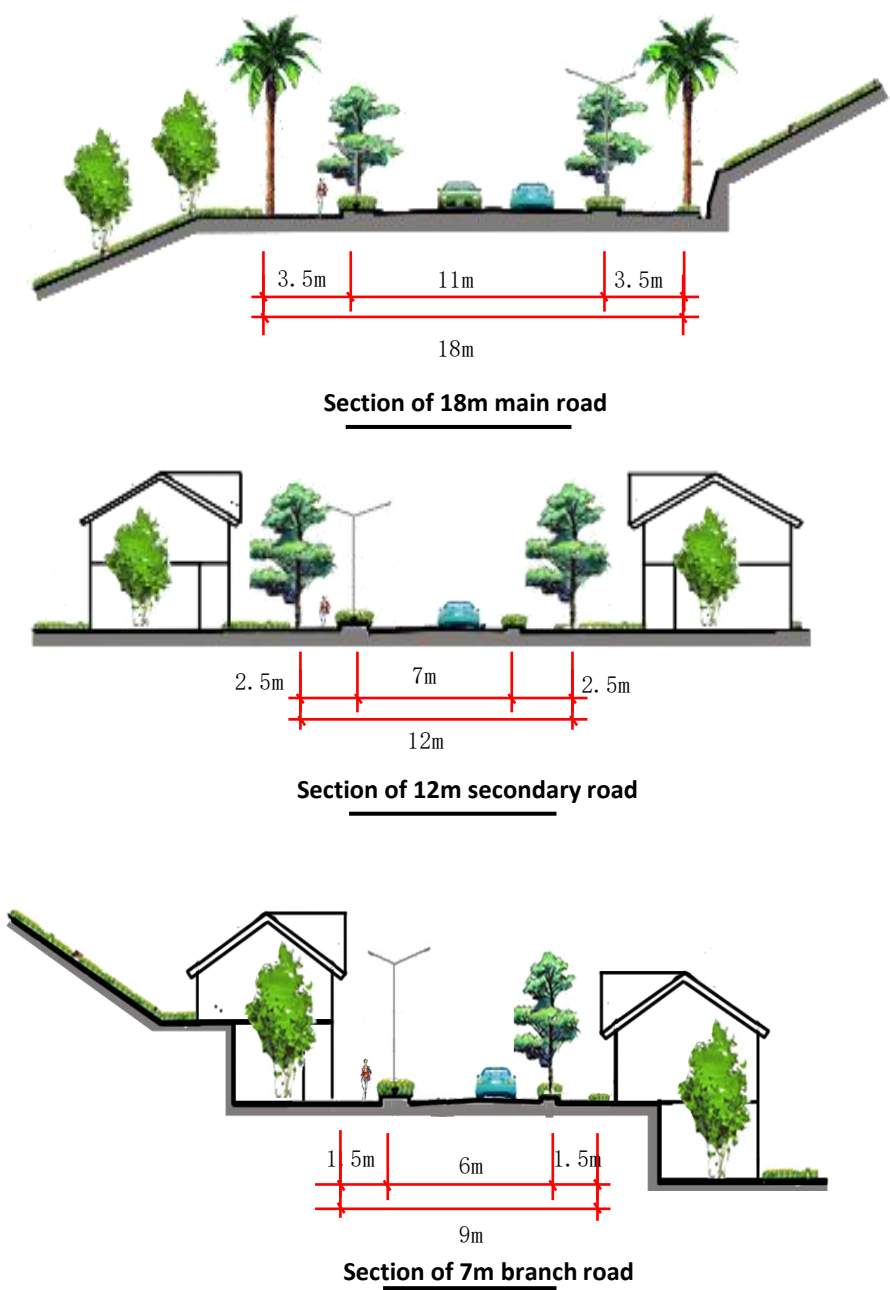
the Development capacity statistics of S2 plot

| Site | Name of group | Public (3-5c) | Commercial (2-3c) | Residencial (2c) | Resort (2c) | School (2-3c) | Office (2-3c) | Railway station | Logistics | R&D | Polo | ... | Total floor area (m2) | Site area of group (m2) | Plot ratio |
|------|--|---------------|-------------------|------------------|-------------|---------------|---------------|-----------------|-----------|--------|------|-----|-----------------------|-------------------------|------------|
| S2 | nterprise station and logistic industrial area | 184000 | 470400 | 410000 | 236700 | | 478170 | 28453 | 480000 | 418500 | | | 2706223 | 3516600 | 0.7695 |

4.2 S2 plot design

4.2.5 Road traffic plan

The foundation is divided into **18m road, 12m secondary road and 7m branch** level-III road system to form the road space skeleton of main road serially connecting with the group.



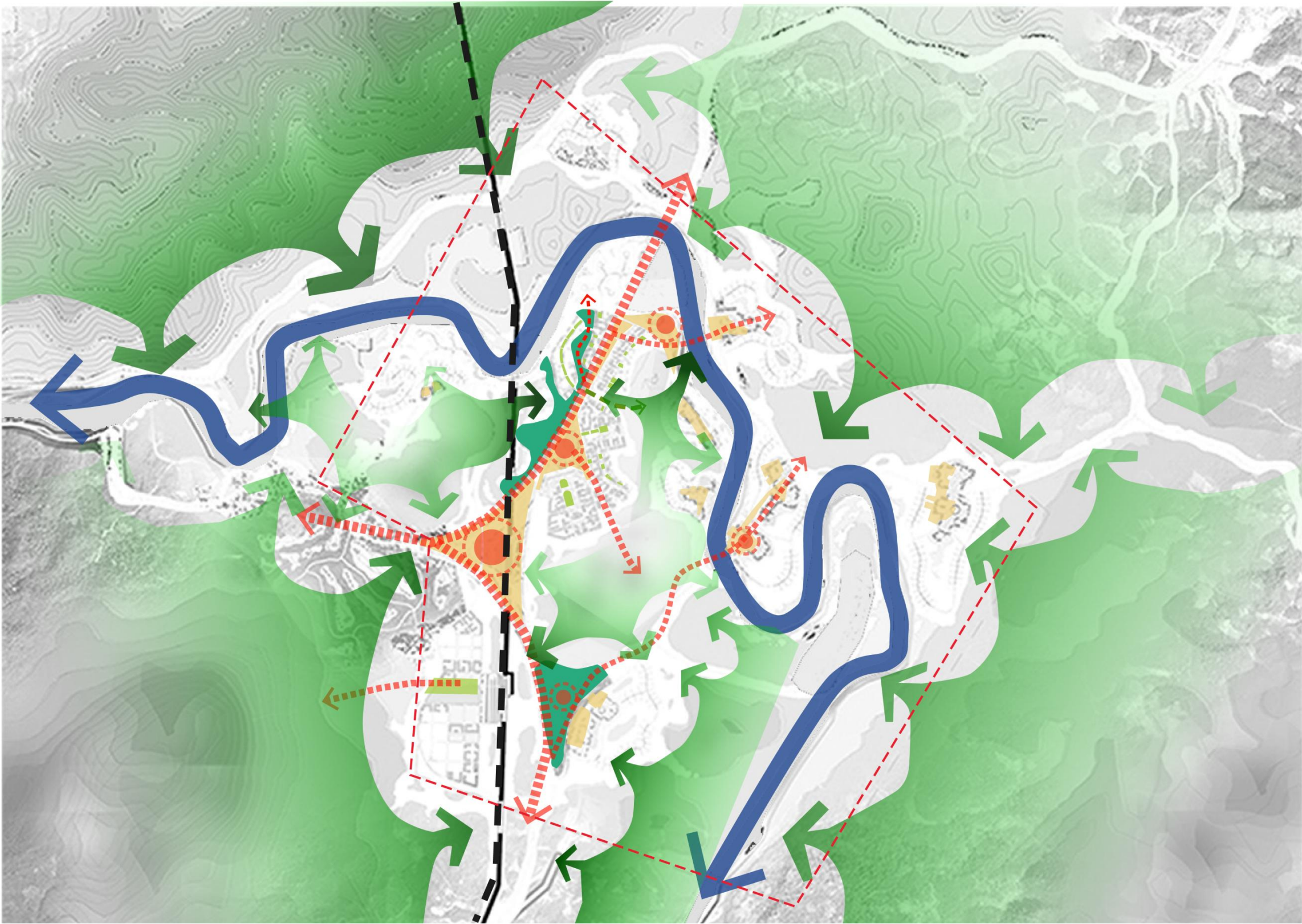
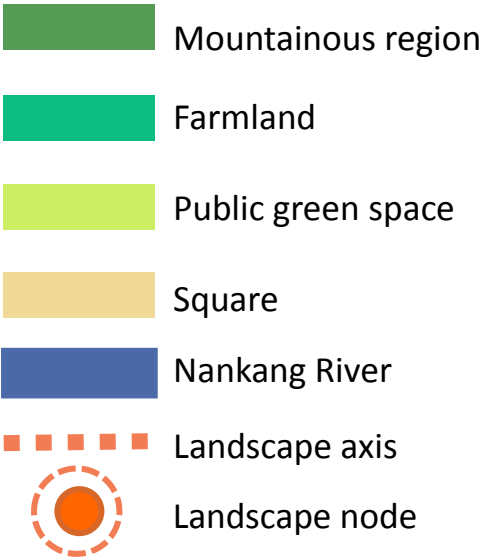
| | Landscape avenue (km) | Main road (km) | Secondary road (km) |
|----|-----------------------|--|---------------------|
| S2 | 0 | 2.88 (widening based on the current condition) | 20.52 (newly built) |

