DIPLOMA THESIS

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MASTER OF ARTS IN LANDSCAPE ARCHITECTURE AND GARDEN ART

OPEN SPACE DESIGN OF THE HISTORIC EQUESTRIAN AREA IN DUNAKESZI

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ABSTRACT

The Alag horse racing training centre in Dunakeszi has a history of over 100 years. It offers great riding opportunities for visitors. However, in comparison to other international equestrian parks, the Alag is still presented as a large equestrian area with a single function, few visitors and a poor environment, and it has not developed the concept of an equestrian park. This thesis is based on the study of the Alag horse racing training centre with the aim of revitalising the historic area and attracting more visitors to the area through the overall planning and detail design of the study site. This study begins with brief information about the site. After the introduction the core issues of equestrian park development are identified through relevant case studies. The study then presents the macro-scale analysis, the micro-scale analysis, the policy analysis and the summary of the analysis. Based on these analyses, the study proposes a vision of transforming the equestrian sports 'area' into an equestrian sports 'park' and a design strategy of '3+9+6', which implies the creation of 3 zones, providing 9 functional areas and serving 6 types of user groups. Finally this study shows the master plan and the detailed design of the highlight area, giving specific solutions for the road system, planting design and technical details. In conclusion, this study uses the example of the Alag horse racing training centre, which has been replanned and redesigned to make the area as a professional historic equestrian sports park. It will not only attract a large number of visitors, but will also preserve the history and culture of Alag equestrian and create a more beautiful ecological environment.

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1. INTRODUCTION

1.1. Abstracts of the thesis topic

As the tourism industry grows so does the demand by tourists for specialized travel alternatives. The equestrian tourism market is one that has received less attention, but in recent years there has been an increase in public demand for equestrian tourism. Even in Iceland, Travelling around Iceland on horseback was the only means of transportation for many centuries and is today a popular recreational and holiday activity of Icelanders and foreign visitors alike[1]. Increased demand makes the development and planning of equestrian tourism critical to minimize conflict among stakeholders, and provide necessary infrastructure for patrons[2].

The development of equestrian sport in Hungary started early and historically, but from the 1980s onwards, the development of equestrian sport in Hungary was greatly constrained[3]. There were two main reasons for this: firstly, the domestic regime at the time had a strict policy of restricting the keeping of horses by private and part-time farmers and associating equestrianism with the bourgeoisie. Secondly, the significant use of mechanised tools somewhat reduced people's reliance on horses, which temporarily stagnated or even set back the development of equestrian leisure. In the last two decades, however, the importance of horses has been revived by Hungarian civil society and entrepreneurs, and the total number of horses in Hungary has risen significantly, leading to a rise in equestrian tourism and equestrian leisure. Nevertheless, the development of equestrian leisure in Hungary is still significantly behind that of the major equestrian countries in Western Europe[3]. On the other hand, there are still very few modern equestrian sports parks, especially in terms of planning, design and operation of large equestrian centres.

International scholars are mostly positive about the impact that equestrian sport brings to social development. For example, Sylvine Pickel-Chevalier and Gwenaëlle Grefe believe that equestrian tourism can contribute to sustainable economic, social and environmental development in France[4]. Csilla Obádovics and László Kulcsár believe that the rebirth of equestrian leisure in Hungary has played a significant role in the country's economic and social development: on the one hand, the positive development of equestrian leisure has been accompanied by a significant increase in the number of horses in the country and the economic generation of income from related industries; on the other hand, it has been of great importance for the preservation of Hungarian equestrian culture as a historical and cultural heritage[5].

Therefore, this thesis takes the historic Alag Equestrian Training Centre in the town of Dunakeszi as an object. Through a site visit and analysis of the existing problems of the site, as well as studing with relevant cases of other famous equestrian sports centres around the world, I summarised the planning and design issues, functional positioning and landscape enhancement of the Alag Equestrian Training Centre at the macro and micro levels that need to be addressed. Based on the analysis and summary, this thesis proposes the overall planning and some detailed landscape design. Through the re-planning and redesign of the historic

equestrian sports training centre area and its green spaces, a historic equestrian sports landscape park is created to rejuvenate the site and attract more visitors.

1.2. Brief information of the site

1.2.1. Location

The site is located in Dunakeszi, Hungary (**Figure 1-1**). The site is specifically in the south-east of Dunakeszi. To the south of the site is the Dunakeszi gliding airport. To the west it is adjacent to Pálya Street and Dunakeszi railway station. To the north is the dense residential area of Dunakeszi. To the east is the M2 motorway. The site is also surrounded by small towns such as Fót (3km away), Göd (8km away), the 4th district of Budapest (4.5km) and the city centre of Budapest (12km), and the Danube (2.5km), so it is ideally located for visitors from all directions by car or public transport.

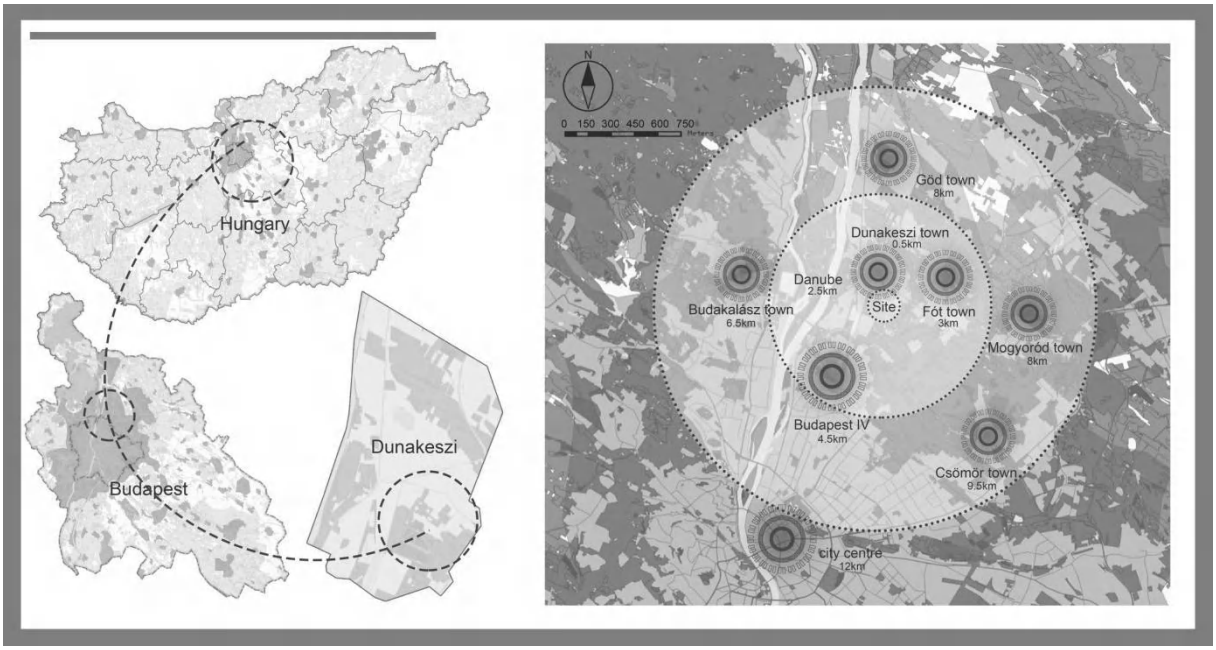

Figure 1-1: Location Map

1.2.2. Historical introduction

The Alag horse racing training centre has a very long history (**Figure 1-2**), dating back as far as 1889. The first president of the Hungarian Riding Association at that time was Count István Széchenyi, who bought Alagpuszta and became the largest owner of St. Michael's Church. But at that time the riding association did not own its own racecourse. In 1890, under the joint presidency of Count Elemér Batthyány[6], the construction of the Alag began with the involvement of British engineers. The first races of the Alagi Racecourse were held the following year, on 12 April 1891, and became a regular event from 1893 onwards with the establishment of the Alagi Prize. The waterworks network was also developed with three water towers, making Alag the first village in the country to have a complete drinking water network. As a result of this development, in 1896 a new track was built, pine trees were planted to bind the sand and improve the air, and in 1898 the Pavilion building was constructed. Another consequence of this development was the building of stables on the outskirts of Alag. In 1901, the riding association helped to build the new town hall in Dunakeszi, and in 1910 it built the new town hall of the then independent Alag. The following year, it also supported the construction of a folk school in Alag. After that, when the Pest

racecourse was ploughed up, the centre of Hungarian equestrian sport moved to Alag, where the first Hungarian Derby was held in 1921. The track in Pest was rebuilt by 1925, but most of the races were moved away from the Alagi racecourse and the main task became trenching again. In its heyday, Alag had more than 600 horses and was one of the largest training centres in the world, and it is no coincidence that in 1935 the Ninth Commission founded the Nagyalag stud. After the World War, the boom came to an end due to restrictions on private property. Nationalisation and the damage caused by the war did not spare the land in Lovaseglyet. In 1951 the association was nationalised as the Hungarian Horse Racing Company. In 1989 the Hungarian Equestrian Association was re-established. Since 1994 there is again a race in Alag. Every spring the Alag Horse Show is held in Dunakeszi[7].

As of today, Dunakeszi is the only Hungarian town with a racehorse training centre. The training centre offers great riding opportunities for visitors.

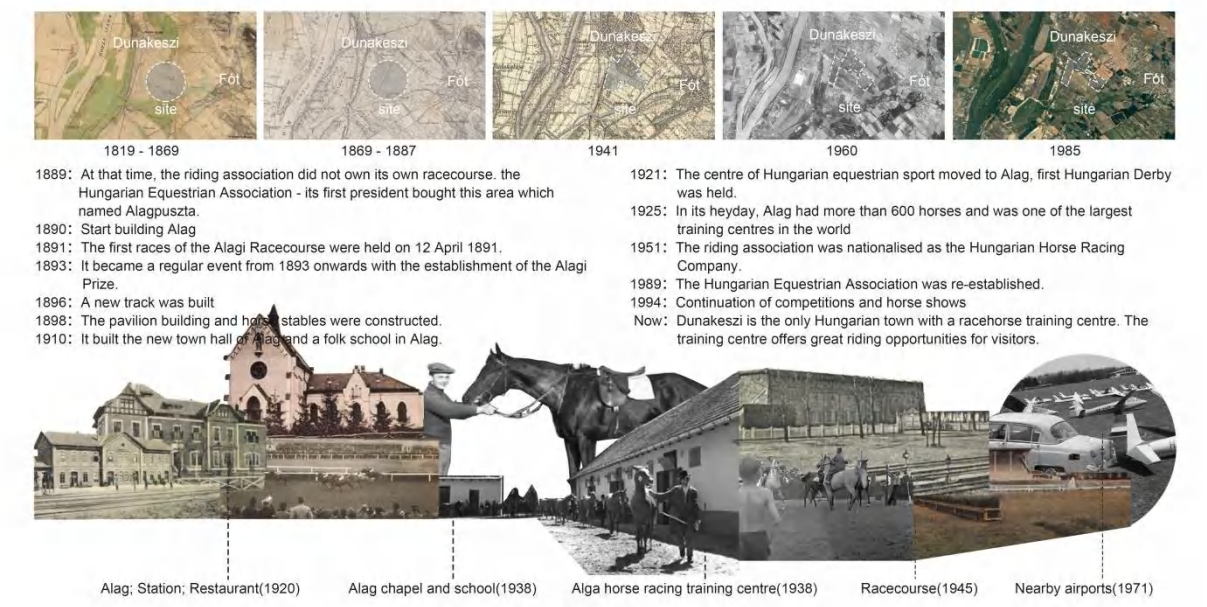

Figure 1-2: Historical Development Map

1.2.3. Site definition

The site is located to the south east of Dunakeszi, with Pálya Street and Dunakeszi railway station to the west of the site, the gliding airport to the south, the M2 motorway to the east and Fóti Way and residential areas to the north.

For the definition of the site, I found the land use and range of the site according to the municipality's settlement plan of 2020[8] (**Figure 1-3**). Within the white line is the entire area of the site. The whole site is fenced. The total area of the site is 166 hectares and the nature of the land is entirely devoted to large equestrian sports areas (Kb-lsp)[8]. The central part of the site is approximately 59 hectares and is dominated by facilities such as stables, forage production houses and training grounds. In addition to this, the western and eastern parts of the site, 107 hectares of which are important nature reserves. At present, a large part of the site is covered with vegetation and has a very rich vegetation resources.

Figure 1-3: Site Definition Detail Map

1.3. Thesis framework

The overall framework of the thesis is divided into three parts (**Figure 1-4**). The first part is the introduction and research, which includes an introduction to the thesis topic, information about the site, relevant concepts and cases. This part will clarify why I want to study the object, that is, to raise the question. The second part is the site analysis, which is carried out at macro and micro scales, policy analysis and summarises the analysis respectively. This part is to analyse the question. The third part is the core results presentation section, including the conceptual approach, the overall planning and the detail design. This part aims to address the issues raised through the analysis in the previous part.

The overall direction and aim of the thesis: By re-planning and designing the historic equestrian sports area with its green space to creat a historic equestrian sports landscape park, and provide a definitive solution to rejuvenate the site and attract more visitors.

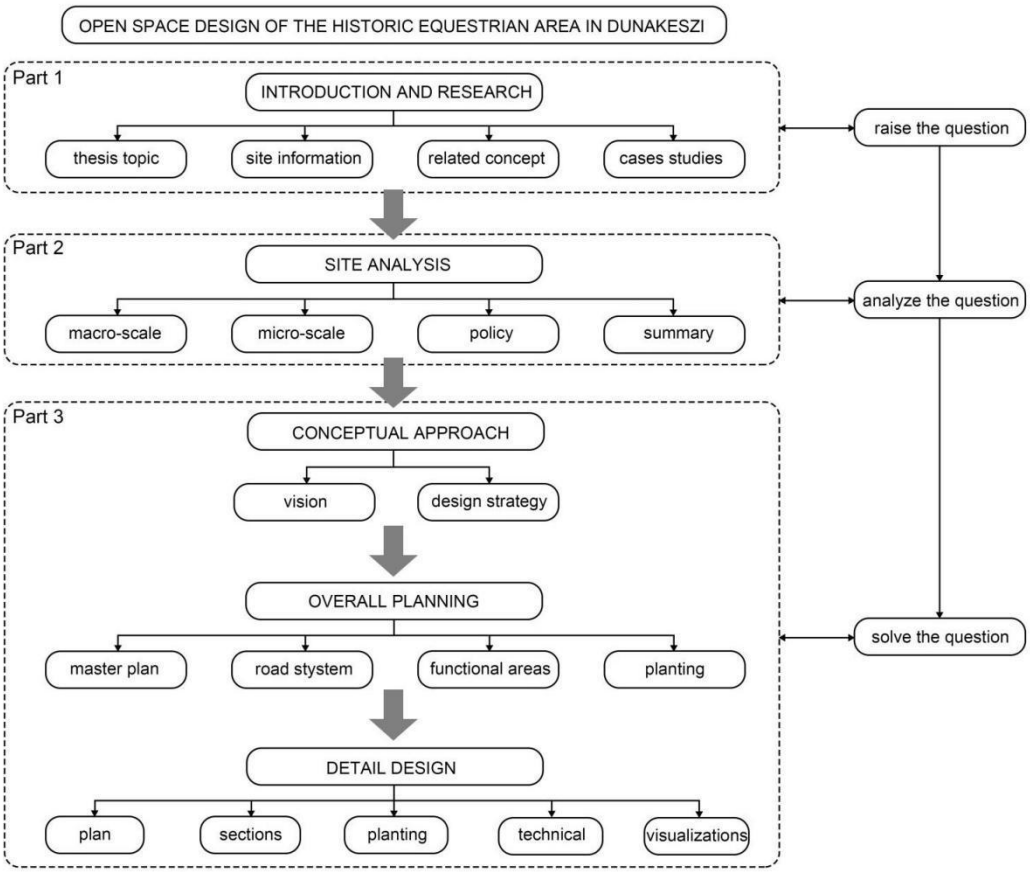

Figure 1-4: Thesis Framework and Process

2. RELATED RESEARCH

2.1. Concept of the equestrian park

Equestrian sport is the only one of the various horse-related sports that are currently part of the Olympic Games[9]. The basic feature of the equestrian park is the equestrian sport theme, with other leisure and sporting functions as an adjunct[10].

The equestrian park has a clear functional orientation and, in general, is a sport and leisure site for the general public to experience equestrian sports, to exercise, or to relax. Equestrian sports parks also usually create a unique landmark for the city and are a category of features in the city's tourism industry[10].

In the planning and design of traditional equestrian sports parks, emphasis should be placed on planning corresponding cultural experience products, such as equestrian performance grounds and youth equestrian sports schools, etc. The inclusion of these features will increase people's interest in equestrian sports and establish a wider market[11].

The landscape design objectives for an equestrian sport park need to be based on the local environment. The green system is preserved as much as possible without damaging the original ecology of the area. Designers need to consider not only the diversity of functions and landscapes, but also ecological conservation. At the same time, the design of the park

should have a unified style that is in harmony with the surrounding environment, making the man-made environment as natural as possible. In the design process, attention should be paid to the rationalisation of the park's landscape structure and functions in order to achieve sustainable development of the park. Ultimately, it will bring ecological and social benefits to the city.

2.2. Related cases studies

I drew on two well-known cases of equestrian sports parks to help me do better research. One is the Lázár Lovaspark in Budapest and the other is the Sydney International Equestrian Centre from Australia.

2.2.1. Lázár Lovaspark in Budapest

Lázár Equestrian Park (**Figure 2-1**) is only nine hectares in size and has been open since 2001. It is located in the nature reserve of the Domonyvölgy Valley, 35 km from Budapest and 5 km from Gödöllő.

Figure 2-1: Lázár Equestrian Park Orthophoto

At first, in 2001, it was not a park, but a restaurant called Old Lodge. In 2017 they built the indoor riding arena with a serving corner and a tribune accepting 250 guests. They also built a new stable and a playground for the kids. In 2019 they opened the Lazareum museum introducing the history of the coach, the Hungarian equestrian sport and the career of the Lázár brothers. In 2020 the road to the park was renovated[12].

You can see the exact structure and elements of the Lázár Equestrian Park in the analysis map (**Figure 2-2**). The entrance area of the park is a large car park as well as a reception hall, where forums are often held. Next to the reception hall is the historic restaurant, where locally grown vegetables are used as ingredients. The park offers professional indoor and outdoor equestrian arena, and the riders can choose between the 30x60m indoor riding arena that opened in 2017 and the new 40-x70m outdoor riding track (**Figure 2-3**)[12].