- Landscape avenue
- Main road
- Second road
- Branch
- Bridge

4.2 S2 plot design

4.2.6 Landscape planning of greenland

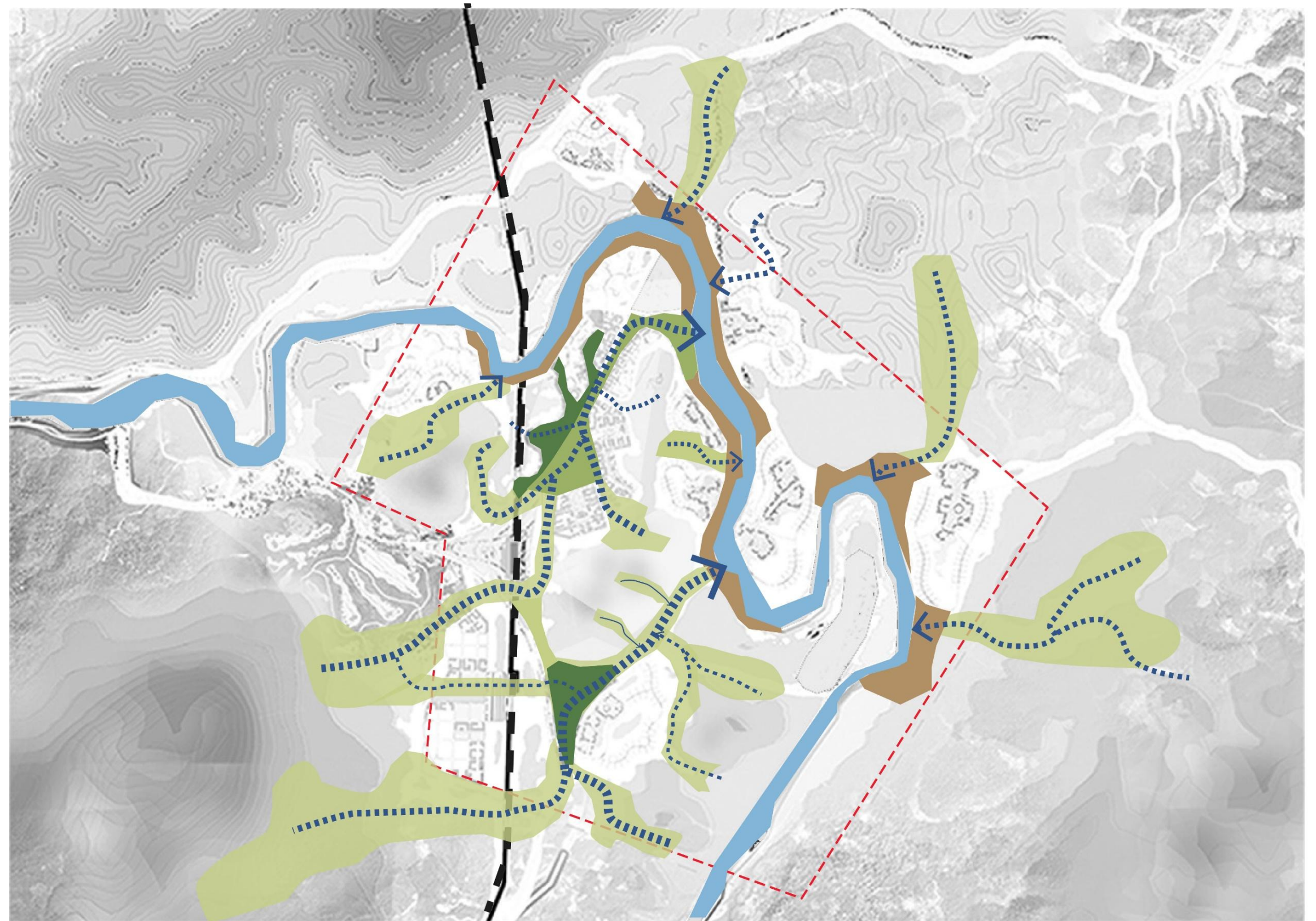
plot S2 is surrounded by mountains, with plant regions and hills in inner land. Planning structure and construction scope are made based on the analysis of terrain and landform. The block is connected and supplemented with the mountains. A green space landscape system with skeleton, flesh and blood is formed with the complementation of ecological corridor of landscape; moreover, it supplements mountains and landform surrounded in whole and a landscape corridor is formed in part; in addition, it is arranged distinctively with proper density along Nankang River.



4.2 S2 plot design

4.2.7 Drainage arrangement

Current terrain and conditions shall be combined , also, proper and order drainage system shall be organized. Rainwater is collected in the valley, flow into green land and square at the inner land of the base, and then flow into Nankang River on the promise of buffer of afforest near sea, and natural drainage is completed. Valley, green land and afforest near the sea and rivers composed a complete landscape and drainage system.



4.2 S2 plot design

4.2.8 Planning for municipal administration and public service facilities

Public facilities

Electricity transformer substation

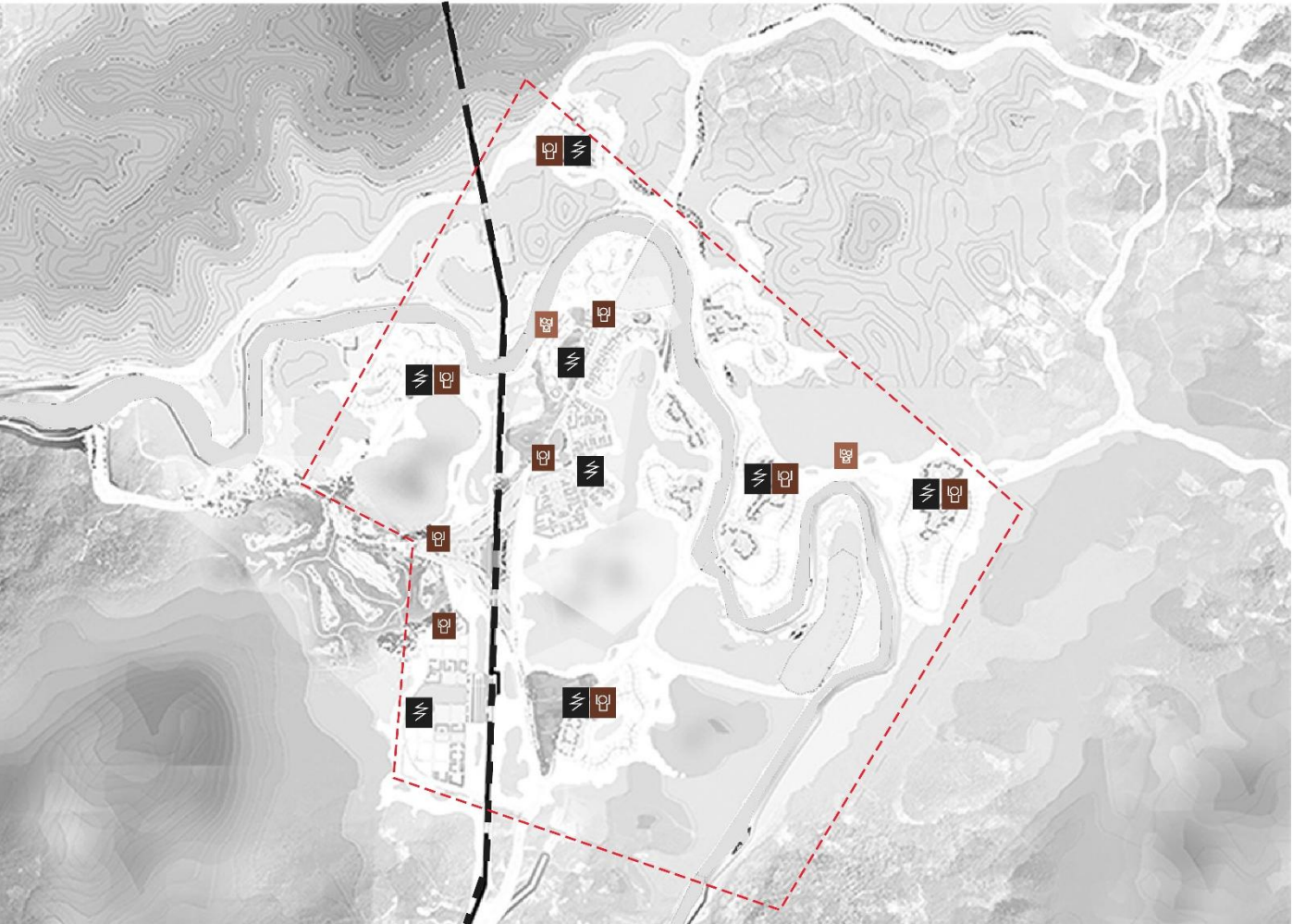
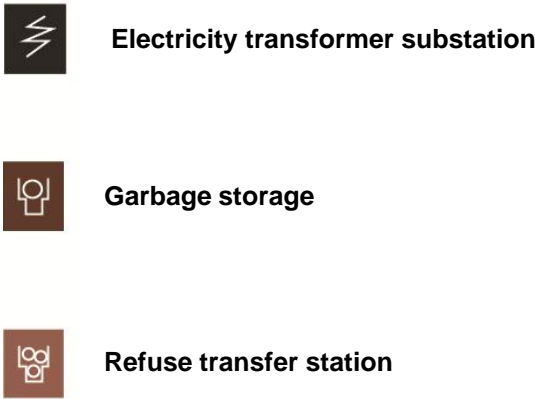
Such conditions shall be taken into consideration: near to the core of negative electricity, convenient in fire demand, transportation and wiring.

Garbage storage

They are set in main tourism points, commercial areas and places with convenient transportation.

Refuse transfer station

They are set in places which are accessed via main roads and far away from public service area.



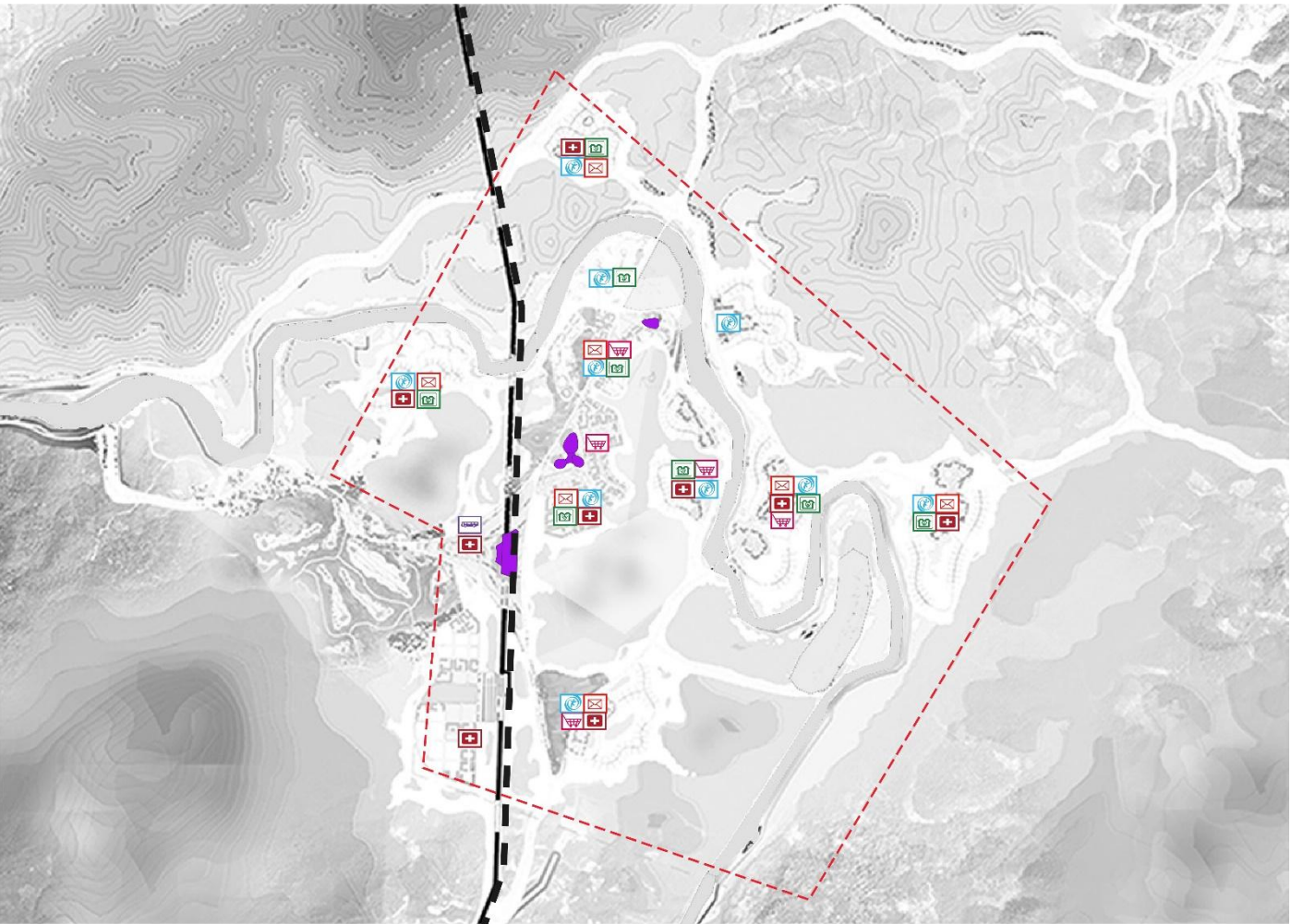
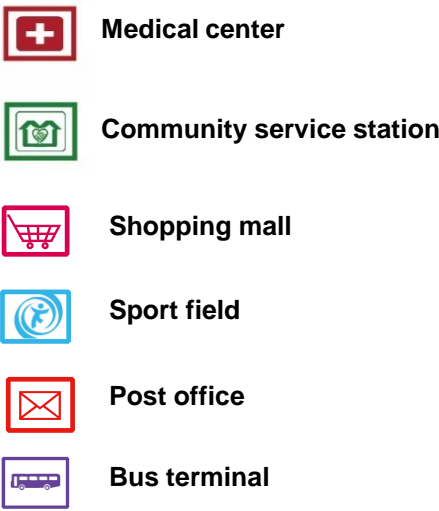
Public service facility system

Community service facility

Community service facilities such as stores, sport fields and medical stations, etc. shall be set in main nodes and densely-populated places.

Transportation facility

Means of transportation shall be set near main nodes and roads in the block to improve transportation and affection.



4.2 S2 plot design

4.2.9 intention of main site

■ Railway station



4.2 S2 plot design

4.2.9 intention of main site

■ Central business area



4.2 S2 plot design

4.2.9 intention of main site

■ Railway station + central business area



Folk culture
exhibition hall

creative industry
area

Commercial
street

Residential
area

hotel

Conference
exhibition
center

Agricultural
landscape

Business office
area

Railway station

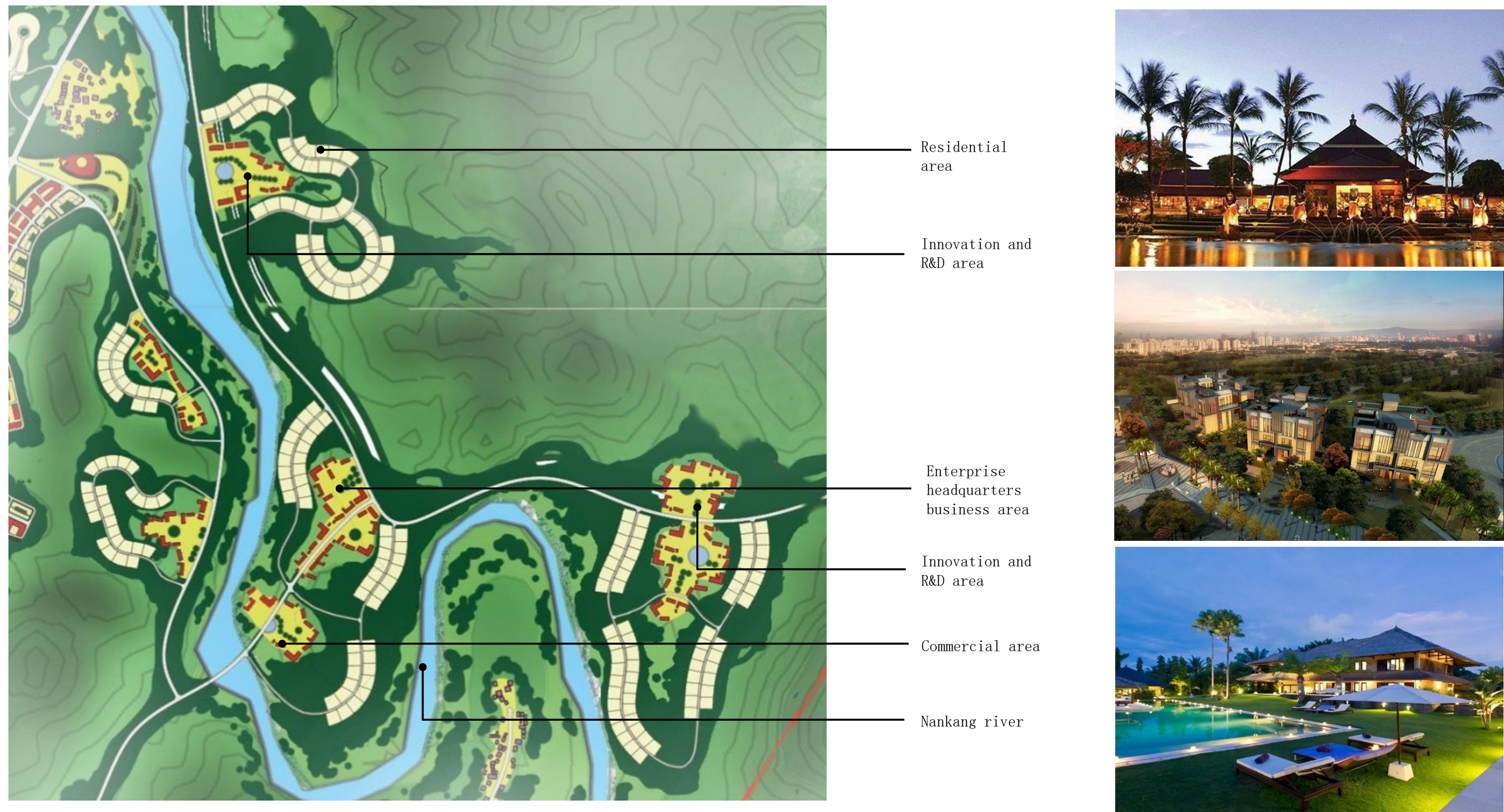
square



4.2 S2 plot design

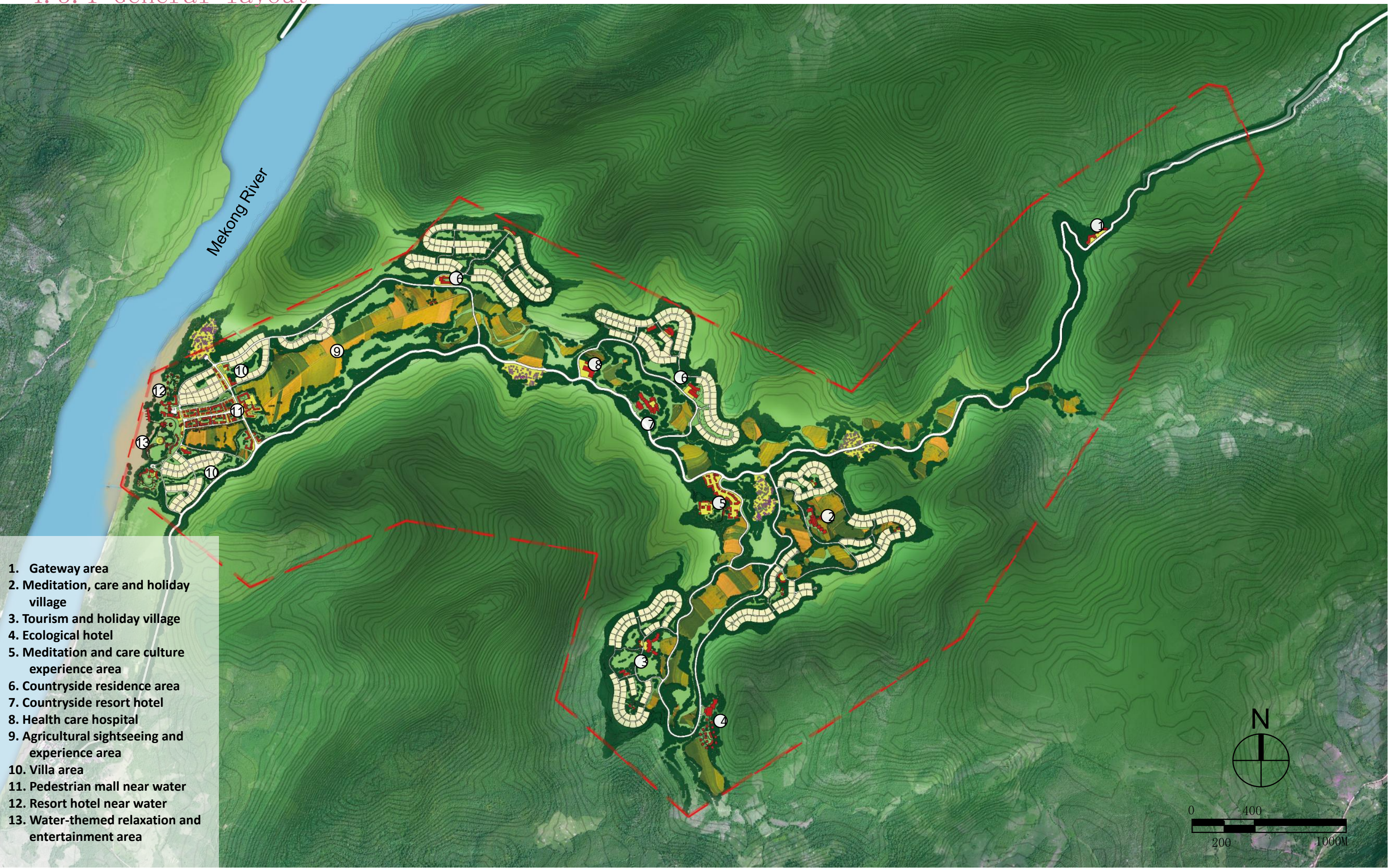
4.2.9 intention of main site

■ Enterprise R&D area



4.3 S3 plot design

4.3.1 General layout



4.3 S3 plot design

4.3.2 Planning structure

General planning structure adopted is “2 axes, 4 groups and multiple nodes”.

2 axes

Moving axis-“arriving at the scenic spot”, utilize existing highways from luang prabang to the scenic spot, and guide tourists via self-driving routs and public transportation lines, in which the function of complementing each other’s advantages of group travelling may work.