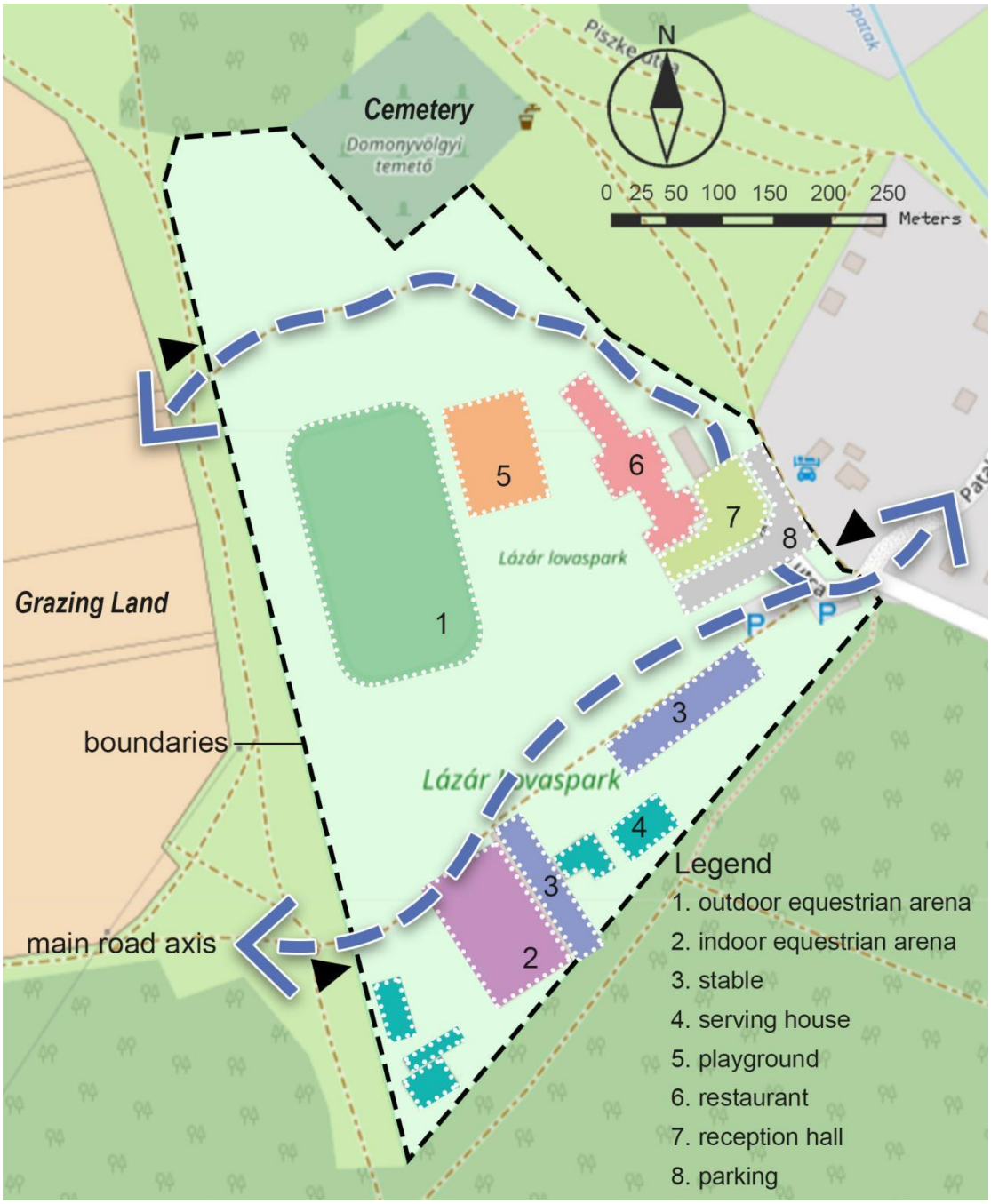

Figure 2-2: Structure and Elements of Lázár Equestrian Park

Figure 2-3: Horse Racing Venue

In addition to equestrian sports, the park offers a wide range of activities (**Figure 2-4**) such as corporate team building and weddings, family picnic (**Figure 2-5**) and much more. It is worth mentioning that the park has different facilities and activities for different groups of people, for example, the park also offers a diverse range of activities for children (**Figure 2-6**)[12].

Figure 2-4: Game Activities

Figure 2-5: Family Picnic

Figure 2-6: Playground

2.2.2. Sydney International Equestrian Centre

As one of the most developed equine industries in the world, Australia has a wealth of experience in eventing, a complete equestrian industry development chain and a sound business model. Australia is among the world's leading countries in terms of the number of race horses kept, the number of racecourses, the resources of those working in the industry and the economic revenue generated.

The Sydney International Equestrian Centre is located in a rural park and covers approximately 96 hectares of land, purpose-built for the Sydney 2000 Olympic and Paralympic Games, with some of the most advanced equestrian facilities in the world at the time. Following the Games, the site was developed and operated in a comprehensive manner to host equestrian related events and activities, as well as community events, festivals, corporate events and film productions.

The facilities of the equestrian centre include a competition arena, a training arena, stables and service facilities and catering facilities (**Figure 2-7**). The competition arena is divided into an indoor main competition arena and an outdoor competition arena. The training area consists of a variety of training areas, including sand and grass. Stabling and service facilities include two centralised stables, providing 300 stalls measuring 3.6 m x 3.6 m, as well as horse washing facilities and feed storage[13]. There are also conference rooms, training rooms, 154 camping caravans, car parking and other facilities.

Figure 2-7: Sydney International Equestrian Centre Plan Map

In its overall layout, the Sydney International Equestrian Centre presents a core and four functional areas (**Figure 2-8**). The main functions of North Zone 1 and North Zone 2 are the unloading area and carriage parking, training areas, stables and associated service areas. The main functions of the Core Zone are the main racecourse, indoor racecourse and warm-up training area. The South Zone functions mainly as a spectator car park, multi-purpose exhibition area and entrance plaza. The East Zone is the cross-country track and is relatively independent.

Figure 2-8: Sydney International Equestrian Centre Functional Area Map

The north side is for the horses and the internal service entrance, while the south side is for the main entrance of the spectators to avoid cross interference between internal and external flow lines. The buildings of the entire equestrian centre are mainly small in scale. The design takes into account the difference in height of the terrain and organises the different flow lines, while paying attention to the ventilation of the building. The indoor arena and stables are semi-open (**Figure 2-9, Figure 2-10**), which greatly reduces the construction and operation costs.

Figure 2-9: Interior Pavilion Facade

Figure 2-10: Horse Stables

In order to increase the utilisation of the venue and facilities, in addition to hosting professional equestrian competitions, the Sydney Equestrian Centre operations team also organises regular equestrian training, equestrian promotion courses and equestrian skills exchange sessions. In addition, the operators have expanded beyond equestrian events such as 5km trail runs, seniors marathons, dog fun runs, outdoor training for firefighters, product launches, music festivals, exhibitions and even weddings[13].

3. SITE ANALYSIS

3.1. Macro-scale analysis

3.1.1. Urban context

As for the urban context of the site, we can see that the site is surrounded by many functional elements and building types (**Figure 3-1**). To the east of the site is the police training centre and to the south is the gliding airport and industrial area. The cemetery, the shopping center

and some hiking areas are 1-2km away. The Fót nature reserve is the furthest famous attraction from the site, about 4km. The site is located in the south-east of Dunakeszi, and the site is 2km from the Danube and Fót town respectively, 3.7km from Budapest District 4. In conclusion, as can be seen through the urban context analysis, the site is a 15-minute walk from the central settlement of Dunakeszi and a 10-minute drive from Fót and 20-minute drive from Budapest IV. Therefore, the site has a very strong potential for development in such an urban environment and it could be created and developed into an landmarked central equestrian sports park, linking several settlements.

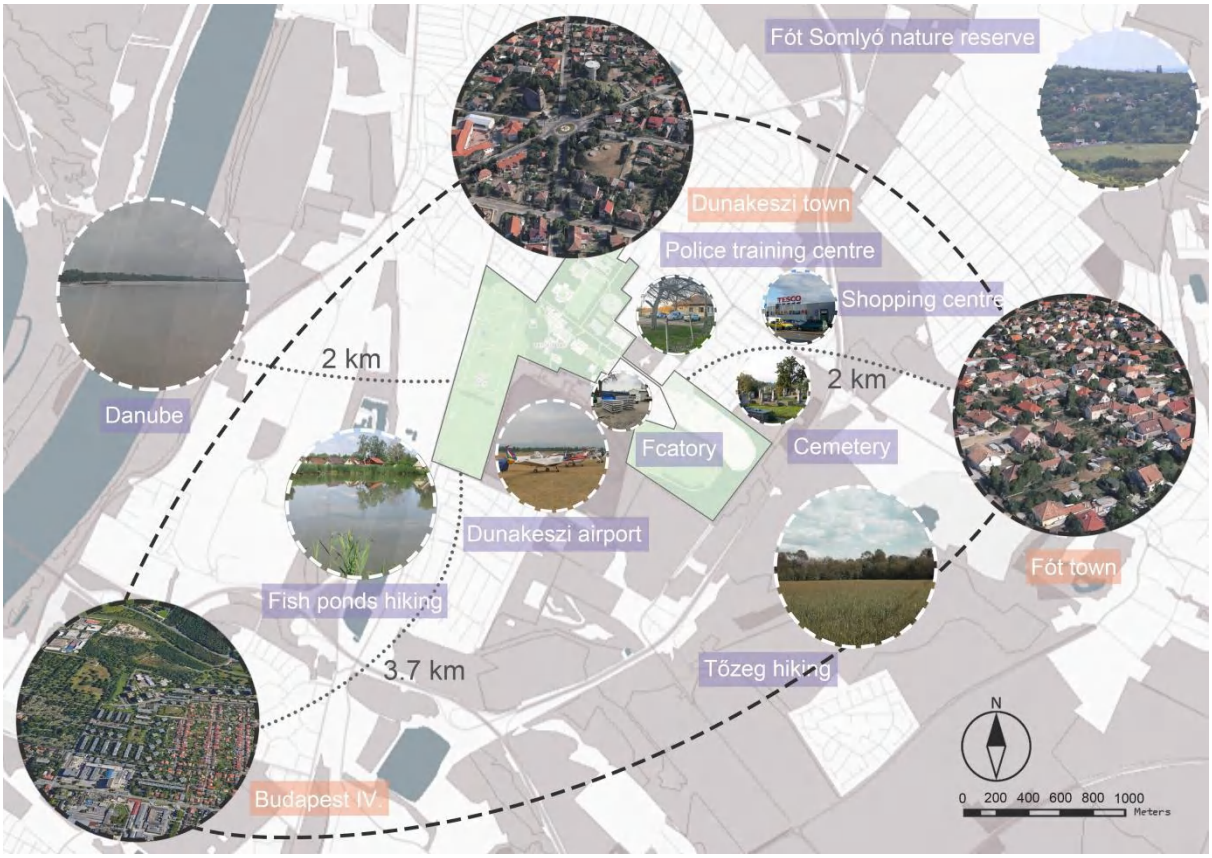

Figure 3-1: Urban Context Analysis Map

3.1.2. Protected areas network

According to the information on the official OKIR map website [14], there are three conservation categories that affect the Dunakeszi town, which are National Ecological Network, Legally Protected Wetlands, Natura 2000 Special Nature Reserves Network (**Figure 3-2**). Of these, the national ecological network includes core area, ecological corridor, and buffer zone. As you can see from the diagram, the western part of the site is the ecological corridor and the eastern part is the core area. The external area on the south side of the site (the sports airport area) is also the core area of the national ecological network.

In summary, therefore, the western and eastern parts of the site are important nature reserves, so it is clear that these two areas are of high ecological value in addition to being large equestrian sports areas.

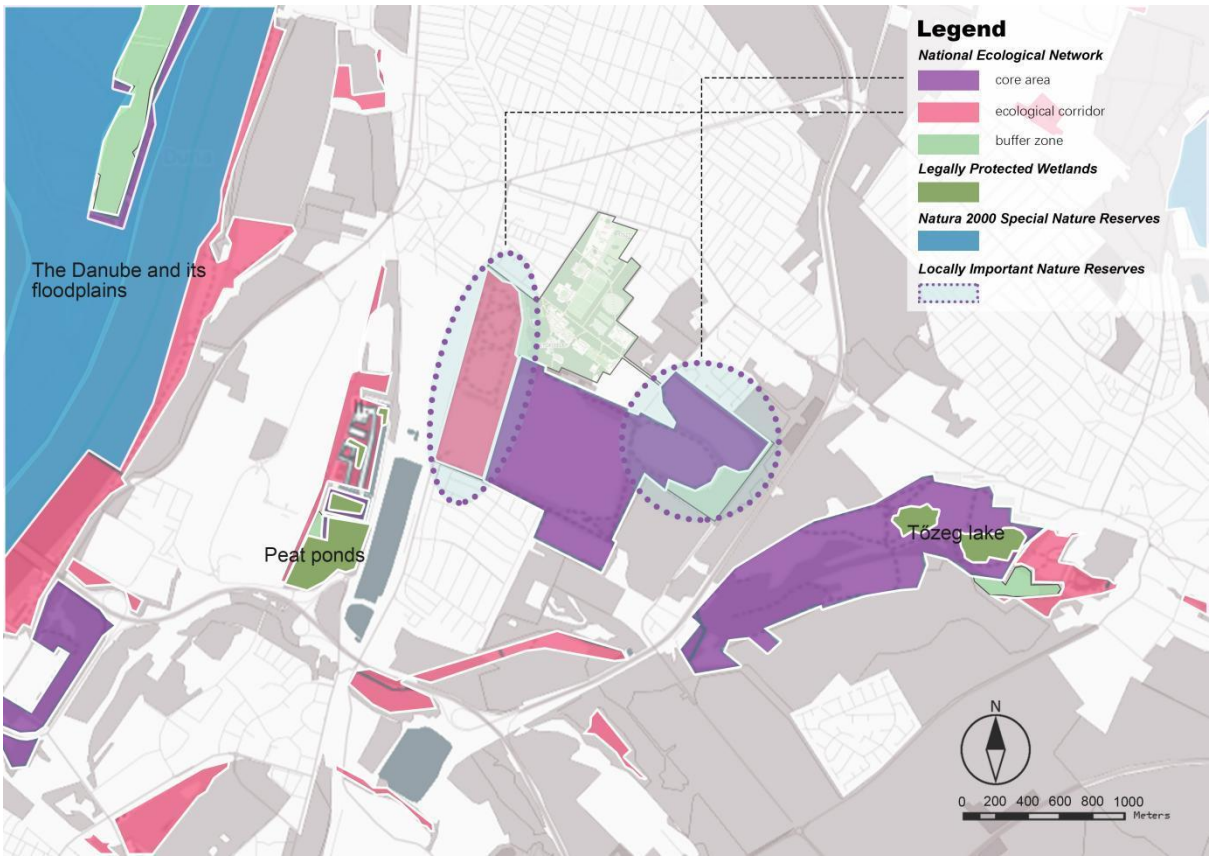

Figure 3-2: Protected Areas Network Analysis Map

3.1.3. Trafic system

The external of the site has three levels of city roads (highways, main city roads, secondary roads), as well as many pathways (**Figure 3-3**).

The nearest motorway to the site is the M2 motorway to the east. The secondary city road runs through the site from Dunakeszi railway station on the west side in an easterly direction and then in a northerly direction. Therefore, the west-east connectivity of the site and the connections between north and south need to be considered.

The bus routes are only available to the north and west of the site, and for current sitiuation, there is a lack of bus routes around the site especially the east side of the site. There are two important railway lines and a number of railway stations around the site, for example, the nearest railway station is Dunakeszi railway station on the west side. The railway stations to the east of the site is too far from the site to allow direct access to the site. In conclusion, the site can only be easily reached by Dunakeszi railway station and a number of bus stops to the west and north. Other than that, driving and cycling are the main ways of transport to this site.

There are a number of busy junctions around the site, but they are far enough away from the site that they will have little impact on the site. It is worth noting that there is a secondary junction on the west side of the site, which is the closest connection to the site and where the majority of people will pass through to get to the site. Overall, the accessibility of the site needs to be improved and the main entrance to the site should be located closest to Dunakeszi

railway station. The secondary entrance could be chosen to the north-west of the site within easy reach of the bus stations.

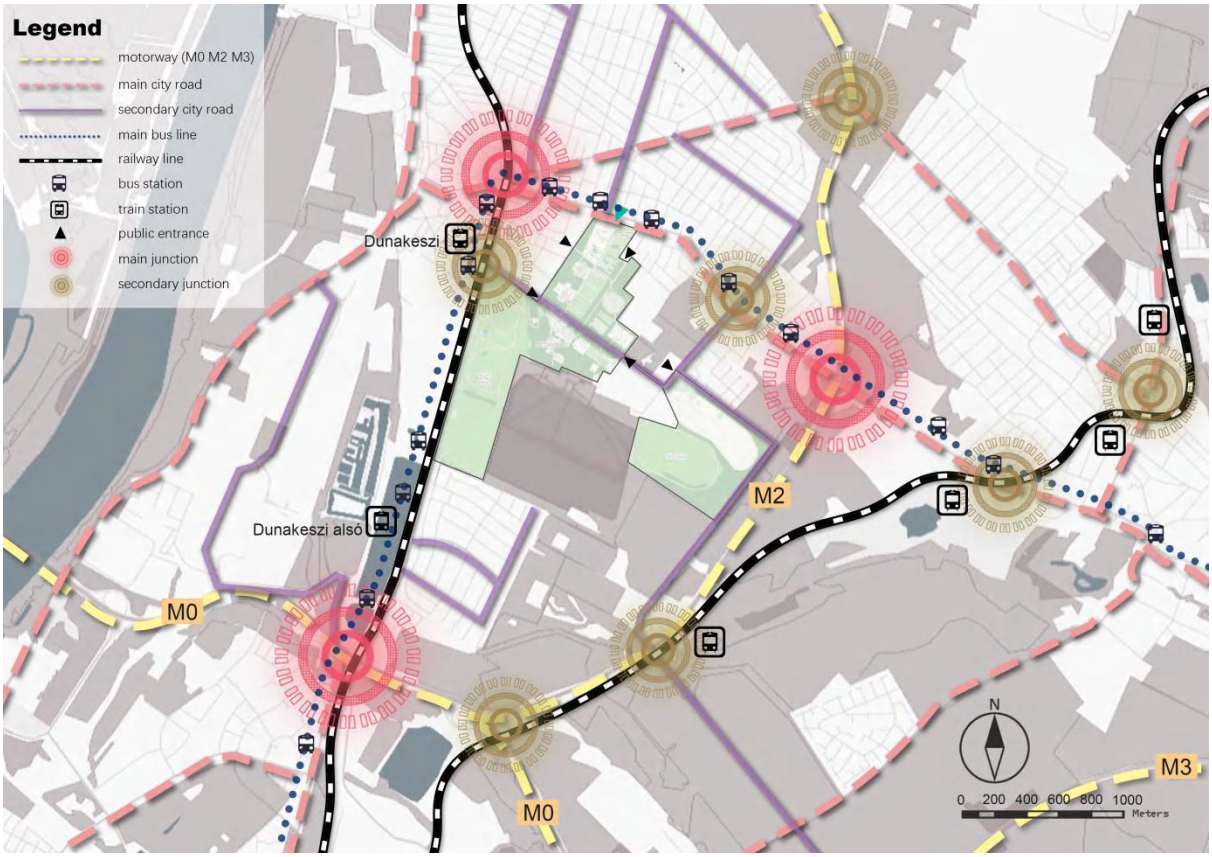

Figure 3-3: Trafic System Analysis Map

3.2. Micro-scale analysis

3.2.1. Functions and users

I mentioned in section 1.2.3 that the nature of the land on the site is a large equestrian sports area and includes two nature reserves. Therefore, through the site survey, I have summarised the distribution of the functional areas of the site (**Figure 3-4**). There are five main functional areas within the equestrian sports area, which are the mixed area of stables and forage production, the forage production houses area, the equestrian sports grounds, the stables and training centre, and the racecourses.

This functions and users map simultaneously show exactly which users use which spaces. For example, in the mixed area of stables and forage production, the users are mainly workers; in the racecourse area, it is mainly riders and visitors who watch the games.

In summary, the site is used by a very homogeneous group of people, and also lacks some functions within the site, such as recreational areas, rest areas and children's playground areas. Therefore, it is important to plan and add more functional areas to attract more users to the site.

Figure 3-4: Functions and Users Analysis Map

3.2.2. Road system

As the site is very large, the road system within the site is complex. I summarised the levels of the road system within the site (**Figures 3-5**). The road system consists of four main levels: the main city road, the main road, the secondary road and the horse racing track. As you can see, Kápolna Street is the city road that crosses the site and is approximately 15m wide, which divides the western side of the site into a north and south section. The main road within the site is approximately 6-8m wide with a natural sandy surface. The secondary road is also a natural surface, approximately 2-4m wide. The horse racing tracks are located on the west and east side of the site and are very open.

The main car flows run along Kápolna Street. People use the main and secondary roads within the site the most, and the main and secondary people flows are also distributed based on these two levels of roads.

In summary, the main and secondary roads within the site are confusing and some of them are gradually being destroyed and disappearing. There is also the case where there is in fact no road, but where people have walked on it for a long time, thus creating a track that distinguishes it from the surrounding paved surface. The road system within the site is therefore inadequate and needs to be re-planned. Only then will it be easier for visitors to get

to where they want to go.

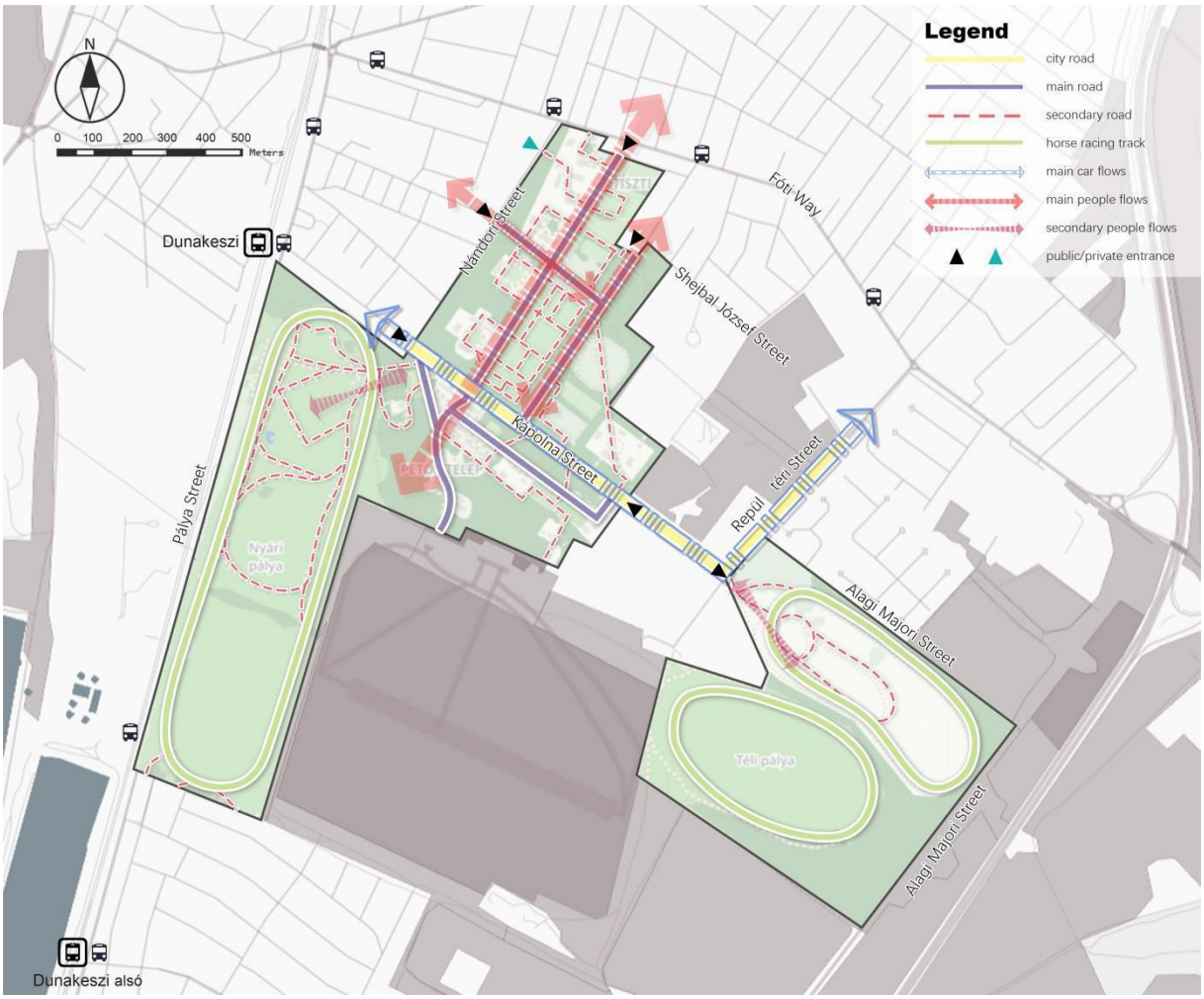

Figure 3-5: Road System Analysis Map

3.2.3. Natural conditions

The natural conditions of the site include elements such as topography, light, wind direction, noise and vegetation (**Figure 3-6**).

I mapped the contours of the site based on Google Earth and we can see that the topography of the site is almost flat, with a high north-east and south-west base and a slope of 3%.

With regard to the light and shadow analysis, the racecourse area is mostly sunny. The shady and semi-shady areas are concentrated in the central part of the site, as this area is covered by many large trees.

The natural wind direction of the site is predominantly north-west, so trees are preferable on the west and north sides of the site

.

With regard to noise impact, the western side of the site is most affected by noise as it is close to Pálya Street, a busy city road along which the train line also passes. The area close to the industrial area is also affected by noise. In addition to this, some noise is generated by the

gliding airport in the south of the site, but the impact is marginal.

The site contains a large number of vegetation resources, especially in the central area of the site. In terms of plant species, the main tree species are Pinus, Tilia tomentosa, Robinia pseudoacacia, Pinus, Salix, Morus alba, Ulmus, etc.. The main shrub species are Platycladus orientalis, Symphoricarpos Sinensis, Buxus, etc. After the site survey, I also found some invasive species, the most important of which is Fallopia japonica.

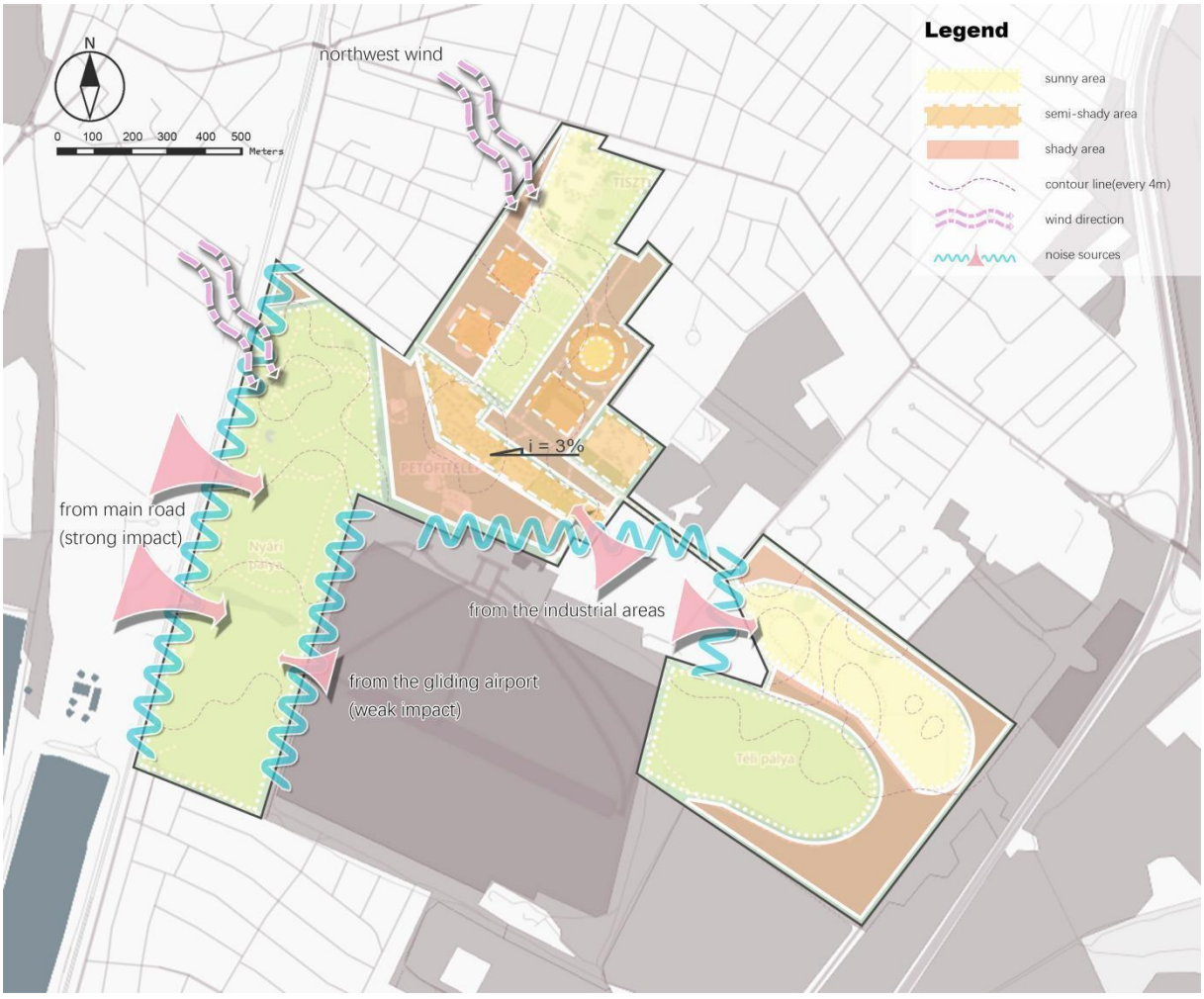

Figure 3-6: Natural Conditions Analysis Map

3.2.4. Protected areas and historic monuments

For the analysis of protected areas and historic monuments, I mainly referred to the Local Building Regulations of the City of Dunakeszi[15] and the National Register of Historic Monuments[16-17].

According to the National Register of Historic Monuments, the municipality has defined a certain area of protected monuments. Specifically, these protected monuments include a number of plots and road environments. The numbers and ranges on the map correspond to the corresponding protected monument numbers and ranges (**Figure 3-7**). We can see that the whole of the Alag Historic Racing Area falls under protected status. As the site falls under the protected category, the planning of the site must not deviate from its basic use attributes and

relevant regulations, and should be carried out in strict accordance with the landscape enhancements and functional enrichment set out in government documents. I will later describe these policies and regulations in detail in section 3.3.

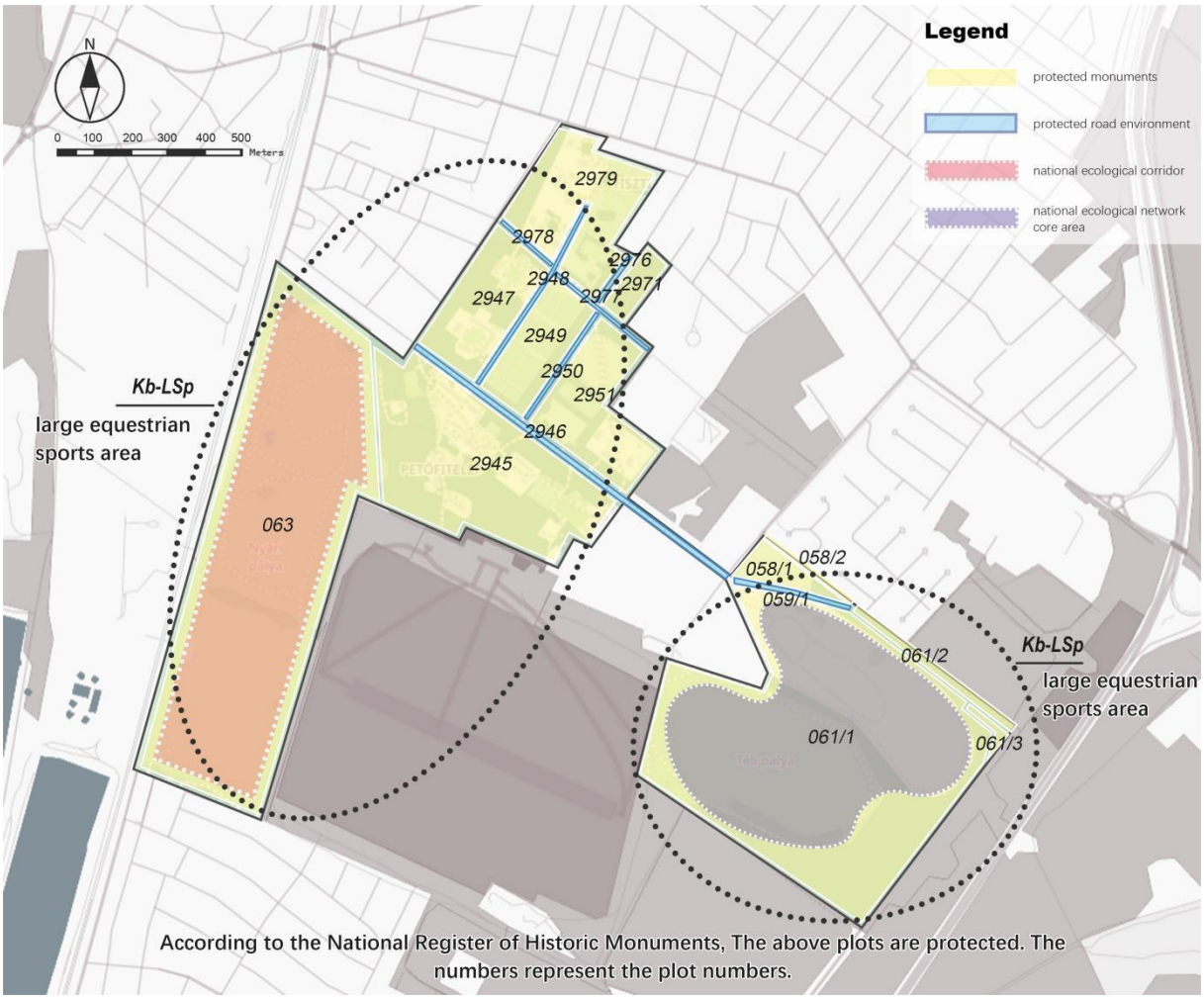

Figure 3-7: Protected Areas and Historic Monuments Analysis Map

3.2.5. Visual connections and atmosphere

This map shows the situation of visual connections and atmosphere (**Figure 3-8**). It includes not only the various connections between the interior of the site, but also between the interior and exterior of the site.

On the one hand, inside the site, you can see that the site is connected from east to west by Kápolna Street, so the visual connection is complete. However, at the same time, the north and south of the site are separated by Kápolna Street, so we need to consider the road connections and visual connections between the north and south of the site. I subjectively marked some pleasant and unattractive views. The pleasant views are concentrated in the open equestrian sports area. The unattractive views are in the area close to the industrial areas, although there is an equestrian training centre, people rarely use it because of the chaotic vegetation planting, the poor environment and the gradual abandonment of the buildings. This is the area that I will focus on and design. I expect that this area will be developed into an attractive historical and cultural area using the existing historical elements.

On the other hand, outside the site there are some very beautiful landsacpes, such as the gliding airport, the flowering meadow, the ruined church of Alag on the south side, the Fót nature reserve and the Dunakeszi cemetery on the east side. Therefore, it may be open or semi-open in areas close to the gliding airport to allow for better visual connections. In addition to this, a good way to establish a visual connection with the beautiful landscape in the distance is by setting up some elevated elements in some places, such as viewing towers.

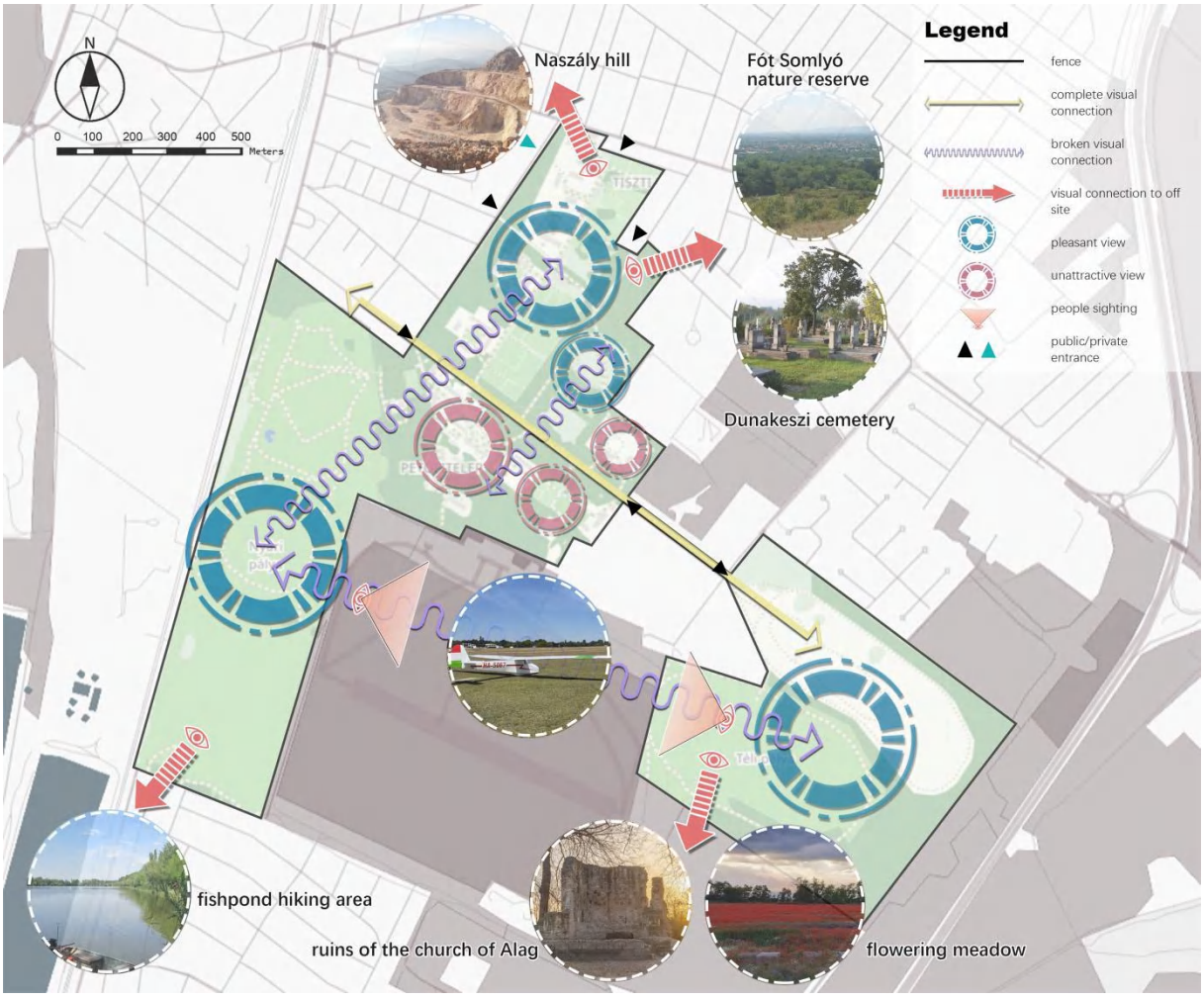

Figure 3-8: Visual Connections and Atmosphere Analysis Map

3.3. Policy analysis

The analysis in Section 3.1.2 shows that the racecourse area to the west and east of the site is part of the National Ecological Network. From Section 3.2.4 it is understood that according to the National Register of Historic Monuments, there are protected monuments within the site. Therefore, given the protected nature of the Alag Historic Equestrian Area, planning and design work needs to be carried out in strict accordance with policy.