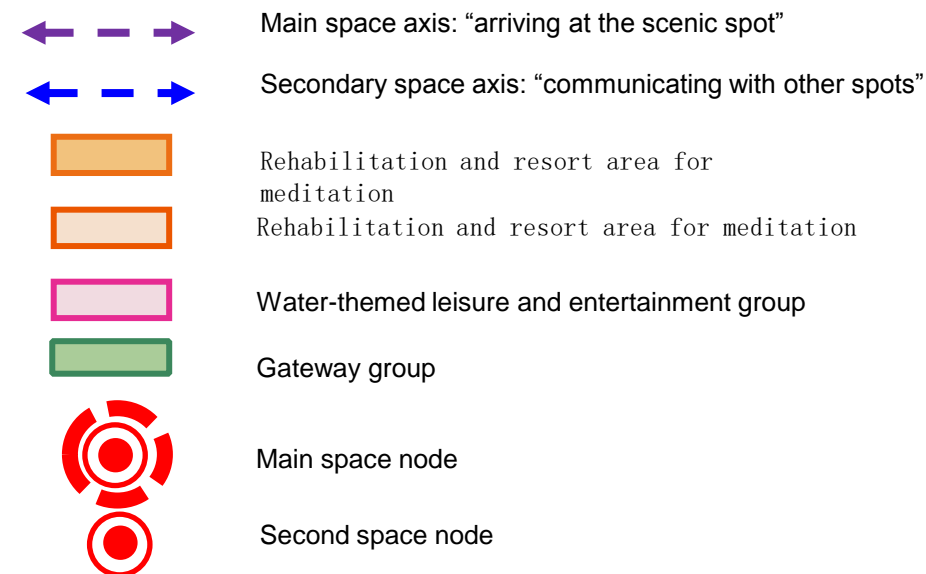
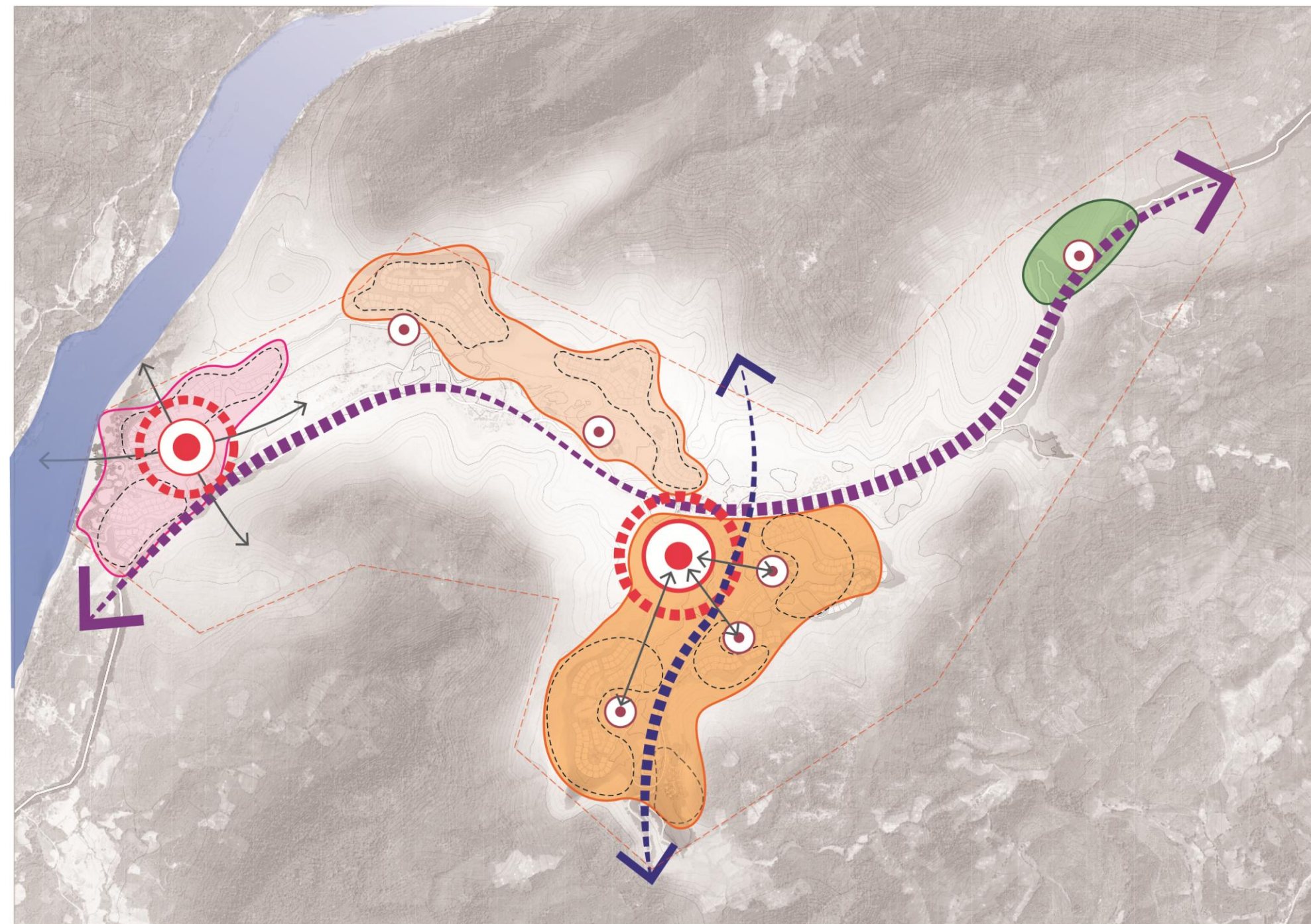
Dead axle-“communicating with other spots”, which means that Zen culture and ecology heath care and style experience corridor, with the central square of Zen culture as a node, extends to the deep direction; in this way, a care and holiday spot will be formed and Zen style groups will be accessed via connecting nodes of Zen culture.

4 groups

Zen culture and style group, folk custom residence group and water-themed leisure and entertainment group.

Multiple nodes

Zen culture central square node, entertainment and commercial center node, folk custom experience node formed from villages and commercial service nodes in various groups form an orderly spatial pattern including points, lines and face.



4.3 S3 plot design

4.3.3 Function layout

Relying on characteristic mountainous landscapes and natural tourism resources surrounding the base, we shall give importance to the development of tourism, entertainment and ecology industry, create it as a tourism town for entertainment, experience and health care including meditation and health care, exploration and travelling, entertainment and vocation.

Water entertainment and holiday resort:

Water holiday hotel, sand leisure and entertainment, water-themed park, visitor's center, commercial supporting facilities and villas

Tourism residence area:

Combining with natural landform and landscape advantages, develop commercial real estate and make it the functional complementation of travelling towns.

Meditation and health care resort area:










Zen-themed hotel, Buddhism culture center, Zen culture block, medical station, folk custom block, villa for holiday and health care.

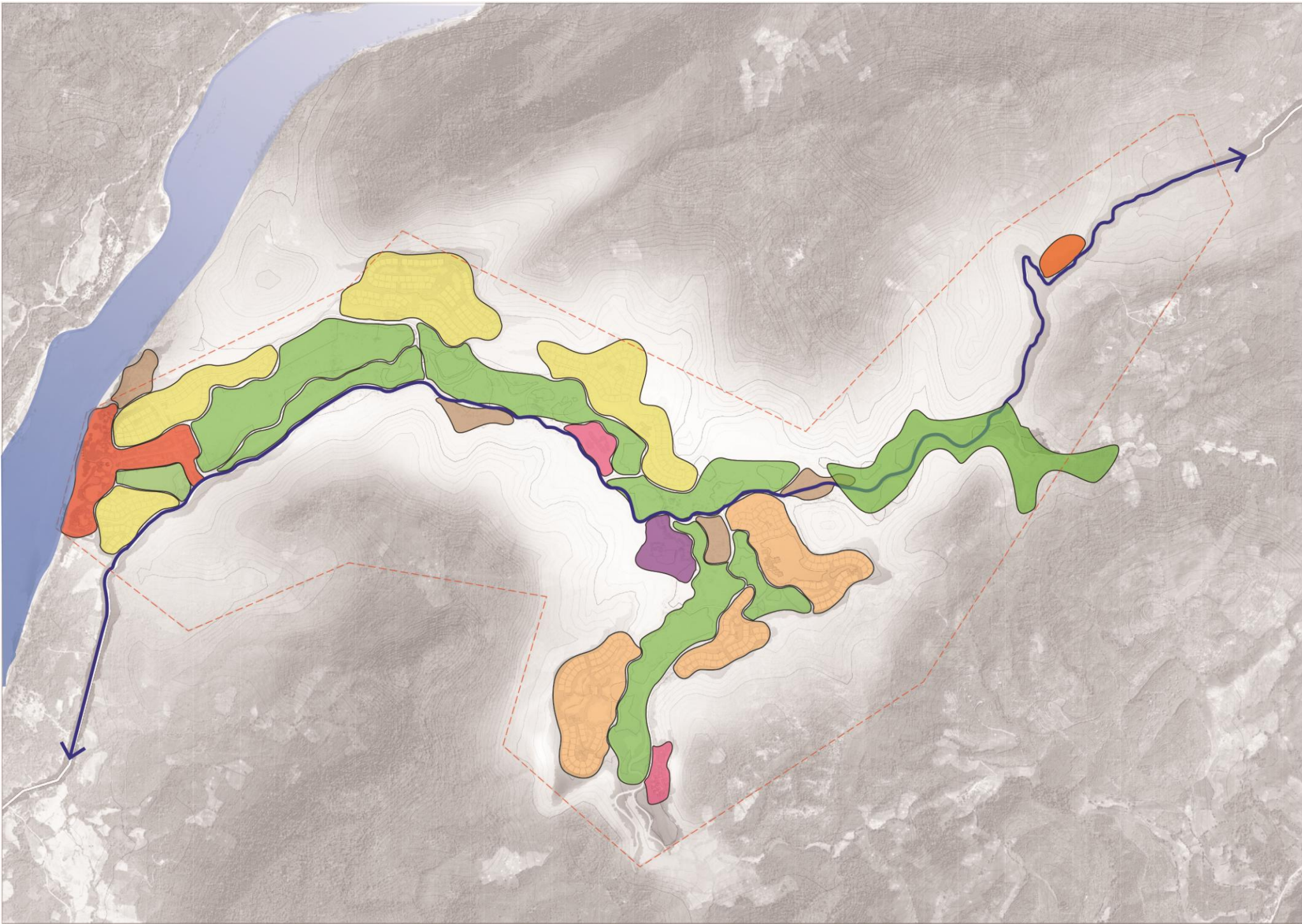
Gateway area of holiday town:

Visitor's center, catering and transportation stations are all included.

Folk customs experience and agricultural sightseeing area:

Built folk custom experience area via combining existing villages and living facilities and built agricultural sightseeing area by keeping existing farmland.

-  Water commercial entertainment area
-  Characteristic residence area for travelling
-  Agricultural sightseeing area
-  Forest oxygen bar
-  Meditation culture experience area
-  Vocational department and hotel
-  Gateway area of holiday town
-  Folk customs experience area
-  Meditation and health care resort area



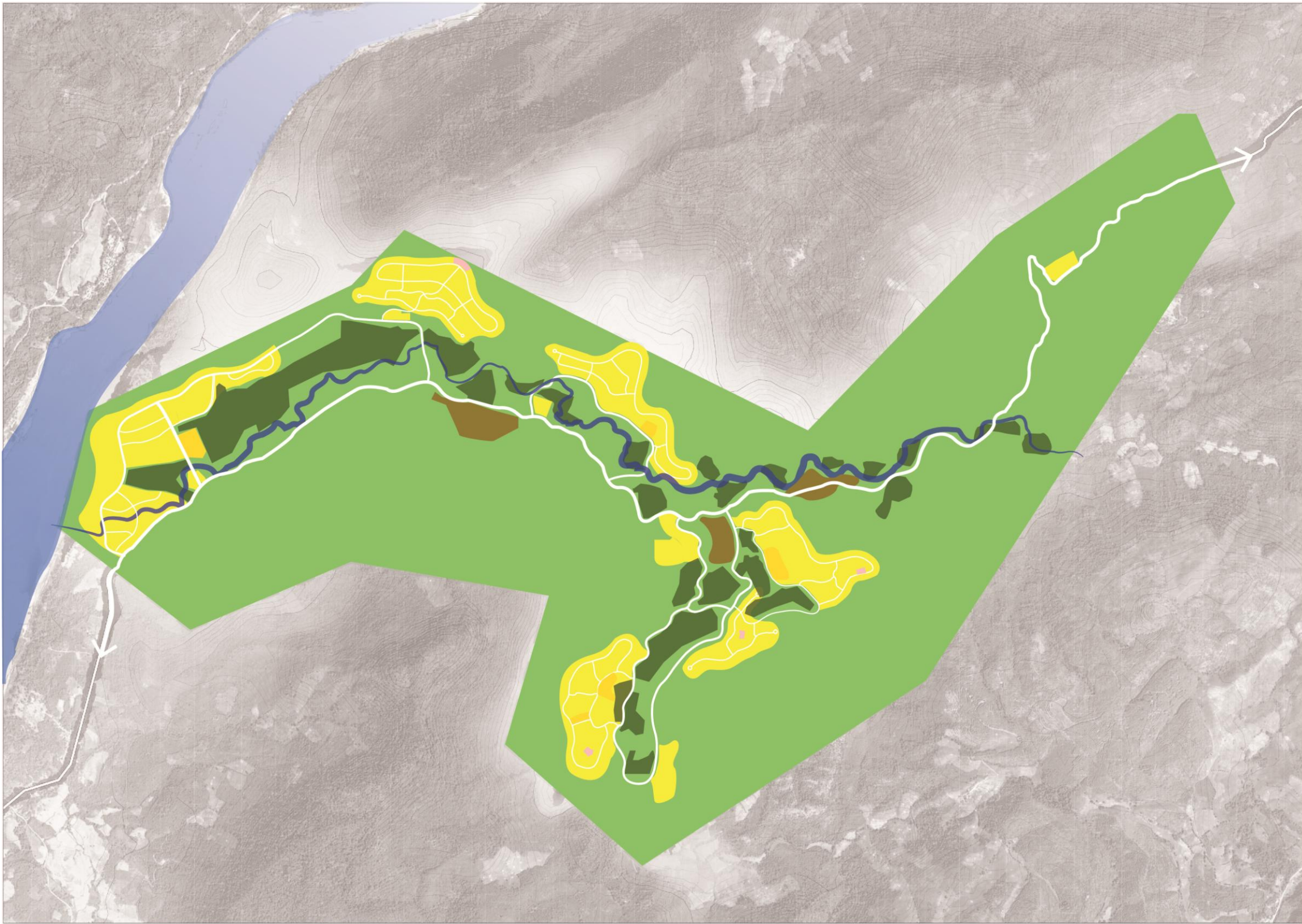
4.3 S3 plot design

4.3.4 Land use planning

Land using analysis

The planning integrates the land suitable for construction in the program for overall consideration on the basis of red line domain, in order to ensure the integrity of the development region. S3 total land area is 1538.5ha, of which 14.80% is urban construction land, with total area 228.08ha.

Urban construction land includes existing construction land, valley of more gentle slope, gentle hills and some farmland; Non-urban construction land is mainly mountainous, forest, water, protected farmland.

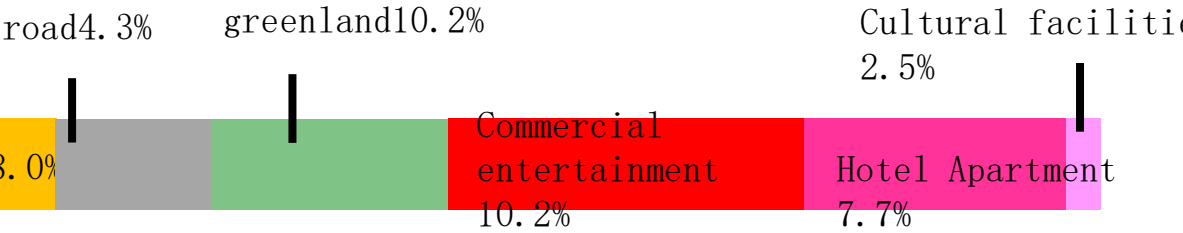
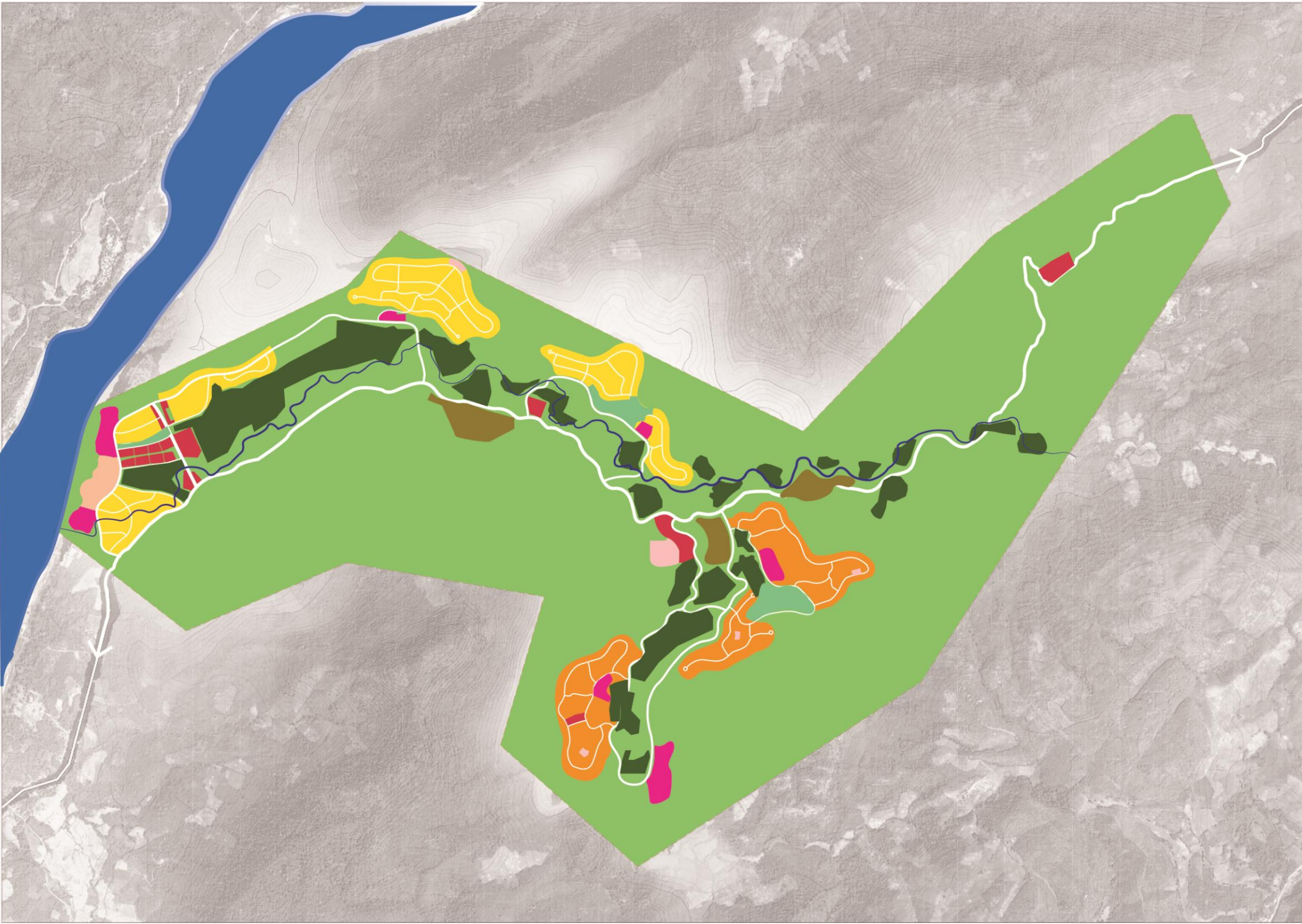


4.3 Design of Block S3

4.3.4 Land use planning

land using analysis of City construction land

Residential land with tourism features takes 37.1% of the urban construction land while meditation and rehabilitation residential land takes 28%, with the theme of zen and water, developing recreation tourism, resort, residential function as well as demonstrating the orientation of “tourism features town with culture experience”.



4.3 S3 plot design

4.3.4 Land use planning

Balance Sheet of Land Use of Block S1

| Land use | Land Area (ha) | Land Area (mu) | Ratil of whole |
|---------------------------|----------------|----------------|----------------|
| Urban constriction land | 228.08 | 3421 | 14.8% |
| Village construction land | 18.8 | 282 | 1.2% |
| Water region | 6.5 | 97 | 0.4% |
| Farmland | 100 | 15000 | 6.5% |
| Forest land | 1184.6 | 17770 | 77% |
| Total | 1538.5 | 230769 | 100% |

Balance Sheet of Urban Construction Land of Block S1

| Land use | Land Area (ha) | Land Area (mu) | Ratil of whole |
|--------------------------------|----------------|----------------|----------------|
| Residential land | 84.6 | 1269 | 37.1% |
| Heath care land | 63.8 | 957 | 28.0% |
| Public facility land | 46.67 | 700.05 | 20.4% |
| Commercial land | 23.32 | 349.8 | 10.2% |
| Hotel land | 17.62 | 264.3 | 7.7% |
| Culture and entertainment land | 5.73 | 85.95 | 2.5% |
| Road and square land | 1.53 | 22.95 | 4.3% |
| Road land | 0.92 | 13.8 | 3.88% |
| Square land | 0.28 | 4.2 | 0.42% |
| Land for parking lot | 0.33 | 4.95 | 0.14% |
| Green land | 23.2 | 348 | 10.2% |
| Total | 228.08 | 3421.2 | 100% |