I mainly relied on the Local Building Regulations of the City of Dunakeszi[15]. I set out the regulations that need to be followed in the planning and design of this site here.

Firstly, according to the content of the Dunakeszi Settlement Structure Plan (content of the previous section 1.2.3), the land nature of the site is large equestrian sports area (Kb-lsp). According to the content of Article 10 of Chapter III: Unless otherwise specified, the buildings for the purpose of keeping livestock for commercial purposes shall be permitted only in zones Kb-lsp, Kb-sp/1, agricultural zones and industrial zones.

According to the content of Article 74 of Chapter V, for the large equestrain sport area (Kb-lsp):

(1) About land properties, the zone Kb-lsp includes the properties of the Alagi Racecourse Training Grounds and environment associated with the grounds, which includes the traditional landscape uses of the town, livestock farms, horse stables, the historic areas of the grounds and other residential functions associated with equestrian sports.

(2) The following buildings may be placed within the zone:

a) for the direct purpose of equestrian sport:

aa) animal facilities,

ab) sports grounds, exercise areas, horse stables,

b) other structures indirectly connected with equestrian sports, such as:

ba) grandstands,

bb) structures necessary for the maintenance of the area,

bc) service housing, accommodation and catering facilities.

(3) The installation of structures for the purposes specified in paragraph (2)(b) only be established with the simultaneous construction of the facility(ies) specified in paragraph (a). The built-up area of the intended structures listed in paragraph (b) shall not exceed 20% of the gross floor area which may be built up in accordance with the maximum building coverage percentage laid down in the building zone.

(4) In the plots zoned Kb-lsp, which are also part of the ecological network, in order to maintain the original condition and extensive use of the sand grassland over as large an area as possible, on the parts of the plot not affected by the facilities and the transport surfaces serving them:

a) no earthworks or alterations to the terrain shall be permitted, and

b) only sports activities in which the presence of humans does not cause disturbance or mortality of the population of protected animals living there.

(5) The condition of construction according to the degree of public utility: partial.

(6) The characteristics of plots and buildings in each building zone shall be determined by applying the values in Table 29 of Annex 2 (**Figure 3-9**).

	A	B	C	D	E	F	G
1	zone sign	under cover. mode	Allowed maximum building density	minimum plot size allowed	minimum building plot size	maximum permitted building height	minimum green area
2			(%)	(m^2)	(m^2)	(m)	(%)
3	Kb-lsp	SZ	10	50 000	50 000	6,0	75

Figure 3-9: Table 29[15]

To summarise, we need to follow three key points when planning and designing this site.

Firstly, we can only build facilities that are related to equestrian sports or services. Secondly, the elements that would damage the environment cannot be installed in nature reserves. Thirdly, the newly constructed elements need to follow the indicators in the table.

3.4. Summary of analysis

3.4.1. Values＆Conflicts map

After macro analysis, micro analysis and policy analysis, I have tried to summarise the values and conflicts that exist within the site (**Figure 3-10**).

With regard to values, I divided them into three categories: ecological values, historical and cultural values, and aesthetic and recreational values. Specifically, as can be seen on the map, the ecological values are found in the nature reserves to the west and east of the site; the historical and cultural values are found in the areas associated with the Alag historic equestrian training centre area; and the aesthetic and recreational values are found in the various areas of the open equestrian sports area, including the training grounds and the racecourses.

With regard to conflicts, I have divided them into six types. The first type of conflict is important but abandoned areas (missing functions), which can be due to open training grounds being abandoned or to a lack of functions that they should have, such as a lack of cultural exhibition or educational functions in historical equestrian training centre area. The second type of conflict is the lack of a road system or its bad condition, which is the result of the lack of a systematically planned road system or the fact that it has not been maintained for a long time. The third type of conflict is that caused by ecological degradation or environmental sensitivity, such as environmental degradation due to proximity to the industrial areas and long periods of unmaintained access. The fourth type of conflict is the missing site connection, which can be caused by the blockage of roads. The fifth type of conflict is the broken visual connection, which may be due to the obstruction of fences or vegetation, or the lack of some elevated element. The final type is noise impact, which may be due to the proximity of a busy city road or industrial area.

In summary, I will make full use of these value points or their potential value for greater value and focus on the various conflict issues to try and resolve them for the sustainability of the site.

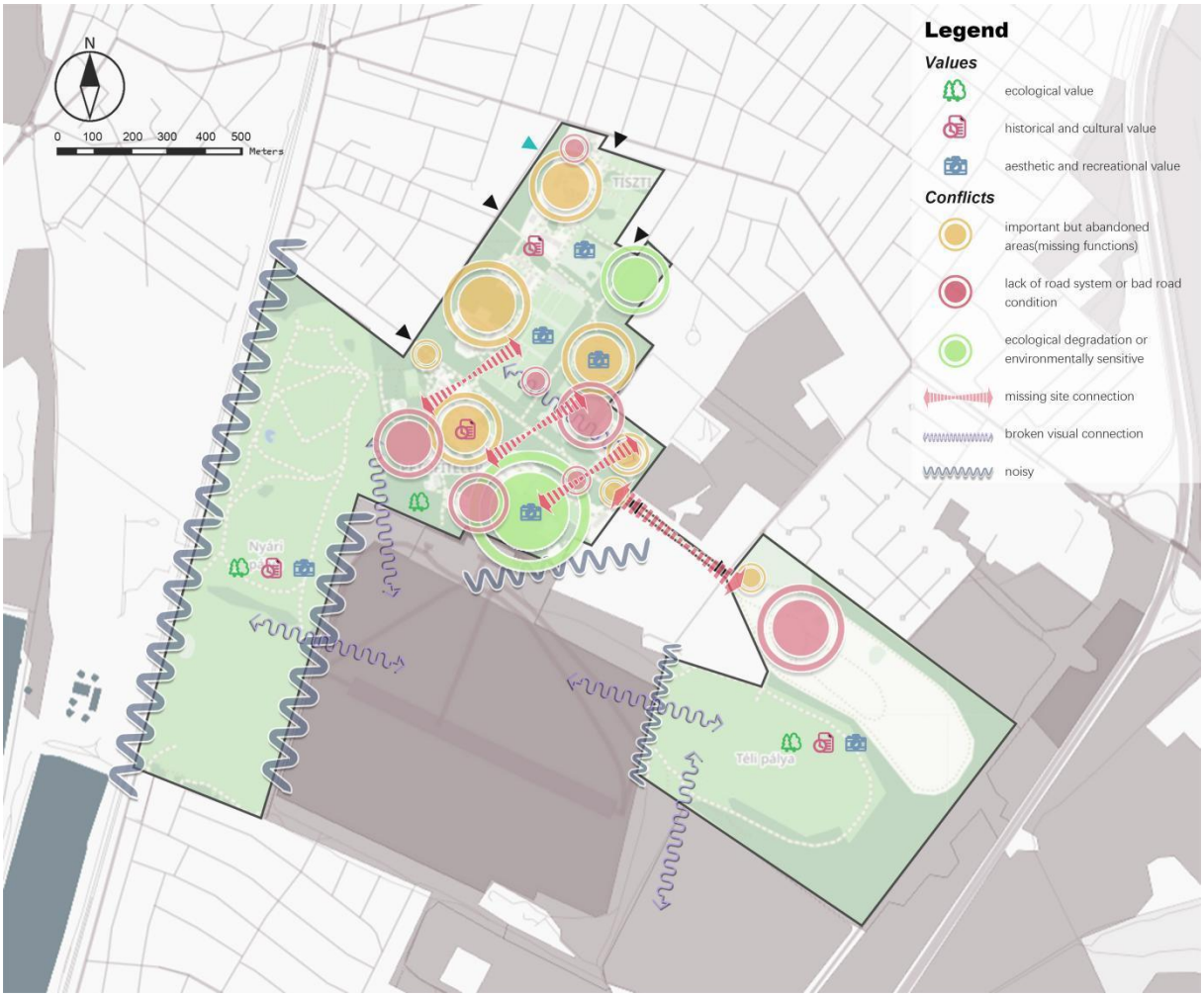

Figure 3-10: Values＆Conflicts Analysis Map

3.4.2. SWOT analysis

Based on all the analysis and the summary of the values & conflicts map, I have created a SWOT analysis table (**Figure 3-11**). It covers the factors that are most worth developing or exploiting, as well as the issues that need attention and urgent action.

strengths	weaknesses	opportunities	threats
1. Good location, the site is located south-east of Dunakeszi, 2-4km from Fót and the Budapest IV.. 2. A rich botanical resource. 3. A long history and a rich resource of cultural and historical values. 4. Unique equestrian sports features for competitions, training or other events.	1. Poor accessibility. 2. Unclear entrances. 3. Muddy roads. 4. The internal road system is inadequate, with some broken roads. 5. The facilities related to equestrian sports are old and unprofessional. 6. Lack of services for different users. 7. Lacking event space, such as leisure, rest,	1. It can be developed with elements of the surrounding 'Alag' to create a distinctive Alag equestrian sports and culture brand. 2. The site is part of the National Ecological Network that can stimulate higher ecological value capabilities. 3. Adjacent to the sports	1. As there is no indoor racecourse on the site, equestrian sports are often affected by the season, rainfall and the site may be deserted for long periods of time. 2. High maintenance costs and insufficient government investment and support.

5. The site is the subject of protection by the local authorities.	picnic, kids playground functions, etc. 8. There is a lack of connection between the North-South and West-East parts of the site. 9.At present it is only equestrian training centres and racecourses, without forming the concept of an 'equestrian park'.	airport area, it has the potential to be developed synergistically as a sports park. 4. There are many attractive views around the site and consideration needs to be given to the visual connection of the site to the outside.	

Figure 3-11: SWOT Analysis Table

In general, we need to focus on the lack of functional areas, the inadequacy of the road system and the connectivity and accessibility of the site. At the same time, we need to take advantage of the long equestrian history of Alag and the rich equestrian sports grounds resources and vegetation resources of the site.

4. CONCEPTUAL APPROACH

4.1. Vision

For the objectives of my vision, firstly, I would like to have a better overall plan, I would like to link the fragmented elements of the site together to form a beautiful and logical overall layout; secondly, I would like to improve the current road conditions, make up for the missing roads, divide the roads into reasonable grades, enhance the connection between the various areas of the site, and distribute the entrances and exits rationally to increase the accessibility of the site; thirdly, I would like to add more functional areas to serve different users and turn the park into an international professional equestrian sports park; fourthly, I am committed to improving the environment, taking advantage of the resources of the local nature reserve and rationalising planting to create a beautiful natural environment; finally, I hope to design some interesting landscape elements to increase the landscape and interest of the site and attract more visitors to come and play (**Figure 4-1**).

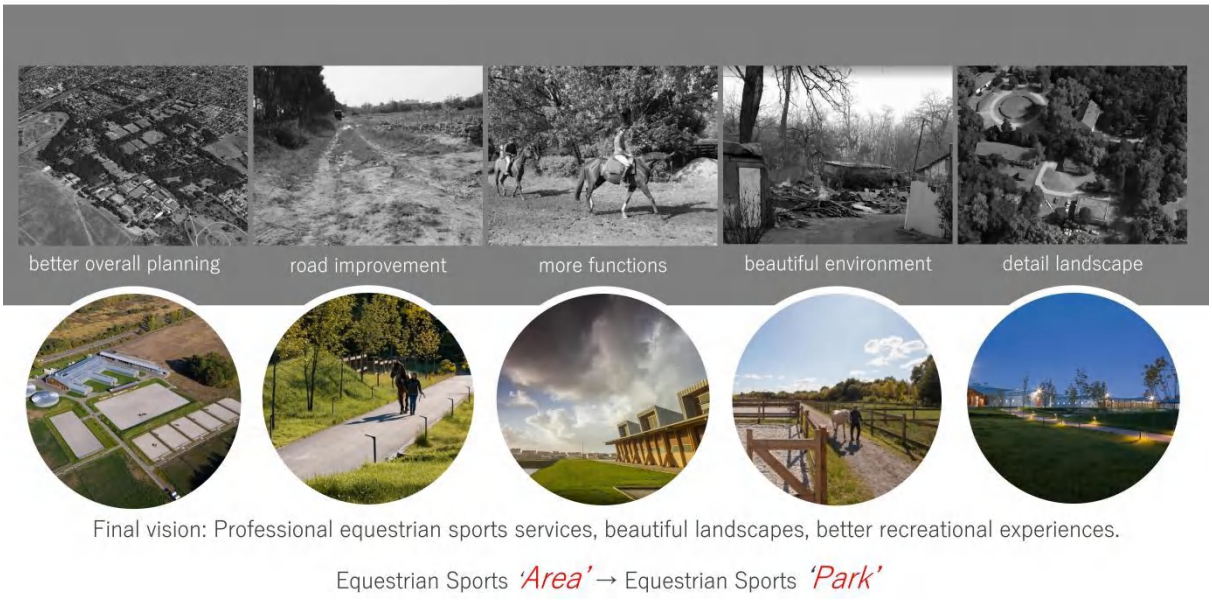

Figure 4-1: Planning Vision

4.2. Design strategy

Before making a design strategy, I would like to emphasise that based on section 3.3 it is known that new buildings are allowed throughout the site, but they need to be for the purpose of keeping horses and horses services. In addition to this, equestrian training grounds, service education and training facilities, service facilities etc. can be established on the site.

My design aim focuses on providing targeted services to different user groups in order to enhance the visitor experience and create an international and professional equestrian sports park. Overall, my design strategy can be summarised as a '3+9+6' proposal.

For '3', As you can see from the diagram (**Figure 4-2**), the site will be divided into three main zones: Core zone, West zone and East zone.
Core Zone: This is the central area of the equestrian park. Due to the high distribution of equestrian venues and facilities here, this will be the main area where visitors will gather. The main functions of this area are the stable and stable services area, equestrian training area, professional equestrian activities area, children equestrian experience area, commercial service area, Alag equestrian history exhibition and education area, recreational area, racecourse and nature reserves area and some entrance areas.
West Zone and East Zone: These two zones are the sub-core zones of the park. Here are mainly open racecourses and nature reserves.

Figure 4-2: Zones Distribution Map

For '9' and '6', specifically, I plan to create 9 specific functional areas within the site (**Figure 4-3**), which are based on the site's own texture and context, and are well integrated into the surrounding environment, at the same time, these functional areas serve different groups of people (**Figure 4-4**).

1) Entrance area: The grey circles on the map represent entrance areas. The main visitor entrance is set up here, therefore parking lot will also be included here. In addition to this there are reception services such as map distribution and bicycle hire.
2) Stables and stables services area: The site contain a number of houses for the production of forage and stables, and this is the main concentration area. Based on this situation, I want all the forage producing houses and stables to be concentrated here and connected to form a professional stable and stable services area (dark orange circle). The stables and stables service area will be unified for the management and keeping of the horses and will facilitate the work of the production workers, breeders and trainers.
3) Equestrian training area: To the east of the stables and stables services area there are a number of rectangular equestrian sports areas, so I would like to unify these areas to form a professional equestrian training area (orange circle). This will serve the general public and will allow everyone to come together for equestrian sports training.
4) Professional equestrian activities area: On the east side of the equestrian training area I plan to create a professional equestrian activities area which will include an outdoor cross-country training track and indoor equestrian arena. The outdoor cross-country training track is established in the existing circular horse farm plot and has an area of 1.5ha. The

indoor equestrian arena will be built within the existing rectangular stable plot and will be 0.4ha in size. It will be a simple semi-open space, built with a wooden shed roof to allow for cost saving and air circulation. This entire area will serve professional athletes and will function primarily for competitive or professional horse shows.

5) Children equestrian experience area: To the south of the professional equestrian activities area, there is still a rectangular horse farm plot which I plan to make into a children equestrian experience area. There will be some small ponies available and some family competitions or low risk activities will be held here. This will mainly serve children and their parents.

6) Commercial service area: To the east of the children equestrian experience area, there are some forage production houses and a small square. As I plan to concentrate the production houses in the stables and stables services area, I intend to use the square here for a small commercial service area, mainly selling some equestrian sports equipment and souvenirs. In addition to this there will be a restaurant and toilets to meet the needs of visitors.

7) Alag equestrian history exhibition & education area: It is well known that the Alag equestrian racecourse has a long history, so I plan to use this central area near the main entrance to focus on the history and culture of Alag's equestrian sport. This area is currently an equestrian training center and stables. By renovating it, this will have a positive impact on the public, especially students, and will be a good way to help them learn about Alag's equestrian history and culture.

8) Recreational area: The yellow circle area has a large resource of trees and I plan to use this area to create a recreational area. I would like to provide a running track in this forest for the neighbourhood. As the area is bordered by an open racecourse to the west and an open airfield to the south with beautiful views, I would like to provide some picnic or camping facilities in the area along the open space. It will primarily serve the residents nearby and public visitors by providing a place for them to exercise and relax.

9) Racecourse and nature reserves: The western and eastern sides of the site are locally important nature reserves, especially for the western side, which is also part of the national ecological network. I will keep the basic function here unchanged and beautify the landscape even more to achieve sustainability by optimising the distribution of planting. The racerourse areas are located in the nature reserves, which will remain unchanged in their function as racecourses for the all users. However, we can still improve the quality of the grass on the racecourse and enrich the landscape.

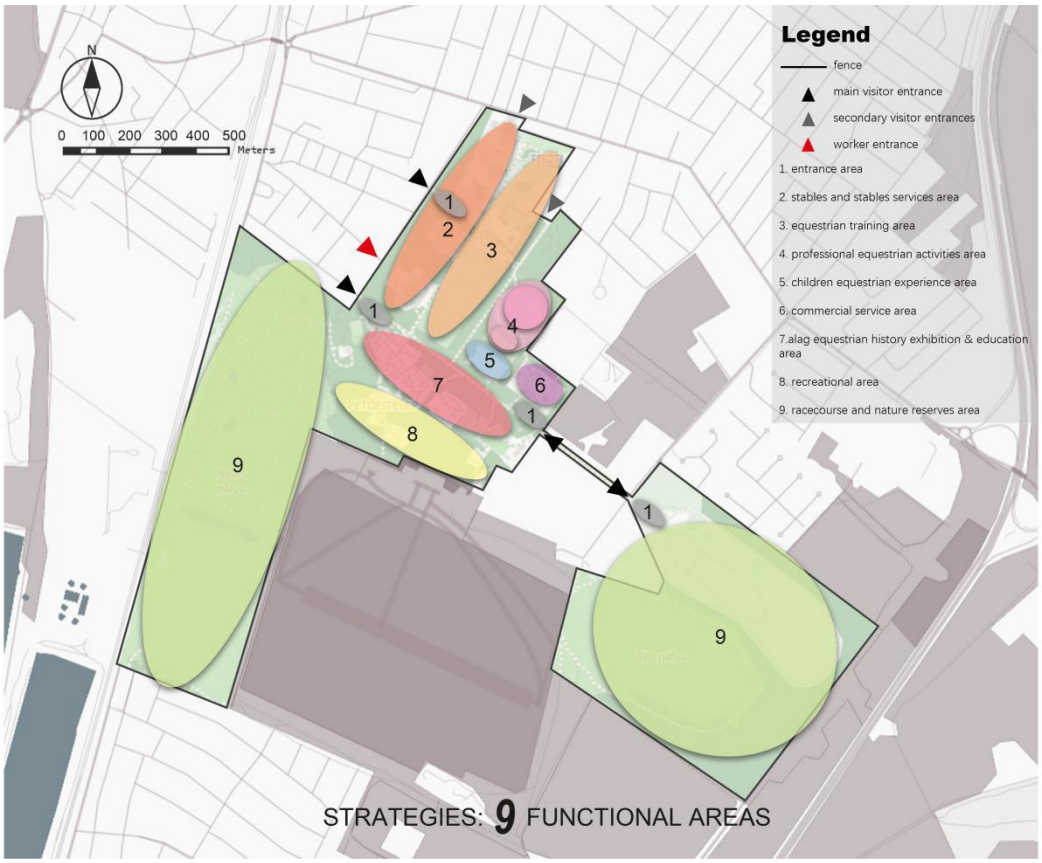

Figure 4-3: Functional Area Distribution Map

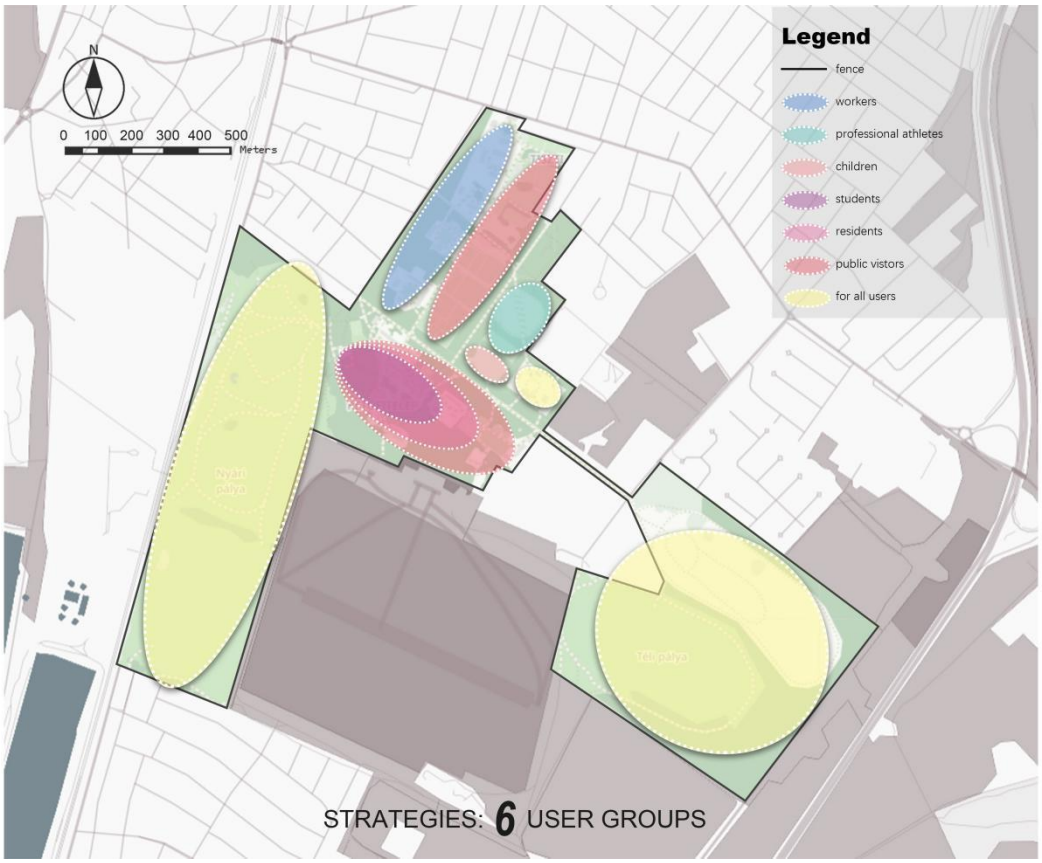

Figure 4-4: User Distribution Map

In addition to this, I have taken into account other factors such as the location of the entrances, the distribution of the basic road axes and the openning hours (**Figure 4-5**).

The choice of entrances to the site was based on the traffic and road analysis in Section 3, and entrances were chosen to be located close to major traffic stops. For example, entrance 1 is the main entrance because it is the closest to Dunakeszi railway station and is therefore the most convenient and most used by visitors. The entrance 2 is the existing main entrance with historical value, so it will be retained. The entrance 5 and 6 are secondary entrances because of their proximity to the nearby bus stops, so they are also one of the options for visitors. Considering the unique nature of the equestrian park, which requires unloading, transporting horses and materials etc., a separation of the workers' entrance and the visitors' entrance is necessary, so the entrance 7 will serve as the workers' entrance to the stables and stables services area here. The park is free to the public, but the main and secondary entrances are only open from 6:00 to 21:00. This is to ensure the security of the production materials, horses and other important materials. The workers' entrance is only open to workers 24 hours a day. The reason I do not propose an entrance on the west side of the West Zone is that it is close to the busy city road (Pálya Street) and train line where it is difficult for cars to turn and stay. In conclusion, an entrance on this side would cause traffic problems.

I optimised the basic axis of the road to ensure that it connects the various functional areas so that visitors can easily reach each area and form a complete tour route. These road axes will be based on the existing distribution of roads on the site, as it is possible to reduce costs and maximise the historical situation in this way.

The specific calculation of the park's visitor capacity is as follows:

$$C=A/Am$$

C-Park Visitor Capacity（pp）
A-Total Park Area（m^2）
Am-Park area occupied by per visitor（m^2 / p）
The total area of the park is 166 hectares and the park area occupied by visitors is based on 60 (m^2/p). According to calculations, the daily capacity of the park is approximately 27,000 visitors.

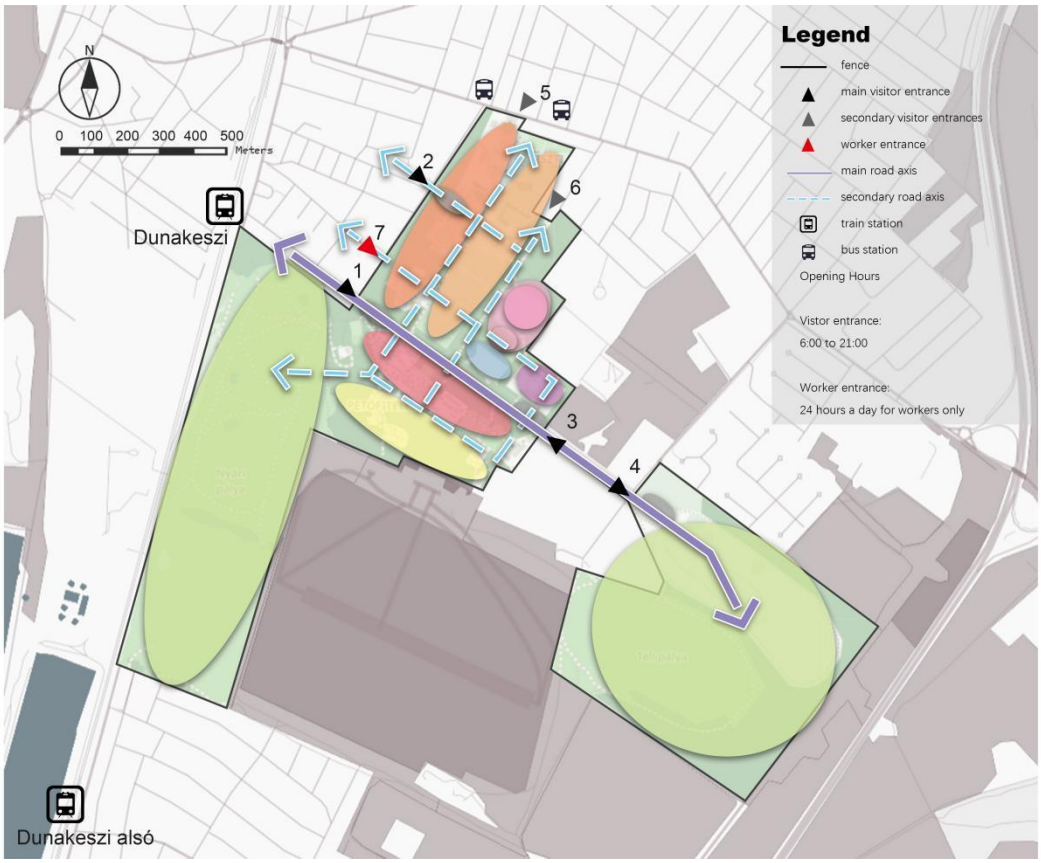

Figure 4-5: Entrance Distribution and Basic Road Axis

5. OVERALL PLANNING

5.1. Master plan

Based on all the analysis and design strategies, I created the master plan (**Figure 5-1**), and I placed a zoomed-in diagram (**Figure 5-2**). I focused on solving problems such as missing functional areas and missing connections between parts of the site, and this master plan shows specific solutions.

Firstly, I show the location of specific fences so that entrances to the park can be found. On the right side of the master plan, the legend serial numbers show the specific elements.

Legend No. 1: As you enter the park from the main entrance you can find the entrance area, which is mainly the reception room and parking lot. The four car parks are approximately 8,250 m² and can accommodate a total of 447 parking spaces.

Legend No. 2 and Legend No. 3: No. 2 is the forage production house and the wooden shed where the forage is stacked. The No. 3 is the stables and the buildings that serve the stables, where the horses are kept and washed. This area concentrates the stables and production houses of the entire park, which make up the stables and the stables services area.

Legend No. 4 and Legend No. 5: No. 4 is a united equestrian training grounds, mainly for groups or clubs, while No. 5 is a independent equestrian training grounds, mainly for individual or family use. This area makes up the equestrian training area.

Legend No. 6 and Legend No. 7: No. 6 is an outdoor cross-country track serving professional athletes, which also allows for professional equestrian shows, and visitors and spectators can conveniently gather around the circular area to watch the shows and competitions. No. 7 is a semi-open indoor equestrian training arena, 100m long and 50m wide, consisting of a wooden shed roof and fencing. This area makes up the professional equestrian activities area.

Legend No. 8 to Legend No. 11: No. 8 is a playground. No. 9 is an equestrian experience area for children aged 6-12 years. No. 10 is an equestrian experience area for juniors aged 13-18 years. No. 11 is a low-risk, circular jumping ground for children. This area makes up the children equestrian experience area.

Legend No. 12 and Legend No. 13: No. 12 is the square in front of the commercial buildings. No. 13 is a number of commercial and service buildings, including the souvenir shops, equestrian equipment shops, restaurants and also toilets. This area makes up the commercial service area.

Legend No. 14 to Legend No. 19: No. 14 is the fountain in the square, which is the main gathering space for visitors. No. 15 is the proposed Alag Equestrian History Museum, which is located on the site of the Alag Historic Horse Racing Training Centre and is constructed using brick and concrete. No. 16 a proposal for a painting corner. No. 17 is a memorial square in honour of Count Batthyány Elemér, the founder of the Alag historic horse racing training centre. No. 18 is some of the seats on the square. No. 19 is a flowering meadow. No. 20 is a cafe, because here will be the main gathering and resting place for visitors, and it is also close to the children equestrian experience area. This whole area makes up the Alag equestrian history exhibition and education area. It will also be my highlight area and I will focus on this area for detail design.

Legend No. 21 to Legend No. 23: This area is a dense forest and it has a great deal of botanical resources. I plan to set up a running track here to provide space for nearby residents and visitors to run. Close to the racecourse on the west side there is an open lawn area which will be used as a picnic area, In addition to this, in the corner there is a viewing tower which you can climb to enjoy the beautiful views of the racecourse and the gliding airport. This area makes up the recreational area.

Legend No. 24 to Legend No. 26: The West zone is a large, regular racecourse. It is also a multi-size racecourse with a total length of approximately 1 km, but with a shortcut at 500 metres. There are three stands set up on the west side of this racecourse. The East zone is a skillful racecourse, which has a curved form. Two different forms of racecourse enhance the riding experience of visitors. There are alos two stands set up in this racecourse area and two

viewing towers in the corner, where you can also enjoy views of the gliding airport and the southern farmland and flower field.

Figure 5-1: Master Plan (1:5000)

Figure 5-2: Master Plan - Zoom In

5.2. Road system planning

There are five basic types of road in the park, which are the main road, secondary road, pathway, running track and racecourse track (**Figure 5-3**). They make up the park's road system. The roads are planned to solve the problem of missing connections between the different parts of the site, especially between the north and south of the site and between east and west. In addition to this, the road system links all the functional areas so that visitors can choose at will which attractions they wish to visit. For the paving of the roads, the material chosen for the main road is asphalt. The secondary roads are made of gravel. The pathways are mainly made of sand mixed with gravel, but of course some wooden decking and stones are also used. The running track is made of rubber. The racecourse track and training grounds are made of grass.

Figure 5-3: Road System Planning Plan

5.3. Functional area planning

The functional areas are planned to provide different services for different user groups and to increase the user experience. Most of the functions will be concentrated in the middle part of the park, the core area (**Figure 5-4**). The core area will meet the main needs of users. In addition to the functions associated with equestrian sports, the equestrian park also offers functions such as running, picnics, playground, cafe, shopping, enjoying the views, etc..

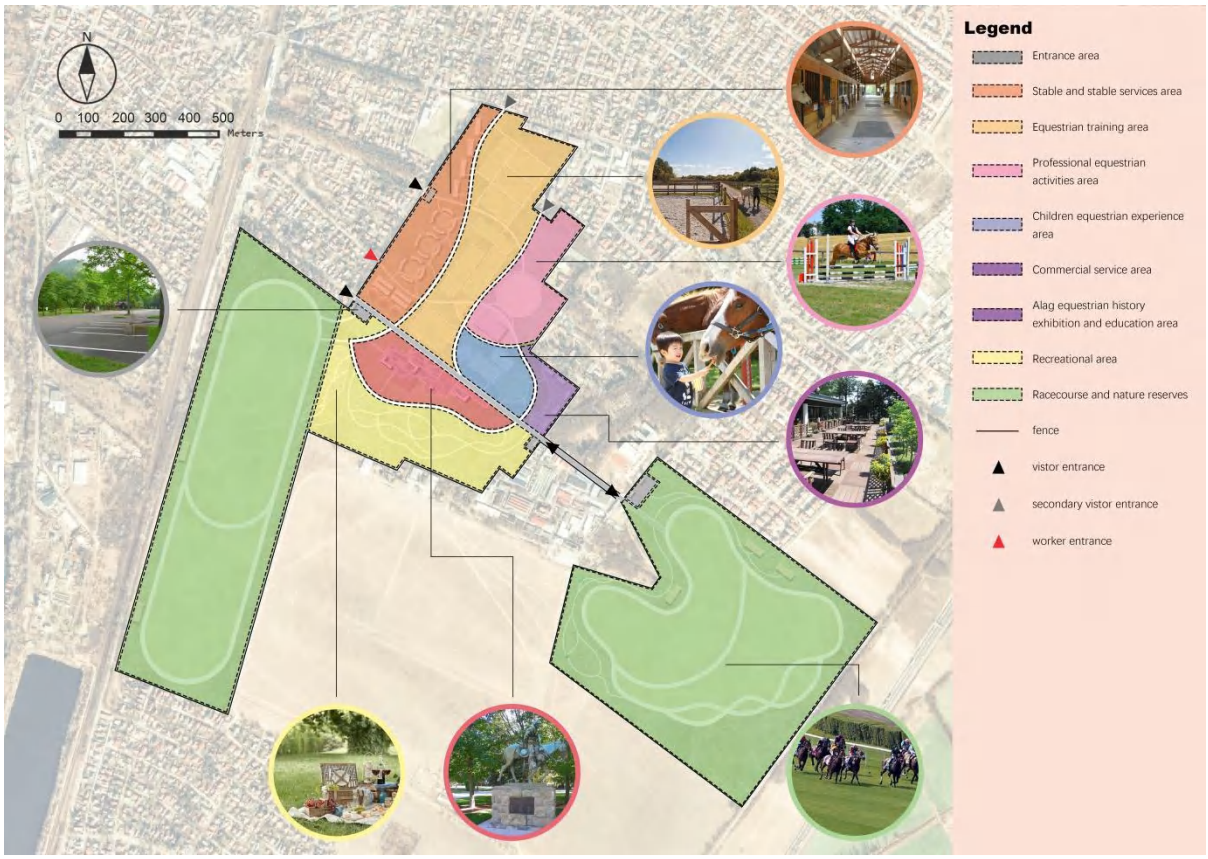

Figure 5-4: Functional Area Planning Plan

5.4. Planting planning

The strategy for planting planning has four main points. Firstly, the whole park is in a very natural condition and therefore there is unnecessary to cut down the existing trees, so I will keep the quantities and location of the existing trees unchanged. Secondly, I will renew the grass in the racecourse area by selecting more suitable grass species, and fill in areas of bare soil. Thirdly, new ornamental shrub species will be planted in the square area. Fourthly, I plan to add a number of perennial species to the flowering meadow. The specific plant species and pictures you can see in the diagram (**Figure 5-5**). With regard to the park's green area ratio, it is approximately 89.6%. The very high green area ratio is due to the special nature of the equestrian sports park itself, as most of the equestrian sports grounds are on grass surfaces.