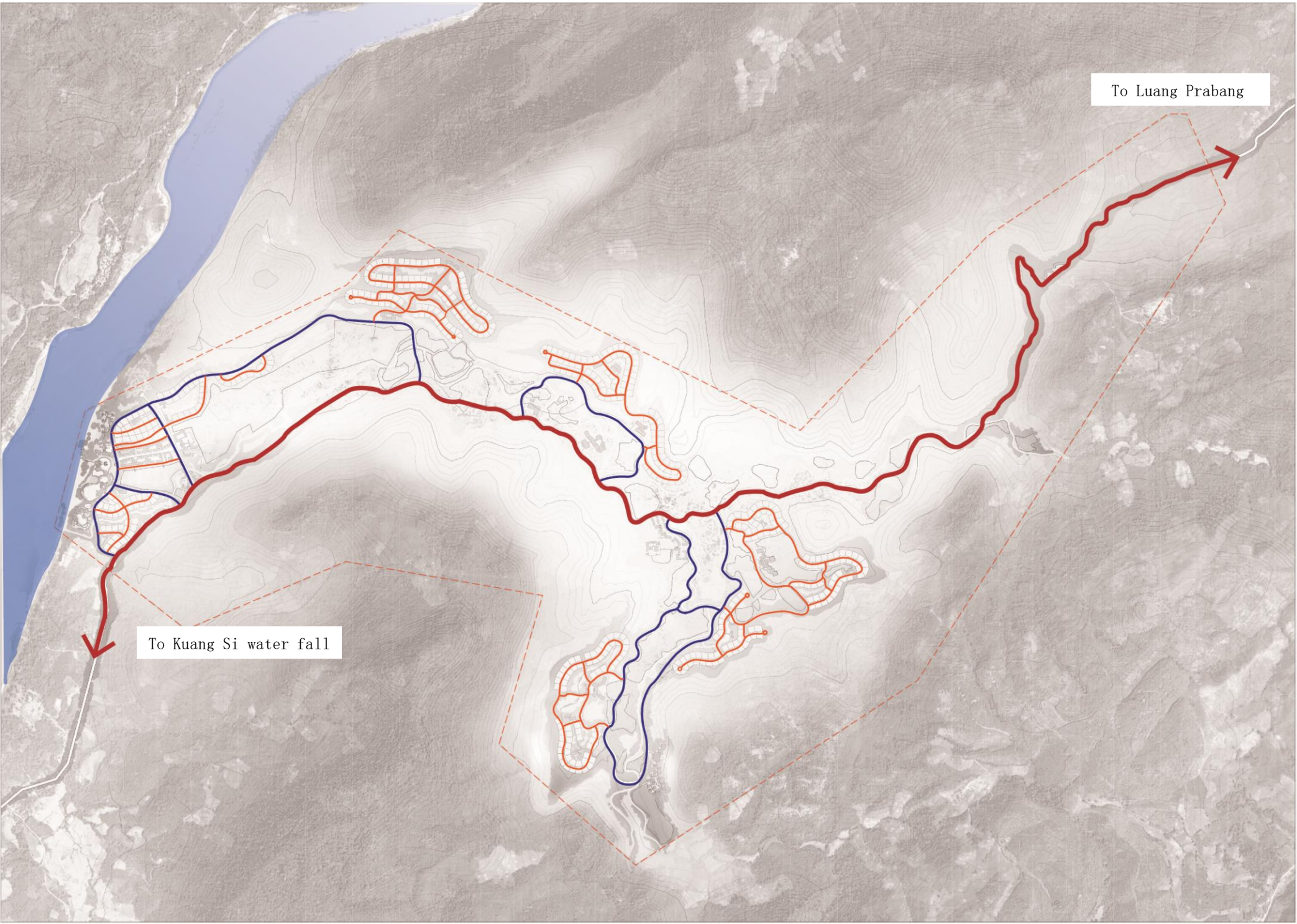
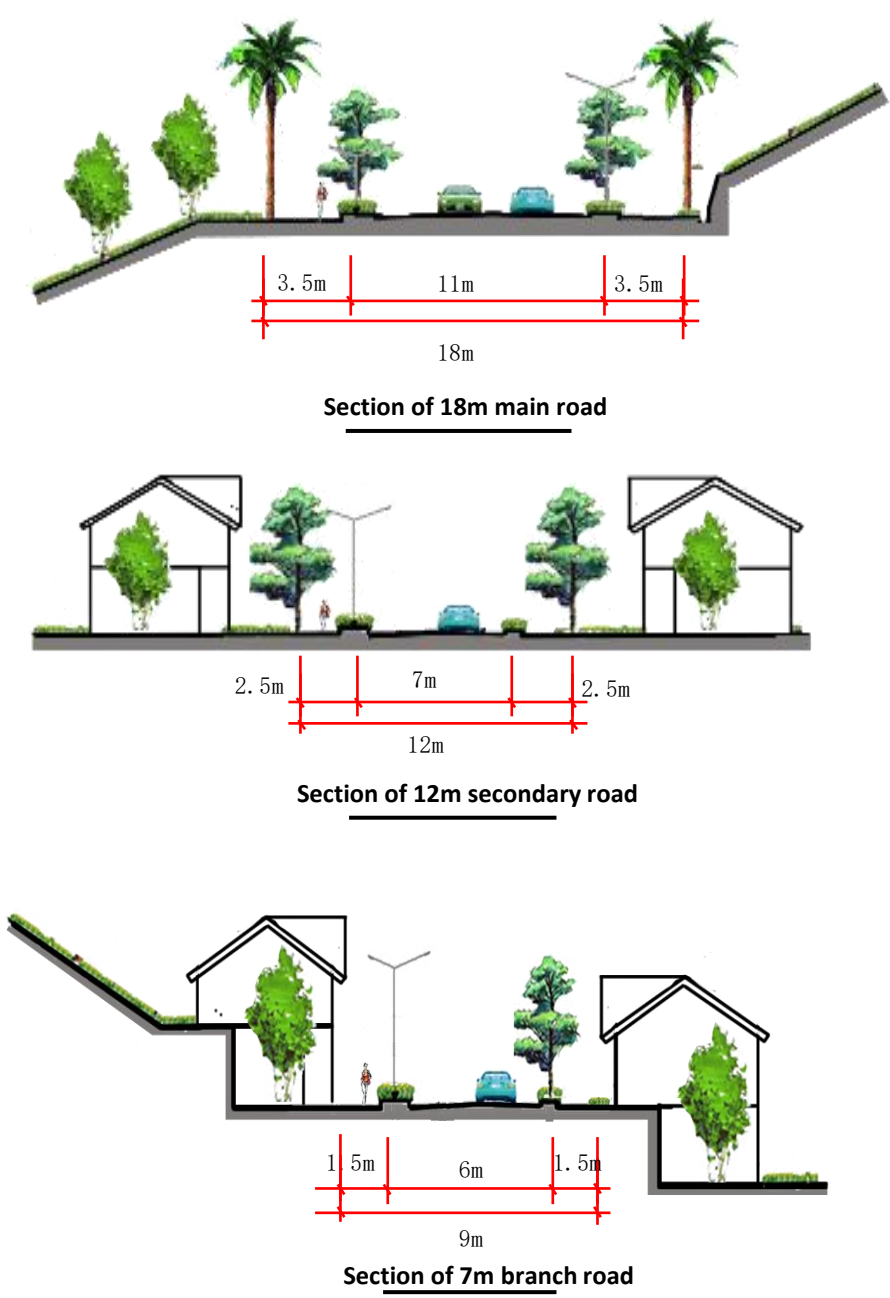
the Development capacity statistics of S3 plot

| Site | Name of group | Public (3-5c) | Comme rcial (2-3c) | Residencial (2c) | Resort (2c) | School (2-3c) | Office (2-3c) | Railway station | Logistics | R&D | Polo | ... | Total floor area (m2) | Site area of group (m2) | Plot ratio |
|------|---------------------------|---------------|--------------------|------------------|-------------|---------------|---------------|-----------------|-----------|-----|------|-----|-----------------------|-------------------------|------------|
| S3 | Zen tourism vacation area | 28300 | 53800 | 177550 | 105400 | 6000 | | | | | | | 371050 | 1541700 | 0.24068 |

4.3 S3 plot design

4.3.5 Traffic planning

The base has a three-level road system including an **18-meter main road**, a **12-meter secondary main road** and a **7-meter branch**, in which a road pattern of “trunk road connects groups” is formed.



| | Landscape avenue (km) | Main road (km) | Secondary road (km) |
|----|-----------------------|--|---------------------|
| S3 | 0 | 9.18 (widening based on the current condition) | 10.96 (newly built) |

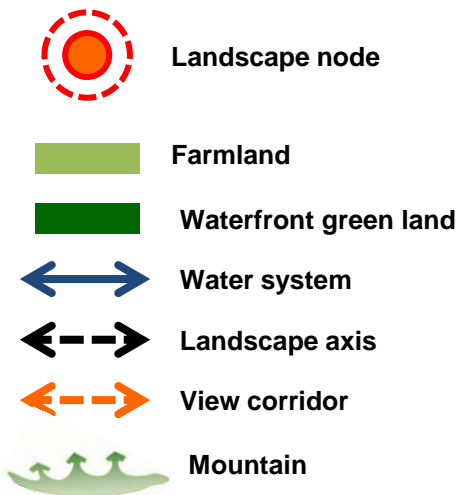
- Main road
- Second road
- Branch

4.3 S3 plot design

4.3.6 Wide open space and green landscape planning

As for plan and design, a systematic and landscape system with network and linear green space is formed by combining ecological corridor, ecological section with current farmlands, forests, water and mountains; moreover, actively connect site system and ecological environment surrounding and create an interactive green land ecological pattern.




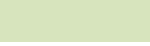

Extend the secondary open space system among various groups by combining current traffic system and construction groups. Every part interacts with others and in this way, an interactive network pattern is formed and a special space system will be formed in the groups by combining secondary open space nodes with group open space, and then an orderly open space pattern will be formed.

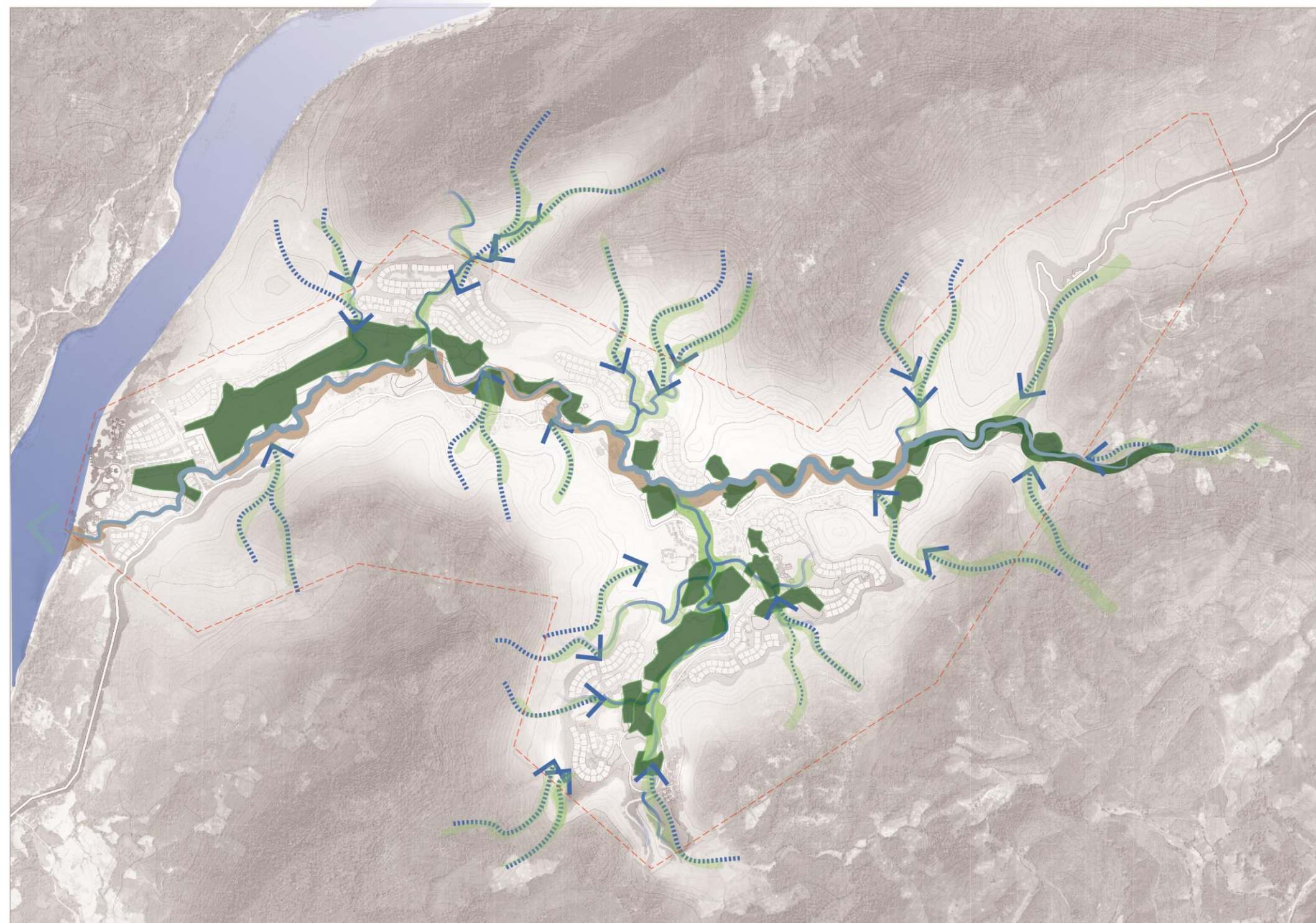


4.3 S3 plot design

4.3.7 Drainage arrangement

As for plan and design, a well-arranged drainage system will be built based on current valleys, rivers and natural landform. Rainwater on roof covering fall down via pipelines, collect with rainwater on roofs, and then flow into the garden, and thereby a stream or pond with water and dry landscape will formed; then the natural rainwater will be properly used after the water flow into the main water system and a beautiful waterscape axis will be created when the water is collected in the central eater system.