Figure 5-5: Planting Planning Plan

6. DETAIL DESIGN

6.1. Highlight area plan

The highlight area is the Alag equestrian history exhibition and education area. It is located within the core area of the park, close to Kápolna Street, and to the south of the highlight area is the forest area, so the area close to the forest is a buffer area of approximately 3.9 hectares. The remainder of this highlight area is the core exhibition area of approximately 2.7 hectares (**Figure 6-1 and Figure 6-2**).

The highlight area has two visual axes running west-east. The first visual axis is from the western entrance to the memorial square, which contains the Alag equestrian history museum, the characteristic tree pond seat, the fountain square, the painting corner, the characteristic view frames, up to the memorial square. The Alag equestrian history museum is planned to be built in brick and concrete to reduce costs. The museum was chosen because of the historical significance of the site, which was formerly the Alag Historic Horseracing Training Centre. It is therefore possible to refresh the memory of this historical area by placing some photographs from the past and present. The characteristic tree pool seat is on the west side of the museum, and I will show the technical details of the project in section 6.4. The fountain is a circle with a radius of 9m. Located in the corner area is the painting corner. I plan to provide some seating and tables here, as well as a resting area. This will mainly serve students or painters and is intended for sketching or painting while people enjoy this beautiful equestrian park. It reflects the educational function of this area. Immediately afterwards one can cross a

35m long path with a view frame (2.5m high) to reach the memorial square. The square is a circle with a radius of 24m. Its centre is dedicated to Count Elemér Batthyány, the founder of the Alag Historic Horseracing Training Centre. The square has a number of shrub planting boxes and 3 pools. The pools are approximately 0.35m deep and have a few stepping stones to allow people to cross over them. The square is sunken in its entirety, with the central part sunken by approximately 1.45m, and with some stairs. The height of the memorial sculpture is approximately 3.95m, so that it can be seen directly from the surrounding paths.

The second visual axis is from the pets park on the west side to the cafe garden, which contains the pets park, the history exhibition wall, the tree alley, the open lawn with a pergola and up to the cafe garden. The pets park is 26m long and 17m wide, it contains many facilities and micro-topography, is surrounded by a fence and has two entrances. The history wall consists of half circles of different radii and heights, on which some information about the equestrian history of Alag will be inscribed. In addition, there are stone seats and planting pools in the wall area. To the east of the wall is a 40m long tree alley, along which one can reach the open lawn space. The centre of the open lawn is sunken, approximately 0.5m, and has some slabs of stone where people can sit and watch children playing on the sunken lawn. There is also a curved pergola this area, approximately 20m long, under which some wooden seats are provided for people to sit and drink coffee or relax. At the end of the visual axis is the cafe garden, a 16m long and 6m wide containerised cafe kiosk. The cafe garden is also furnished with tables, chairs and umbrellas, and planted with ornamental shrubs and trees. The edges of the cafe garden are semi-open fenced and can be accessed from four separate directions.

In addition to the above, there are a number of resting areas within the Alag equestrian history exhibition and education area, such as the wooden deck chairs and lounges in the northern entrance area and the stripe stones seating between the square and the lawn. There is also a rest area on the north side of the tree alley, where tents have been set up where people can picnic or rest. Also on the eastern side of the area there is a flowering meadow 100m long and 17m wide, in which some paths are set, however, it is probably used seasonally.

Figure 6-1: Highlight Area Plan(1:1000)

Figure 6-2: Highlight Area Plan - Zoom In

6.2. Sections

I have chosen the three most distinctive locations within the highlight area to display the sections. They are the A-A' section, the B-B' section and the C-C' section (**Figure 6-3**).

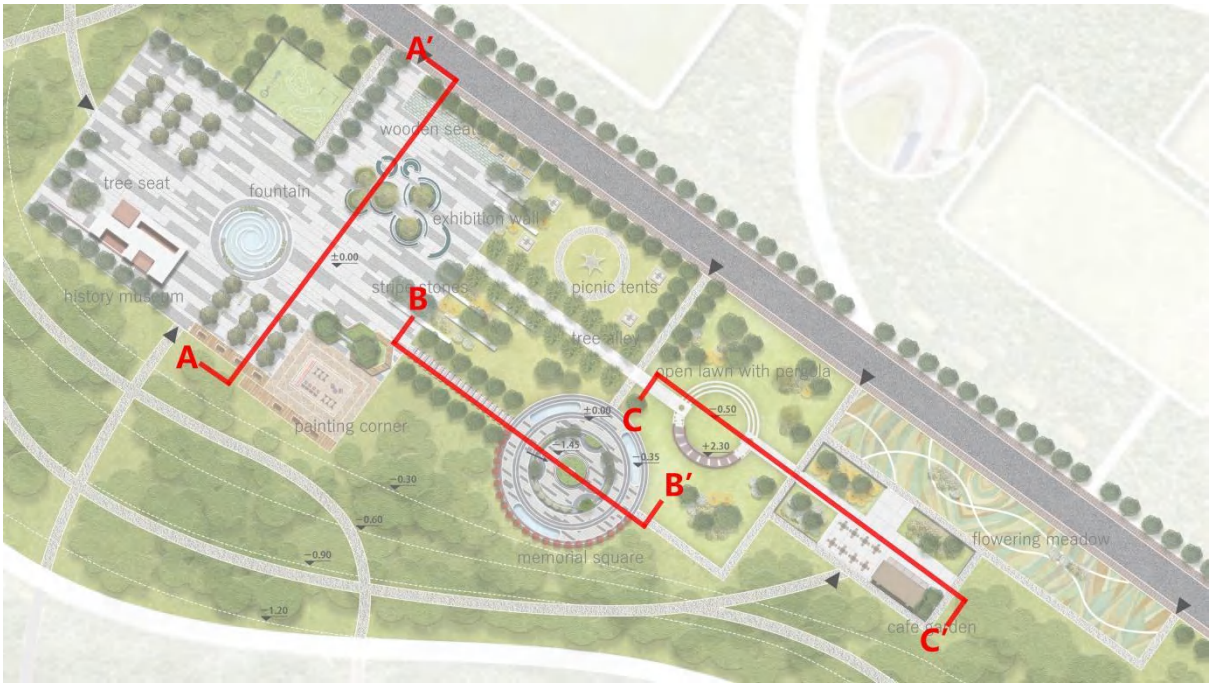

Figure 6-3: Cut Location Map

The A-A' section (**Figure 6-4**) is oriented from south to north (facing west) and includes the rest areas, the tree alley, the fountain square, the history exhibition wall, the pets park and the greenery. I have marked the height of the various elements, especially the historical wall, which varies from 1.8m to 2.8m. At the same time, I have marked the different types of plants planted in this section.

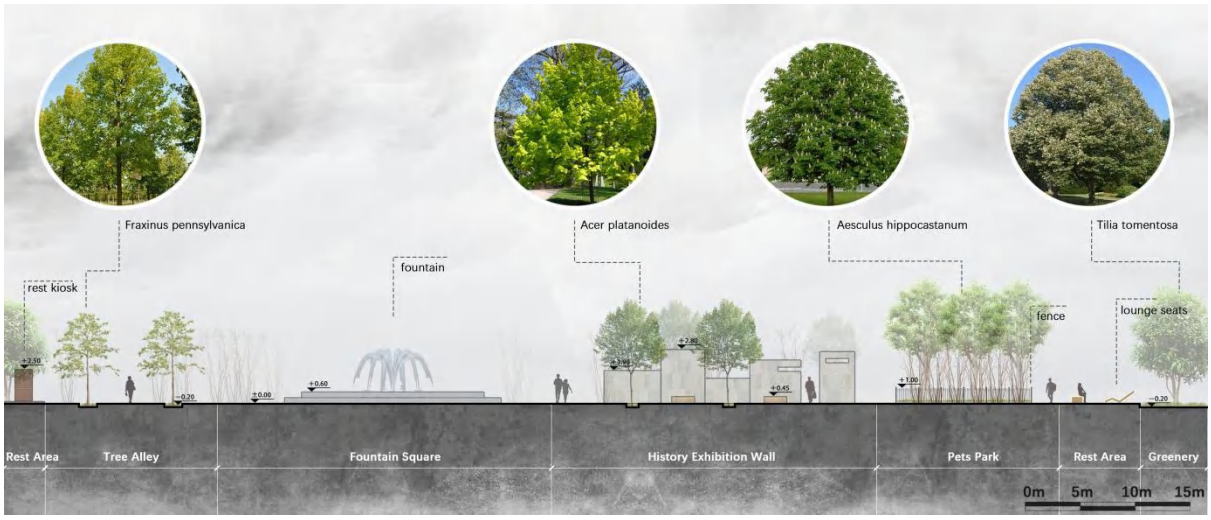

Figure 6-4: A-A' Section

The B-B' section (**Figure 6-5**) is oriented from west to east (facing north) and is the first visual axis mentioned in section 6.1. It includes part of the history exhibition wall, the tree alley with view frames and the memorial square. As you can see, the square is sunken and is accompanied by a number of stairs. The sculpture of the memorial square is clearly visible from the surrounding paths. The memorial sculpture is a visual centre to highlight the significance of the memorial.

Figure 6-5: B-B' Section

The C-C' section (**Figure 6-6**) is oriented from east to west (facing south) and is the second visual axis mentioned in section 6.1. It includes greenery, a cafe with outdoor seating, gardens, paths and a sunken open lawn space with a pergola. The most distinctive of these is the sunken open lawn space, which is approximately 0.5m deep. In the background is a wooden pergola, approximately 2.3m high. In addition, the containerised cafe kiosk is approximately 2.9m high.

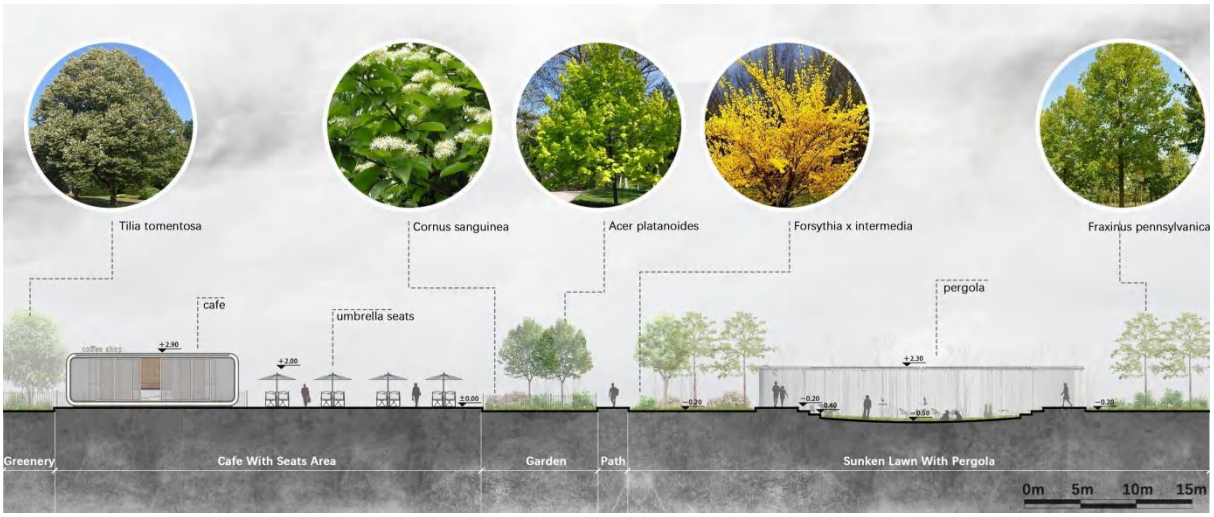

Figure 6-6: C-C' Section

6.3. Planting design

With regard to the planting design, my strategy is to first keep the buffer zone planted as it is and then to focus on planting core zone (**Figure 6-7**). In the square area I used a number of tree line species such as Tilia tomentosa, Aesculus hippocastanum and others. The shrubs used were mainly ornamental shrubs such as Spiraea japonica, Forsythia x intermedia and others. They are planted in the area of the memorial square, in the cafe garden and in the lower levels of other large trees. For the herbaceous I have used mainly perennial flowers such as Echinacea purpurea, Rudbeckia fulgida, Miscanthus sinensis 'morning light' and others. I have shown the position of each plant in the plan. You can see the distribution of the plants more visually from the perspective view (**Figure 6-8**).

Figure 6-7: Planting Design Concept Plan (1:1000)

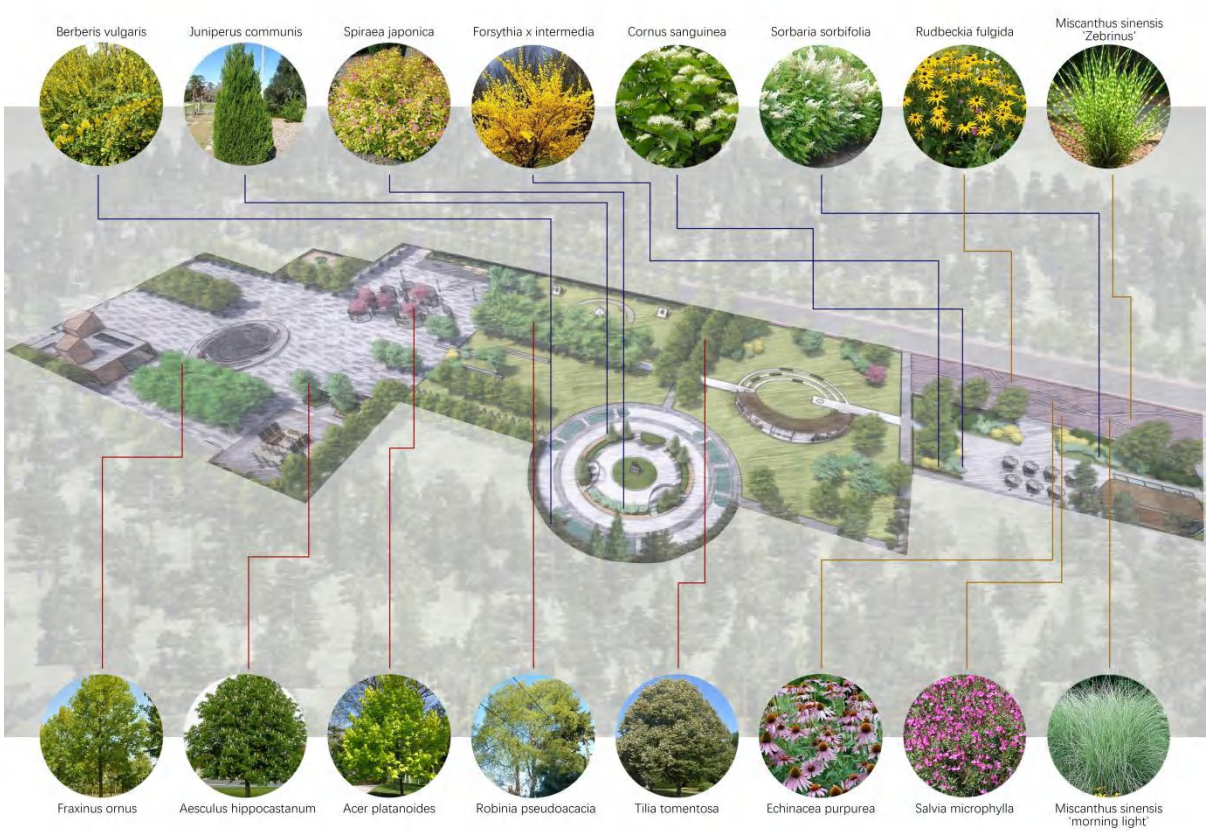

Figure 6-8: Perspective View Of Plants Distribution

I chose the open lawn area with the pergola as a case for a partial detail planting design, and the diagram scale is 1 to 250. I chose different street trees, hedge shrubs and ornamental shrubs, making it possible for visitors to enjoy a beautiful planting landscape all year round. The specific species you can see in the diagram below(**Figure 6-9**).

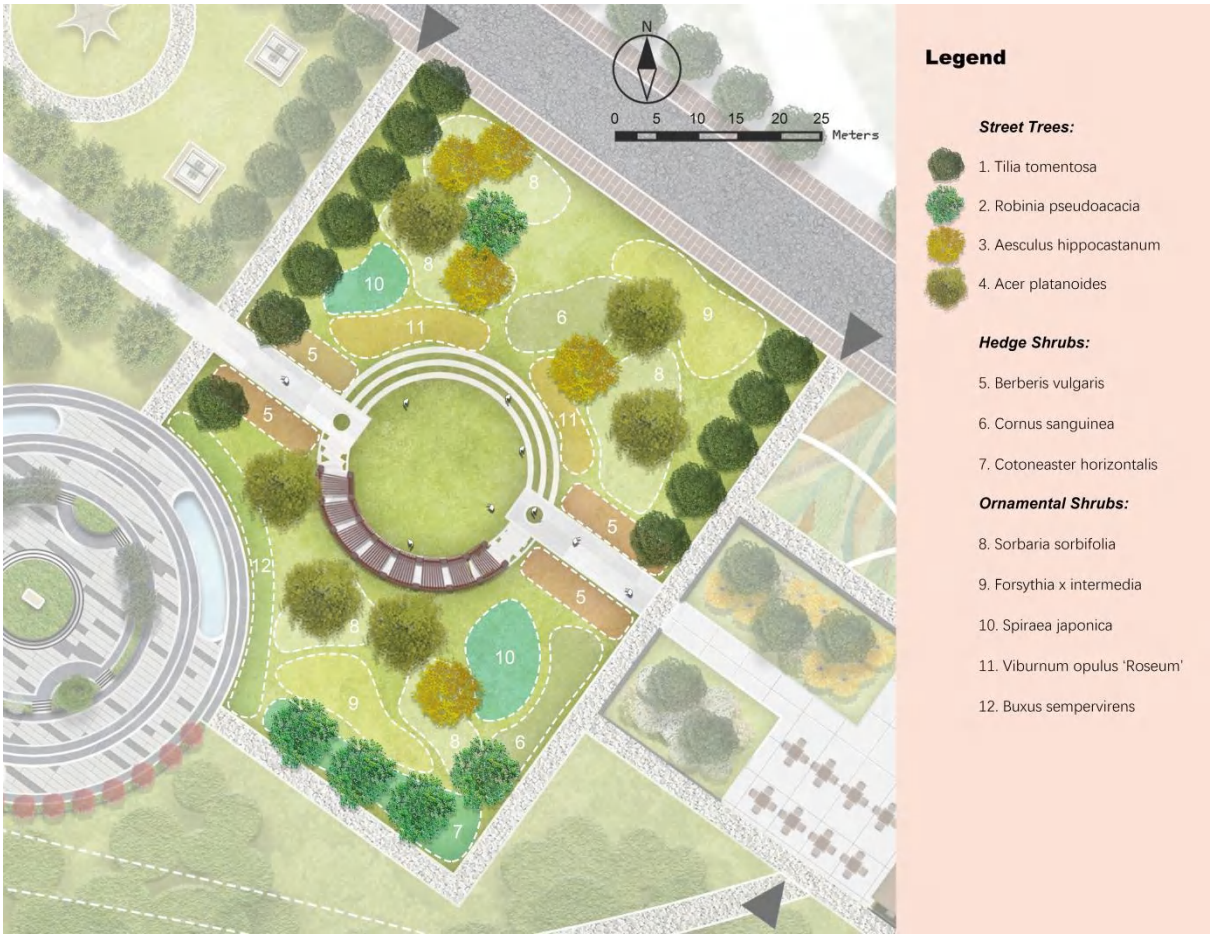

Figure 6-9: Partial Detail Planting Design Plan (1:250)

The following is the specific planting table include a variety of information on the main plants species (**Figure 6-10**).