-  River
-  Farmland
-  Waterfront green land
-  Water collection area in valley
-  Water flow direction



4.3 S3 plot design

4.3.8 Planning for municipal administration and public service facilities

Public facilities and sewage treatment

Electricity transformer substation

Such conditions shall be taken into consideration: near to the core of negative electricity, convenient in fire demand, transportation and wiring.

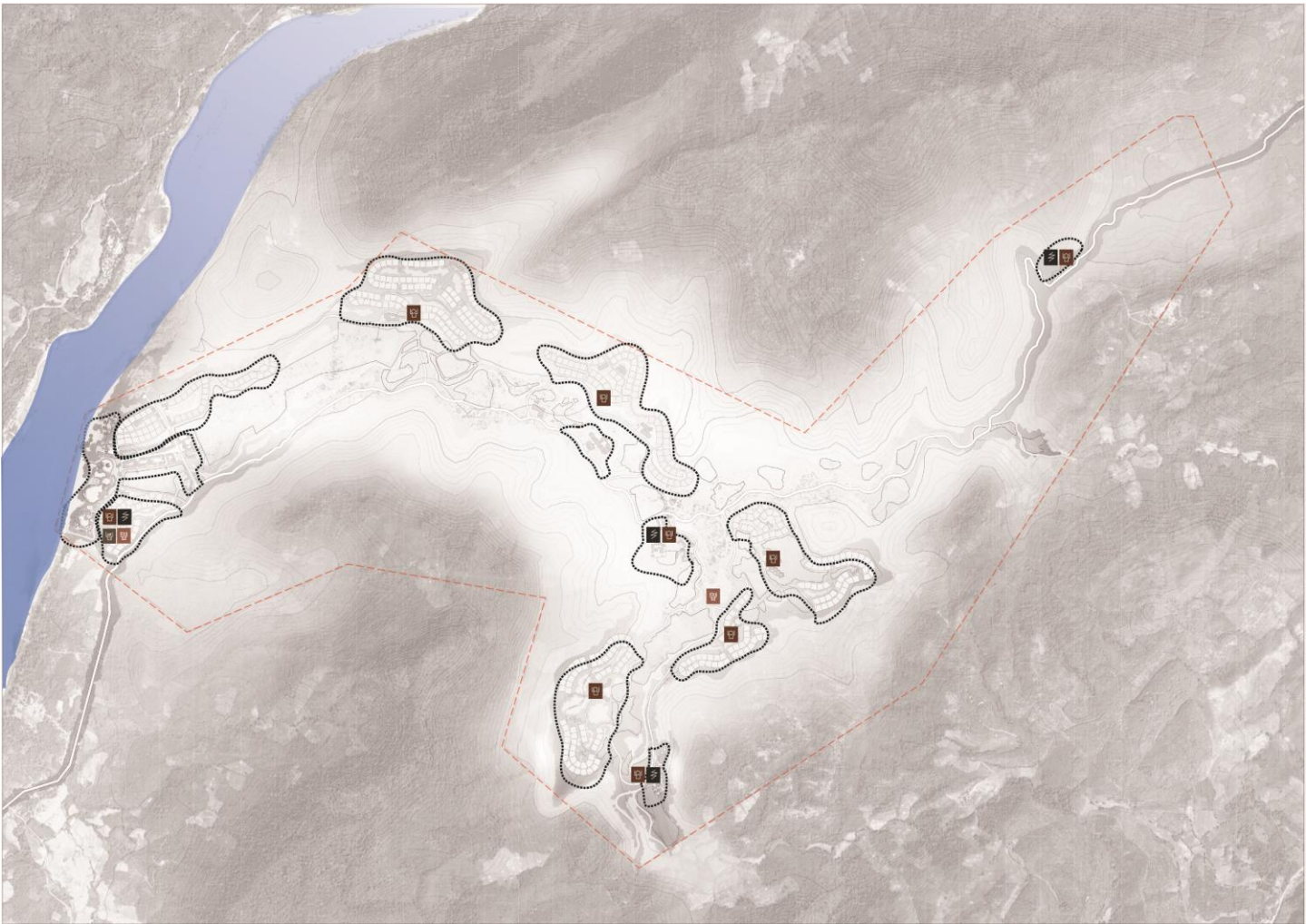
Garbage storage

They are set in main tourism points, commercial areas and places with convenient transportation.

Refuse transfer station

They are set in places which are accessed via main roads and far away from public service area.

-  Electricity transformer substation
-  Garbage storage
-  Refuse transfer station
-  Sewage treatment



Public service facility system

Community service facility










Community service facilities such as stores, sport fields and medical stations, etc. shall be set in main nodes and densely-populated places.

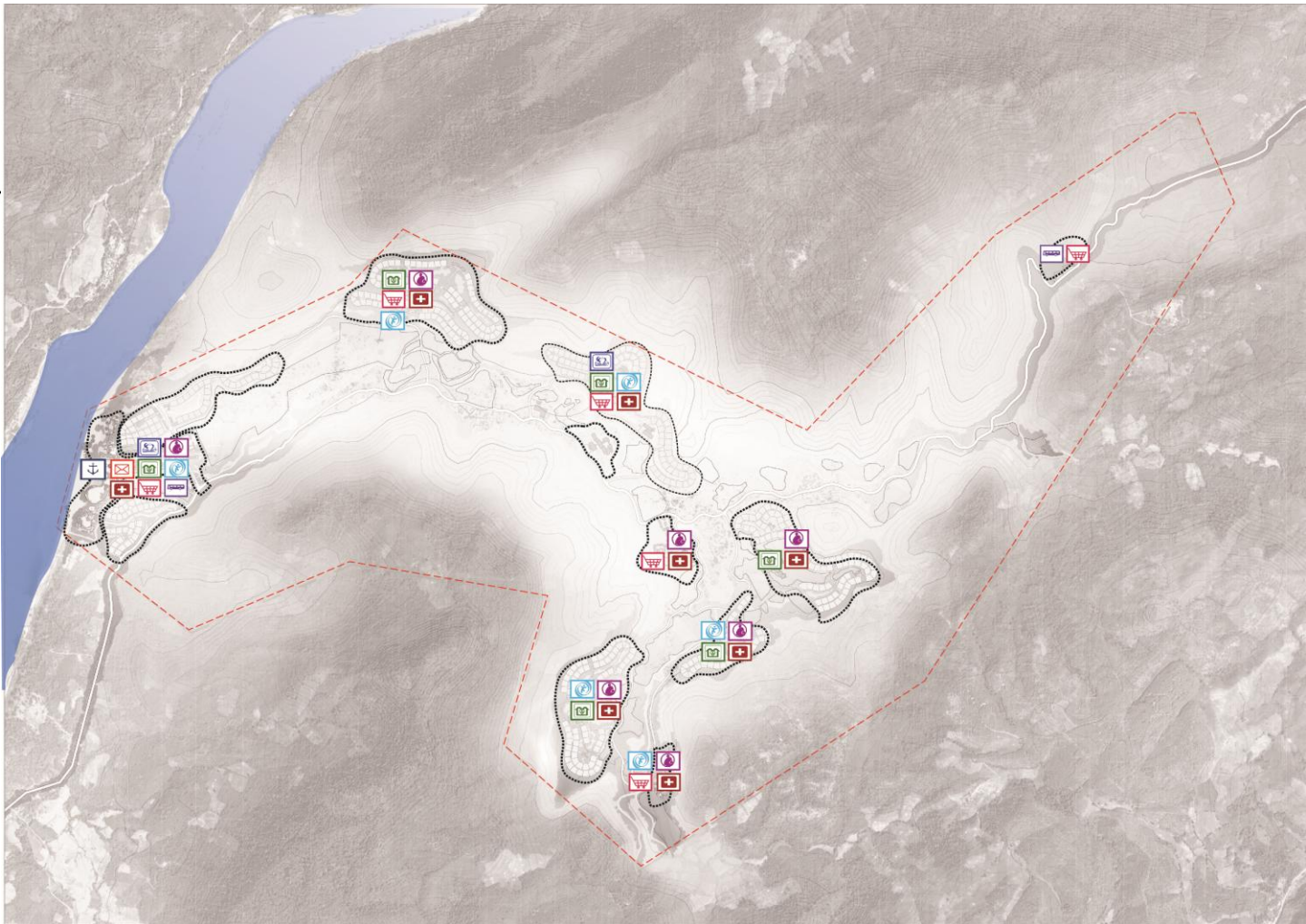
School

A school will be built in a densely-populated place or a place with convenient transportation.

Transportation facility

Means of transportation shall be set near main nodes and roads in the block to improve transportation and affection.

-  Medical center
-  Community service station
-  Meditation
-  School
-  Post office
-  Sport field
-  Bus terminal
-  Shopping mall
-  wharf



4.3 S3 plot design

4.3.9intention of main site

■ Water theme recreation and entertainment area



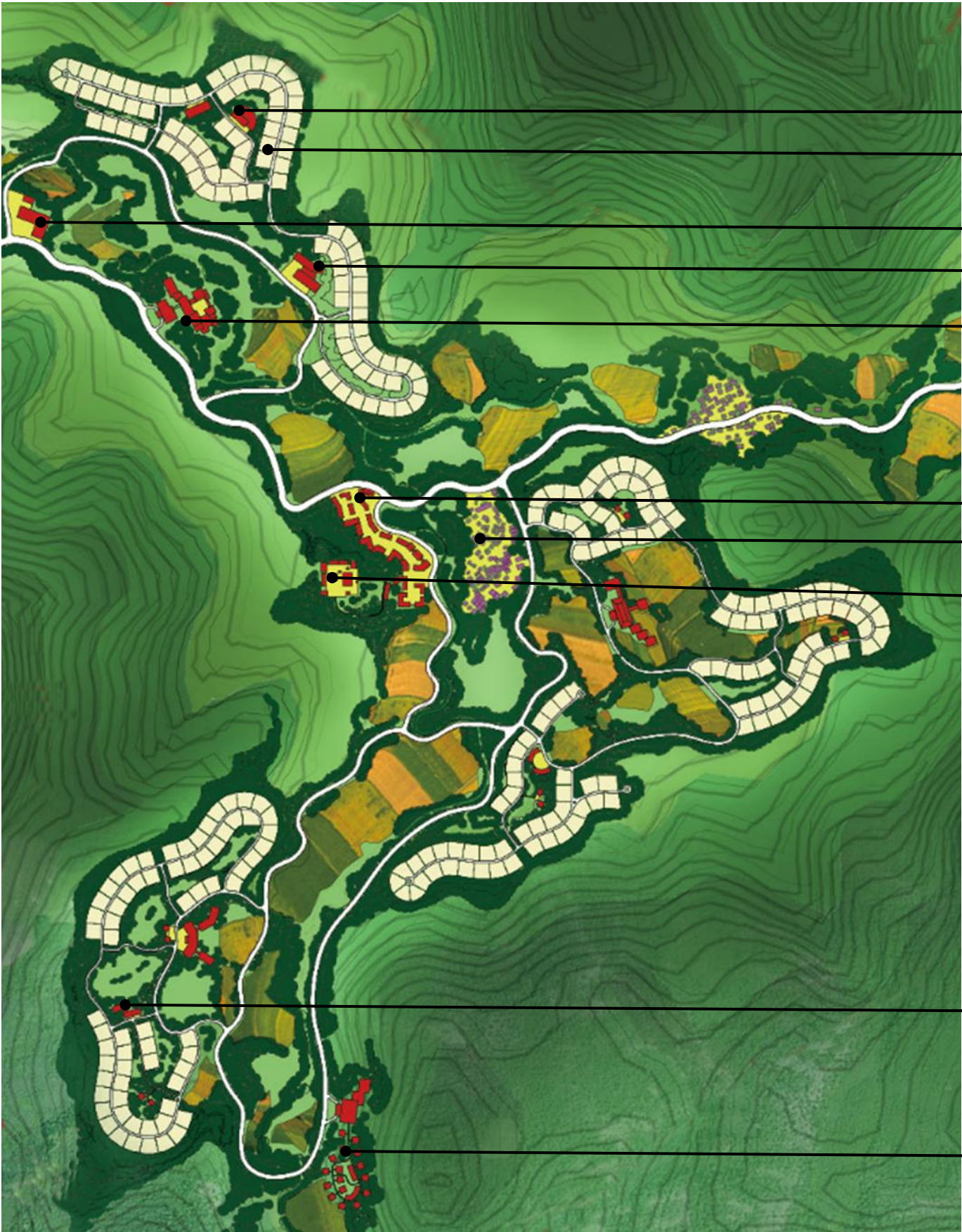
- Sightseeing agriculture
- Sandy beach
- Tourist center
- Water theme
- Commercial street
- Water park
- Organic farm
- Waterfront resort hotel



4.3 S3 plot design

4.3.9intention of main site

■ Zen rehabilitation resort area + tourism & resort residential area



Restaurant of South-east theme

Resort residence

Rehabilitation hospital
club

Idyllic eco-hotel

Zen rehabilitation and
cultural Commercial
street

Reserved village

Buddhist monastery
and cultural museum

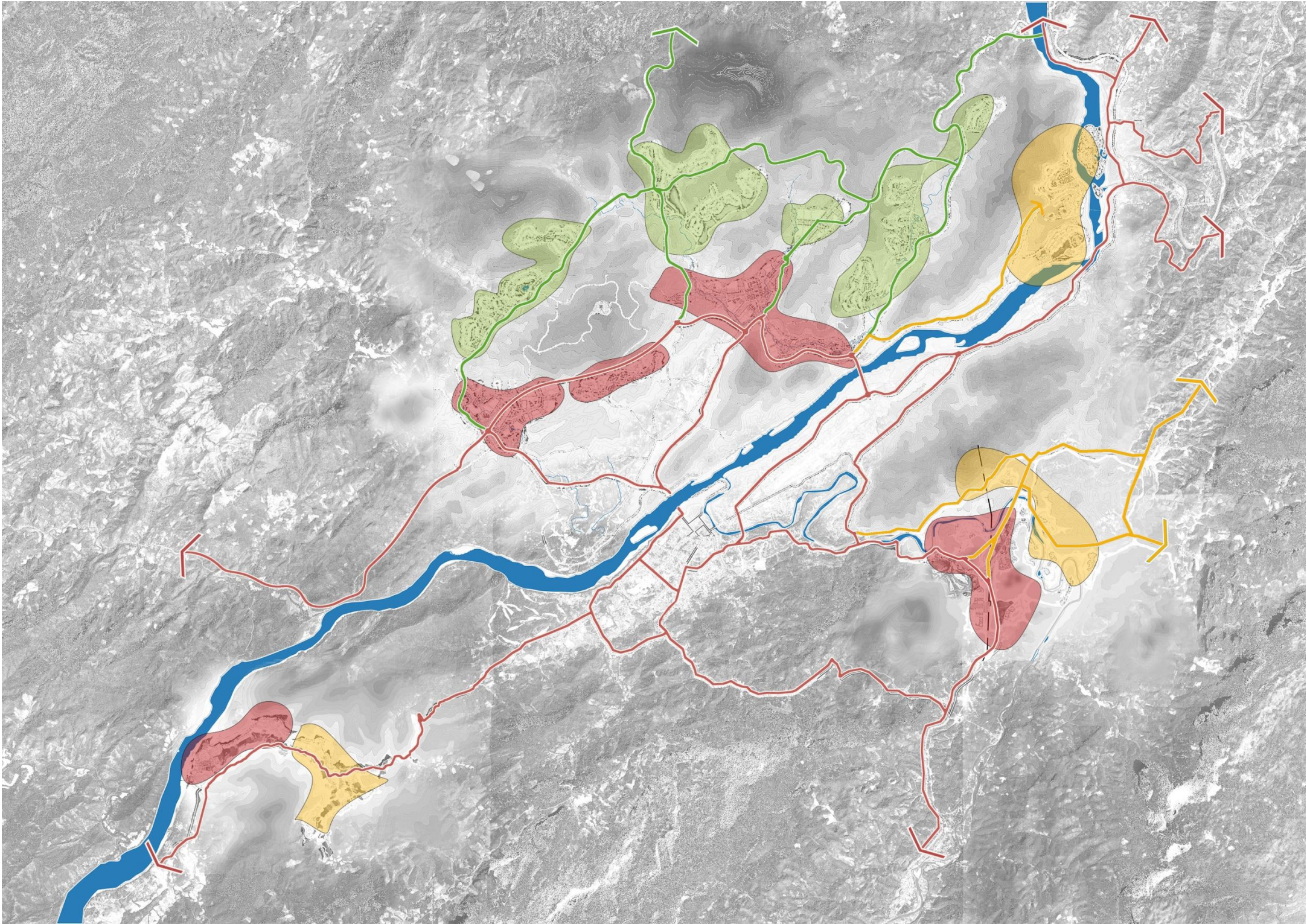
Zen rehabilitation room

Idyllic resort hotel



4.4 Implementation of plan

Implementation plan of “groups development led by road construction”



| | Phase 1 | Phase 2 | Phase 3 |
|----|--|---|---------------------------|
| S1 | Administration、Business & entertainment center、education & tourism service center、idyllic residential groups | rehabilitati on resort groups | Inner reside ntial groups |
| S2 | Railway Station、central business group、logistics industry group | Enterprise B&D groups | / |
| S3 | Water theme recreation and entertainment group | Tourism resort residential group、zen Rehabilitati on resort group | / |

- Roads developed in Phase I
- Roads developed in Phase II
- Roads developed in Phase III
- Groups developed in Phase I
- Groups developed in Phase II
- Groups developed in Phase III

4.5 information summary of development capacity

Land development capacity

| Site | Num ber | Name of 10 groups | Public (3-5c) | Commercial (2-3c) | Residential (2c) | Resort (2c) | School (2-3c) | Office (2-3c) | Railway station | Logistics | R&D | Polo | ... | Total floor area (m2) | Site area of group (m2) | Plot ratio |
|------|------------|---|------------------|----------------------|---------------------|----------------|------------------|------------------|--------------------|-----------|--------|--------|-----|--------------------------|-------------------------------|---------------|
| S1 | 1 | Farmland-type idyllic resort area | 9000 | 20500 | 195600 | 81250 | 6000 | 0 | | | | | | 312350 | 1210000 | 0.25814 |
| | 2 | Administrative and commercial service area | 359800 | 756000 | 1175000 | 88000 | 85800 | 102000 | | | | 136010 | | 2702610 | 3318246 | 0.81447 |
| | 3 | Education tourism service area | 150000 | 592000 | 1132400 | 226000 | 151350 | 52000 | | | | | | 2303750 | 2853000 | 0.80748 |
| | 4 | Eco-park central area | 6000 | 0 | 0 | 0 | 0 | 0 | | | | | | 6000 | 16500000 | 0.00036 |
| | 5 | Rehabilitation and vacation area | 5000 | 61600 | 15000 | 165000 | 3000 | 0 | | | | | | 249600 | 1230000 | 0.20293 |
| | 6 | Mountain & farmland-type idyllic residential area | 9800 | 35000 | 622400 | 0 | 12000 | 0 | | | | | | 679200 | 2140000 | 0.31738 |
| | 7 | Mountain-type idyllic residential area | 5000 | 50000 | 822500 | 3000 | 15000 | | | | | | | 895500 | 3050000 | 0.29361 |
| | 8 | Vale-type idyllic residential area | 43084 | 44466 | 475070 | | 6000 | | | | | | | 568620 | 1755300 | 0.32394 |
| S2 | 9 | Enterprise station and logistic industrial area | 184000 | 470400 | 410000 | 236700 | | 478170 | 28453 | 480000 | 418500 | | | 2706223 | 3516600 | 0.76956 |
| S3 | 10 | Zen tourism vacation area | 28300 | 53800 | 177550 | 105400 | 6000 | | | | | | | 371050 | 1541700 | 0.24068 |
| 总计 | | | 799984 | 2083766 | 5025520 | 905350 | 285150 | 632170 | 28453 | 480000 | 418500 | 136010 | 0 | 10794903 | 37114846 | 0.29085 |

Road construction capacity

| | Landscape avenue(km) | Main road(km) | Secondary road(km) |
|----|-------------------------|--|-------------------------|
| S1 | 18.24（new construction） | 48.62（new construction） | 92.02（new construction） |
| S2 | 0 | 2.88（broaden based on the existing construction） | 20.52（new construction） |
| S3 | 0 | 9.18（broaden based on the existing construction） | 10.96（new construction） |
| 合计 | 18.24 | 60.68 | 123.5 |

A scenic landscape at dawn or dusk. The sky is a mix of soft blues, purples, and yellows, with wispy clouds. In the background, a range of dark, silhouetted mountains stretches across the horizon. Below the mountains, a calm body of water, likely a lake or a wide river, reflects the light from the sky. The foreground shows a dense forest of trees, with some branches visible in the lower right corner. The overall atmosphere is peaceful and serene.

The End