No.	Species (latin name)	Type	Height （m）	Width (m)	USDA zone	Quantities	Area (m^2)	Quantities per m^2	Demands	Characteristics	Application possibilities
1	Tilia tomentosa	tree (deciduous)	15	9	4-7	70		0.06	full sun; pH6-8; moist	dense; erect; oval; yellow and white flowers in summer	lawn; meadow; street tree
2	Aesculus hippocastanum	tree (deciduous)	15	10	4-7	7		0.05	full sun or partial shade; good drainage	erect; oval; rounded; yellow and white flowers	flowering tree; street tree
3	Robinia pseudoacacia	tree (deciduous)	15	6	3-8	16		0.08	full sun or partial shade; pH6-8;good drainage	erect; oval; white flowers in spring; blue leaf; legume	naturalized area; recreational play area; flowering tree
4	Acer platanoides	tree (deciduous)	12	8	3-7	7		0.15	full sun or partial shade; clay; moist	rounded; brown samara fruits in fall	recreational area; shade tree; street tree

5	Fraxinus ornus	tree (deciduous)	9	5	5-6	18		0.18	mildly acid, neutral; dry or moist soil	rounded; green flowers in spring	mixed woodland, thickets and rocky places
6	Juniperus communis	shrub (evergreen)	2.4	1.5	2-8	6		0.45	good drainage	needled leaf; blue fruit	naturalized area; recreational play area; woodland
7	Spiraea japonica	shrub (deciduous)	1.2	1.2	3-8	20		0.70	full sun or partial shade; clay; pH＞8	erect; rounded; pink flowers in spring and summer	drought tolerant; attract butterflies
8	Forsythia x intermedia	shrub (deciduous)	2.4	3	5-8	12		0.30	clay; sand; loam; pH6-8	multi-stemmed; yellow flowers in spring; long-lasting leaf	bank; slope; hedge; drought and salt resistant
9	Cornus sanguinea	shrub (deciduous)	1.5	1.5	5-7	25		0.60	partial shade; clay; sand; pH6-8; moist	multi-stemmed; white flowers in spring; purple fruits in fall	easy to grow; meadow; winter garden; coastal; hedge
10	Berberis vulgaris	shrub (deciduous)	1	1.2	4-8	30		0.80	full sun or partial shade; pH6-8; moist	yellow flowers in spring and summer; long-lasting leaf	walkways; woodland; hedge; border
11	Sorbaria sorbifolia	shrub (deciduous)	1.2	1.2	2-8	35		0.70	full sun; clay; moist	erect; white flowers in summer; compound leaf	shade tolerant; slope; bank; barrier; border
12	Echinacea purpurea	perennial	0.9	0.4	3-8		23	3	pH beutral 6-8; clay; sand	erect; colorful flowers in summer; black fruit in fall	meadow; naturalized area; drought tolerant garden
13	Rudbeckia fulgida	perennial	0.6	0.3	3-9		68	8	full sun; clay	black and yellow flowers in fall and summer; broadleaf evergreen	meadow; naturalized area
14	Miscanthus sinensis 'Zebrinus'	perennial	1.4	1.1	4-9		27	0.8	good drainage; occasionally wet	green leaves with irregularly spaced yellow horizontal bands	meadow; pond; naturalized area; border
15	Salvia microphylla	perennial	0.9	1	7-10		32	4	full sun; pH6-8; good drainage	arching; white, pink, red flowers in spring, summer and fall	coastal; naturalized area; butterfly garden

16	Miscanthus sinensis 'morning light'	perennial	1.2	0.8	5-9		52	3	erect; full sun ; clay; pH6-8 ; good drainage	brown red flowers in fall ; green and white leaf	ornamental grasses; meadow; pond; drought tolerant garden
And other perennial species...											

Figure 6-10: Planting Table of Main Plant Species

I have also considered the maintenance of the flowering meadow. On the one hand, in order to save costs, I did not use annual species, choosing instead to use a large number of perennial herbs. In addition to the perennial species in the table, I also use other perennials such as Aster novae-angliae, Stachys byzantina, Panicum virgatum 'Strictum', Santolina chamaecyparissus, Hakonechloa macra, Carex morrowii 'Ice Dance', Ceratostigma plumbaginoides and other species. On the other hand, during the growth of perennial species, regular watering and fertilisation is required. In addition, when the species have grown for a period of time, they need to be replanted and weeded, or the leaves cut back. Finally, species that are not adapted to wintering can be dug up in autumn and placed indoors in winter.

With regard to the seasonal and ornamental analysis of the planting design, I show the morphological characteristics of the plants I have chosen and the ornamental colours they are planted in throughout the year (**Figure 6-11**). By selecting the plant species wisely, it will help the area to have a beautiful plant landscape to enjoy all year round.

Figure 6-11: Plants Seasonal and Ornamental Display Diagram

6.4. Technical details

I have selected two installations in the highlight area for the technical details. The first is the characteristic tree pond seat next to the history museum (**Figure 6-12**). It consists of a planted pond and granite with the name of the museum ALAG engraved on the stone as well as the year 1889 when the area began. You can see what it really looks like in the proposal model (**Figure 6-13**). People can sit here to rest or wait for their friends who are visiting the museum.

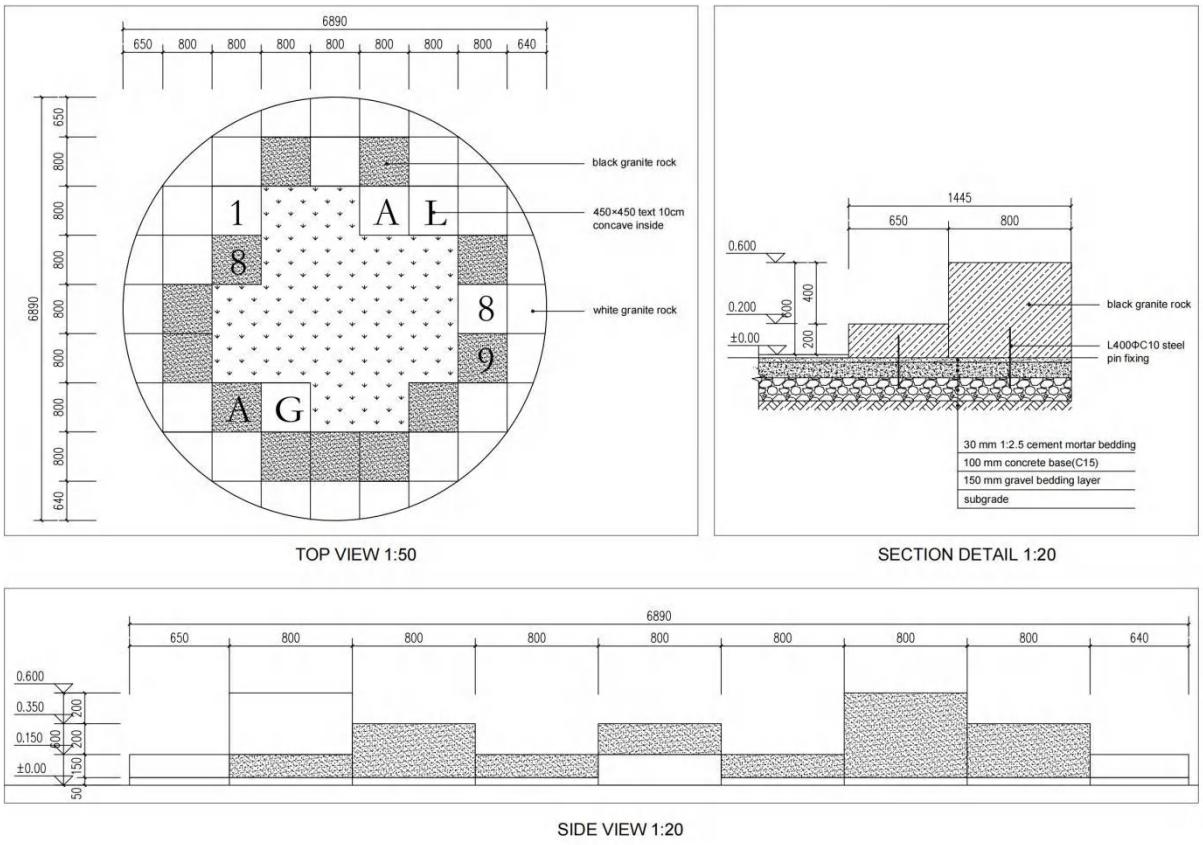

Figure 6-12: Characteristic Tree Pool Seat Technical Details

Figure 6-13: Characteristic Tree Pool Seat Proposal Model

The second is the curved pergola on the open lawn **(Figure 6-14)**. It is mainly made of wood. I also show how the different parts are connected to each other **(Figure 6-15)**. You can see what it really looks like in the proposal model **(Figure 6-16)**. People can have a coffee break here or wait for their children playing on the lawn.

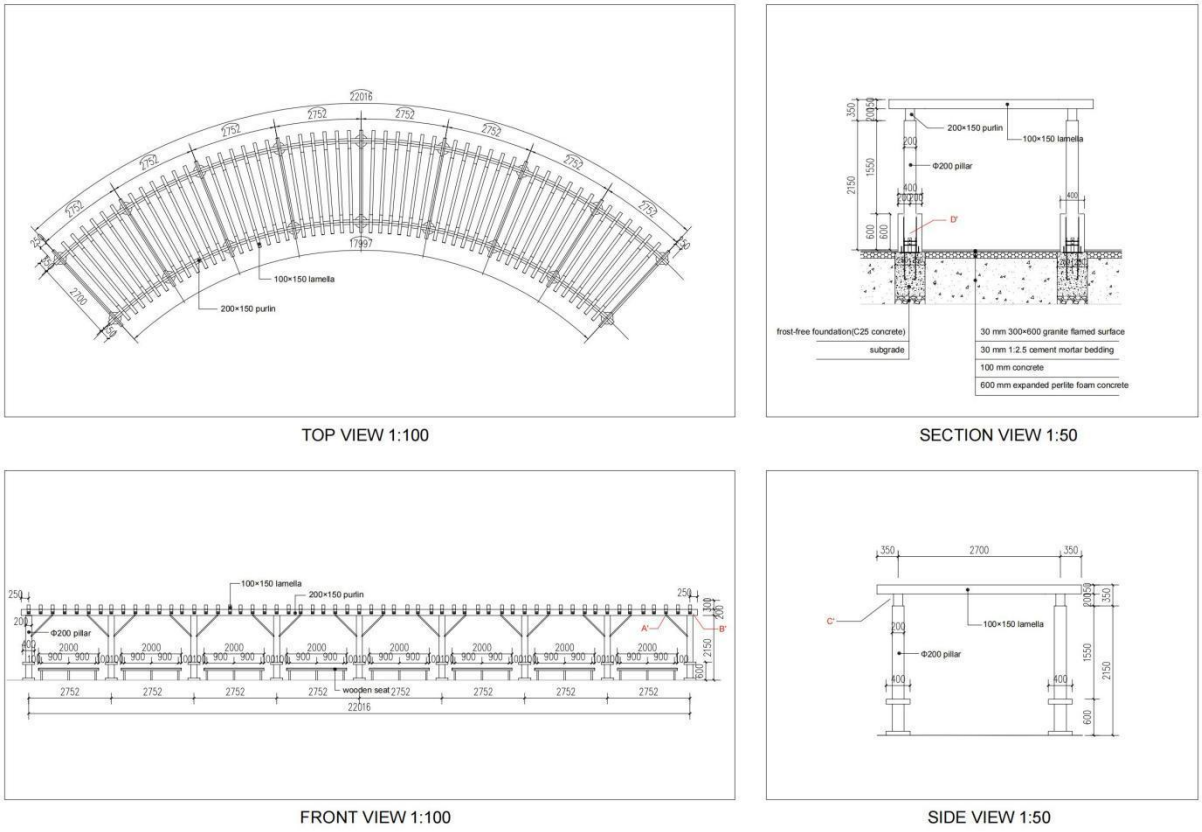

Figure 6-14: Curved Pergola Technical Details

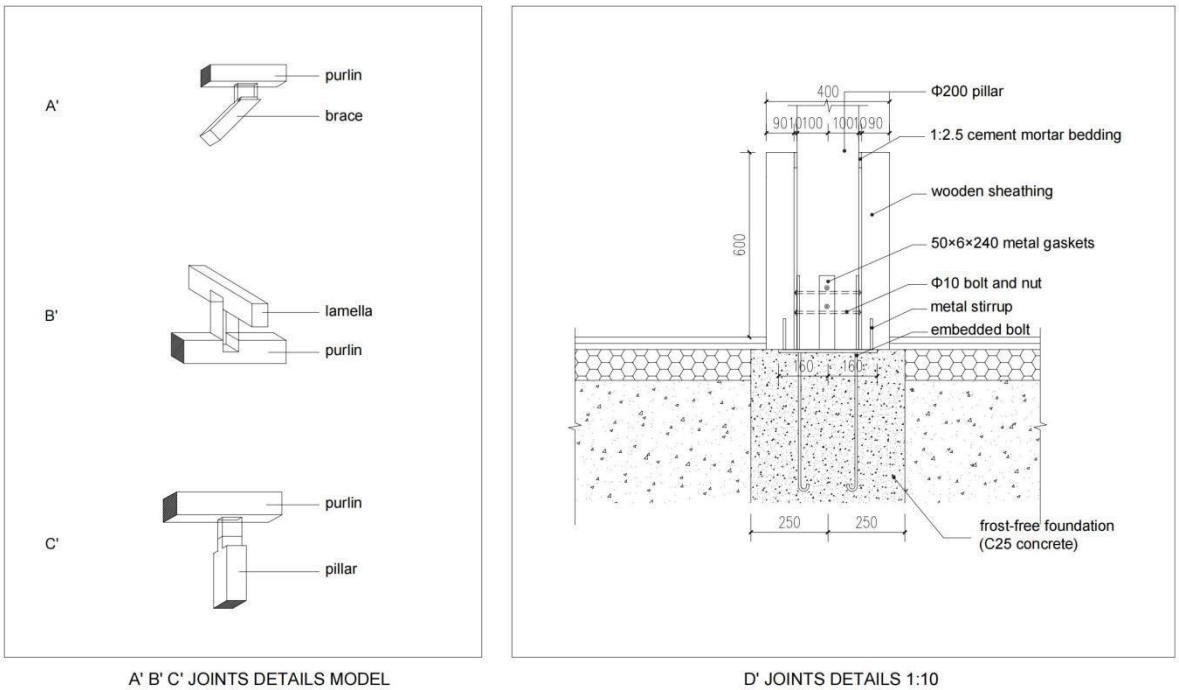

Figure 6-15: Joints Technical Details

Figure 6-16: Curved Pergola Model

6.5. Visualizations

The following visualisations show the highlight area realistically (**Figure 6-17 to Figure 6-27**).

Figure 6-17: History Exhibition Wall

Figure 6-18: Painting Corner

Figure 6-19: Stripe Stones

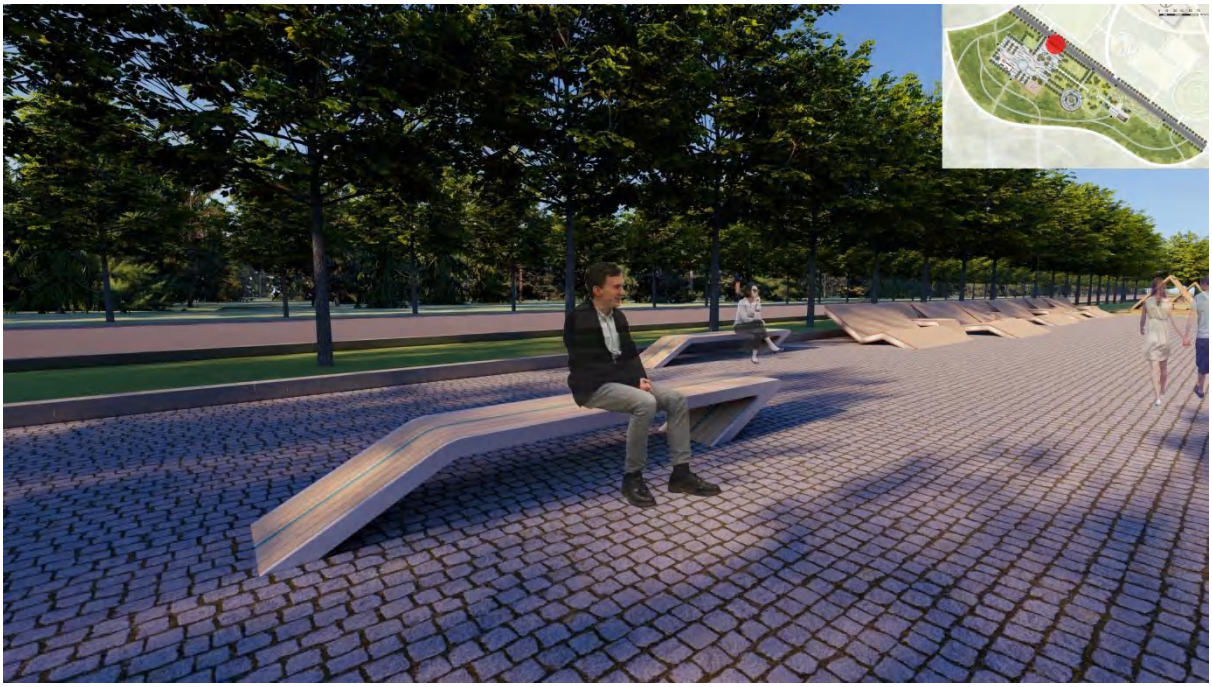

Figure 6-20: Resting Seats

Figure 6-21: Picnic Tents

Figure 6-22: Tree Aelly

Figure 6-23: View Frame (Facing East)

Figure 6-24: Memorial Square

Figure 6-25: Open Lawn with Pergola

Figure 6-26: Cafe Garden

Figure 6-27: Flowering Meadow

7. **CONCLUSION**

This thesis is based on the cases study and various analyses to create the Alag horse racing training centre as the Alag historic equestrian sports park, demonstrating the development potential of the area. The conclusions of this thesis are two aspects:

On the one hand, this thesis makes the park comprehensive and international through the master plan. It is reflected in the optimisation of the park's road system, which increases connectivity and accessibility between the various parts of the park. After that it creates 9 specialist functional areas such as the stables and stables service area, the equestrian training area and the children's equestrian experience area, serving 6 different categories of users. And this thesis also offers the planting concepts, including the renewal of the racecourse grass, the selection of ornamental shrubs and flowers.

On the other hand, this thesis makes full use of and develops the equestrian history and culture of Alag. It is particularly reflected in the detail design elements, such as the historical museum, the historical exhibition wall and the memorial sculpture in the highlight area. The sections show the appropriate height difference relationships and visual relationships between the elements. The planting design provides the concept of plant species selection, including issues such as information and maintenance of the various types of plants. The technical details similarly show landscape installations related to the history and culture of Alag.

This thesis still leaves much to be desired, but it is hoped that the example of the Alag historic equestrian sports park will provide some assistance in the construction of the equestrians park in Hungary.

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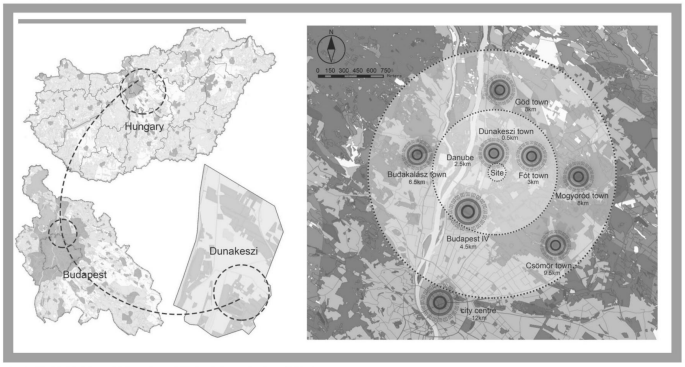
POSTERS

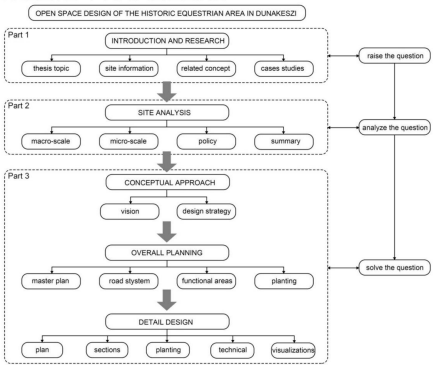
OPEN SPACE DESIGN OF THE HISTORIC EQUESTRIAN AREA IN DUNAKESZI – 01

ALAG EQUESTRIAN PARK SINCE 1869

LOCATION



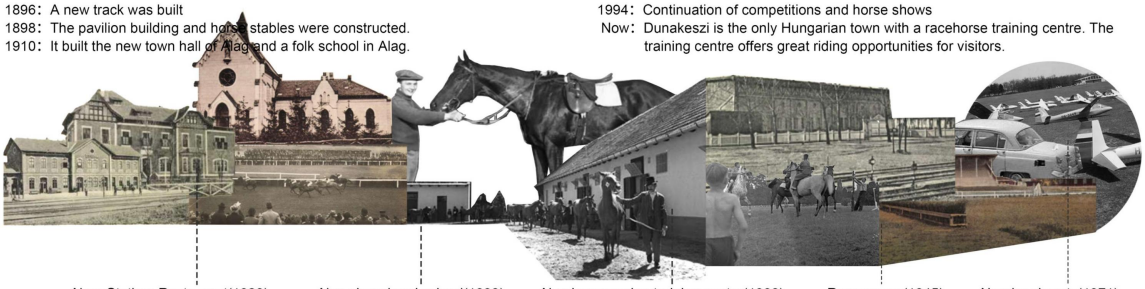
THESIS FRAMEWORK



HISTORICAL INTRODUCTION

1819 - 1869 | 1869 - 1887 | 1941 | 1960 | 1985

1889: At that time, the riding association did not own its own racecourse. the Hungarian Equestrian Association - its first president bought this area which named Alagpuszta.
1890: Start building Alag
1891: The first races of the Alagi Racecourse were held on 12 April 1891.
1893: It became a regular event from 1893 onwards with the establishment of the Alagi Prize.
1896: A new track was built
1898: The pavilion building and horse stables were constructed.
1910: It built the new town hall of Alag and a folk school in Alag.
1921: The centre of Hungarian equestrian sport moved to Alag, first Hungarian Derby was held.
1925: In its heyday, Alag had more than 600 horses and was one of the largest training centres in the world
1951: The riding association was nationalised as the Hungarian Horse Racing Company.
1989: The Hungarian Equestrian Association was re-established.
1994: Continuation of competitions and horse shows
Now: Dunakeszi is the only Hungarian town with a racehorse training centre. The training centre offers great riding opportunities for visitors.



Alag; Station; Restaurant(1920) | Alag chapel and school(1938) | Alga horse racing training centre(1938) | Racecourse(1945) | Nearby airports(1971)

SITE DEFINITION

Total equestrian sports area: 166ha (including 107ha nature reserves area)

Large equestrian sports area & Nature reserves (112ha)

Plan map of the Dunakeszi's settlement structure in 2020

Large equestrian sports area & Nature reserves (54ha)

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OPEN SPACE DESIGN OF THE HISTORIC EQUESTRIAN AREA IN DUNAKESZI – 02

CONCEPT OF THE EQUESTRIAN PARK

The basic feature of the equestrian park is the equestrian sport theme, with other leisure and sporting functions as an adjunct.

The equestrian park has a clear functional orientation and, in general, is a sport and leisure site for the general public to experience equestrian sports, to exercise, or to relax. Equestrian sports parks also usually create a unique landmark for the city and are a category of features in the city's tourism industry.

In the design process, attention should be paid to the rationalisation of the park's landscape structure and functions in order to achieve sustainable development of the park. Ultimately, it will bring ecological and social benefits to the city.

CASES STUDIES 01 – BUDAPEST LAZAR LOVASPARK IN HUNGARY

Lázár Equestrian Park Orthophoto

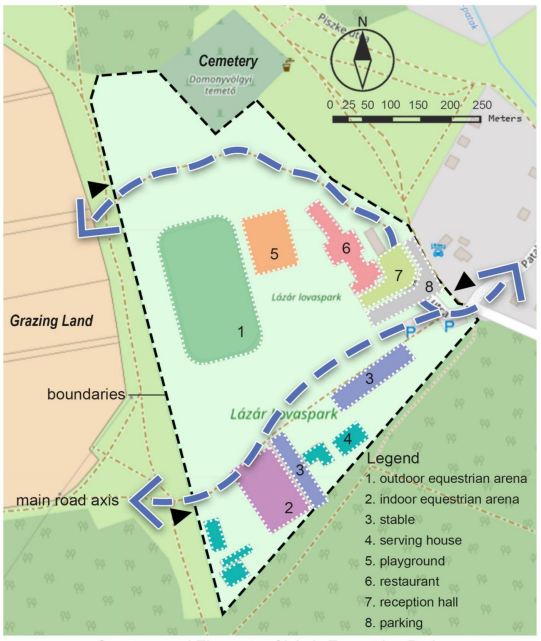
Horse Racing Venue

Game Activities

Equestrian Show

Lázár Equestrian Park is only nine hectares in size and has been open since 2001. It is located in the nature reserve of the Domonyvölgy Valley.

In addition to equestrian sports, the park offers a wide range of activities such as corporate team building and weddings, family picnic and much more. It is worth mentioning that the park has different facilities and activities for different groups of people, for example, the park also offers a diverse range of activities for children.



Structure and Elements of Lázár Equestrian Park

CASES STUDIES 02 – SYDNEY INTERNATIONAL EQUESTRIAN CENTRE IN AUSTRALIA

EQUESTRIAN NEW SOUTH WALES · EQUESTRIAN VICTORIA · EQUESTRIAN SOUTH AUSTRALIA · EQUESTRIAN QUEENSLAND · EQUESTRIAN WESTERN AUSTRALIA · EQUESTRIAN NORTHERN TERRITORY · EQUESTRIAN TASMANIA

Sydney International Equestrian Centre Plan Map

Sydney International Equestrian Centre Functional Area Map

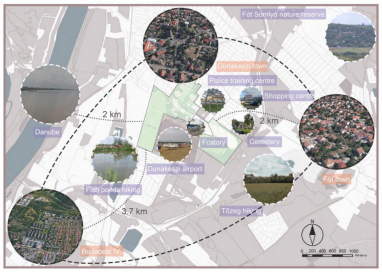
The equestrian industry in Australia is well established and each state or territory has its own equestrian association.

Take the Sydney International Equestrian Centre as an example, in its overall layout, the Sydney International Equestrian Centre presents a core and four functional areas.

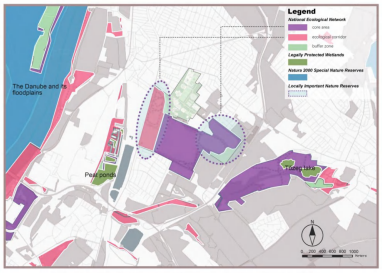
In addition to hosting professional equestrian competitions, the Sydney Equestrian Centre operations team also organises regular equestrian training, equestrian promotion courses and equestrian skills exchange sessions. In addition, the operators have expanded beyond equestrian events such as 5km trail runs, dog fun runs, outdoor training for firefighters, product launches, exhibitions and even weddings.

OPEN SPACE DESIGN OF THE HISTORIC EQUESTRIAN AREA IN DUNAKESZI – 03

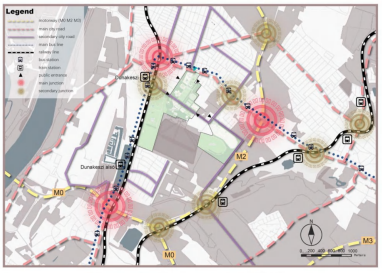
MACRO-SCALE ANALYSIS



Urban Context Analysis Map



Protected Areas Network Analysis Map



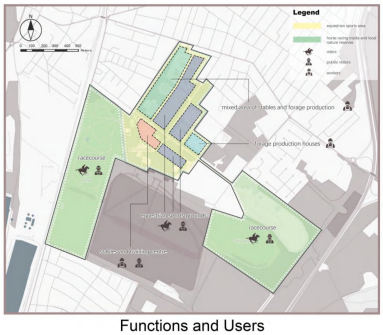
Trafic System Analysis Map

The site is surrounded by many functional elements and building types, and the site has a very strong potential for development in such an urban environment and it could be created and developed into an landmarked central equestrian sports park, linking several settlements.

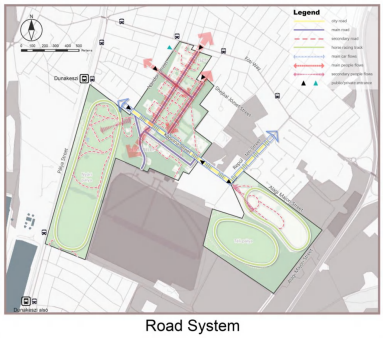
The national ecological network influences the site and the site are of high ecological value in addition to being large equestrian sports areas.

The external of the site has three levels of city roads (highways, main city roads, secondary roads), as well as many pathways, and there is an important railway line to the west of the site. The accessibility of the site needs to be improved and the main entrance should be located closest to Dunakeszi railway station.

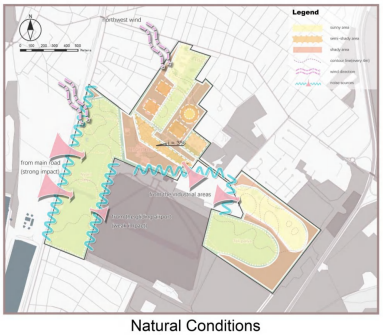
MICRO-SCALE ANALYSIS



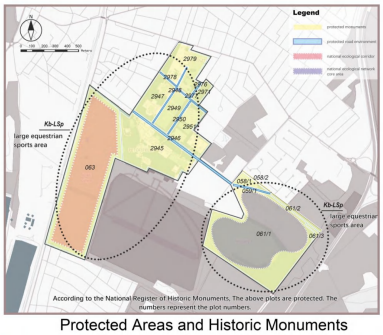
Functions and Users



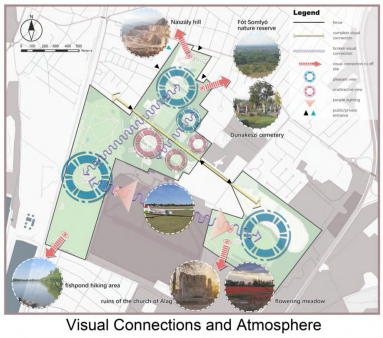
Road System



Natural Conditions



Protected Areas and Historic Monuments



Visual Connections and Atmosphere

KEY ISSUES:

1. *CONNECTION ISSUES*: between the north and south of the site and between east and west (main conflict).

2. *FUNCTION ISSUES*: The problem of missing functions. (transformation from 'equestrian area' to 'equestrian park').

3. *OTHER ASPECTS*: Problems with specific elements and structures, such as the setting of entrances, the structure and distribution of roads, the setting of fences, the use of materials, sustainable development of plants, etc.

POLICY ANALYSIS

Given the protected nature of the Alag Historic Equestrian Area, planning and design work needs to be carried out in strict accordance with policy.

According to Local Building Regulations of the City of Dunakeszi:

1.Only equestrian related or service related facilities can be built.
2. Elements that would damage the environment cannot be installed in nature reserves.
3. Newly constructed elements need to follow the indicators in the table.

Construction Indicators Table

	A	B	C	D	E	F	G
1	zone sign	under cover. mode	Allowed maximum building density	minimum plot size allowed	minimum building plot size	maximum permitted building height	minimum green area
2			(%)	(m^2)	(m^2)	(m)	(%)
3	Kb-lsp	SZ	10	50 000	50 000	6,0	75

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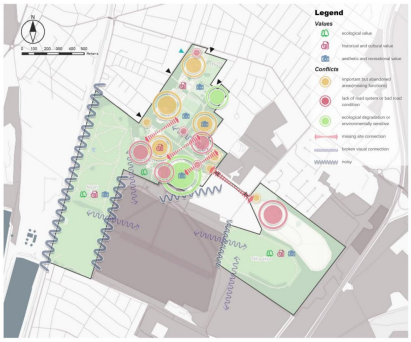
OPEN SPACE DESIGN OF THE HISTORIC EQUESTRIAN AREA IN DUNAKESZI – 04

ALAG EQUESTRIAN PARK SINCE 1880

SUMMARY OF ANALYSIS



S – strengths

1. Good location, the site is located south-east of Dunakeszi, 2-4km from Fót and the Budapest IV..
2. A rich botanical resource.
3. A long history and a rich resource of cultural and historical values.
4. Unique equestrian sports features for competitions, training or other events.
5. The site is the subject of protection by the local authorities.

W – weaknesses

1. Poor accessibility.
2. Unclear entrances.
3. Muddy roads.
4. The internal road system is inadequate, with some broken roads.
5. The facilities related to equestrian sports are old and unprofessional.
6. Lack of services for different users.
7. Lacking event space, such as leisure, rest, picnic, kids playground functions, etc.
8. There is a lack of connection between the North-South and West-East parts of the site.
9.At present it is only equestrian training centres and racecourses, without forming the concept of an 'equestrian park'.

O – opportunities

1. It can be developed with elements of the surrounding 'Alag' to create a distinctive Alag equestrian sports and culture brand.
2. The site is part of the National Ecological Network that can stimulate higher ecological value capabilities.
3. Adjacent to the sports airport area, it has the potential to be developed synergistically as a sports park.
4. There are many attractive views around the site and consideration needs to be given to the visual connection of the site to the outside.

T – threats

1. As there is no indoor racecourse on the site, equestrian sports are often affected by the season, rainfall and the site may be deserted for long periods of time.
2. High maintenance costs and insufficient government investment and support.

VISION

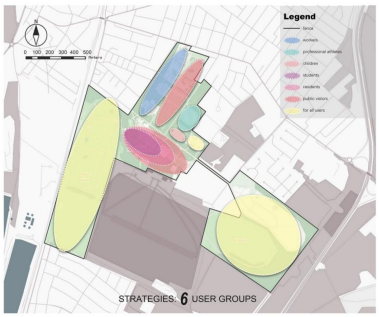
better overall planning | road improvement | more functions | beautiful environment | detail landscape

Final vision: Professional equestrian sports services, beautiful landscapes, better recreational experiences.
Equestrian Sports *'Area'* → Equestrian Sports *'Park'*

DESIGN STRATEGY

Zones Distribution Bubble Diagram

Functional Area Bubble Diagram



User Distribution Bubble Diagram

3 ZONES — *provide* — *9 Functional Areas* — *serving* — *6 User Groups*

core zone;
west zone;
east zone

entrance area
stables and stables services area;
equestrian training area;
professional equestrian activities area;
children equestrian experience area;
commercial service area;
Alag equestrian history exhibition & education area;
recreational area;
racecourse and nature reserves

workers;
professional athletes;
children;
students;
residents;
public vistors

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OPEN SPACE DESIGN OF THE HISTORIC EQUESTRIAN AREA IN DUNAKESZI – 05

ALAG EQUESTRIAN PARK SINCE 1880

MASTER PLAN 1:4000

The master plan is based on all the analyses and design strategies. It focuses on solving problems such as missing functional areas and missing connections between parts of the site, and this master plan shows specific solutions.

The master plan shows specific 9 proposal functional areas to serve different groups of users. The Alag equestrian sports park will not only offer services related to equestrian sports, but also different functions like picnics, exercise, coffee, dog activities, etc. It will be a comprehensive park based on equestrian sports.

Legend

Entrance area
1. entrance reception & parking

Stables and stables services area
2. houses for forage production
3. stables

Equestrian training area
4. united equestrian training grounds
5. independent equestrian training grounds

Professional equestrian activities area
6. outdoor cross-country training track
7. indoor equestrian arena

Children equestrian experience area
8. playground
9. equestrian experience ground(ages 6-12)
10. equestrian experience ground(ages12-18)
11. children's equestrian jumping ground

Commercial service area
12. commercial square
13. shops, restaurants and toilets

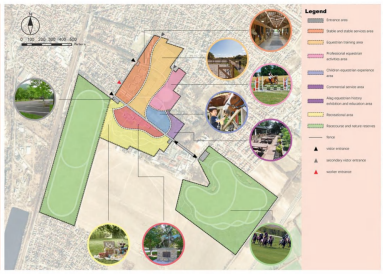
Alag equestrian history exhibition & education area
14. fountain
15. Alag equestrian history museum
16. painting corner

17. sculpture
18. resting seats
19. flowering meadow
20. cafe

Recreational area
21. runing track
22. picnic area
23. viewing tower

Racecourse and nature reserves
24. spectator stands
25. regular-racecourse
26. skillful-racecourse

Road System Planning Plan



Functional Area Planning Plan

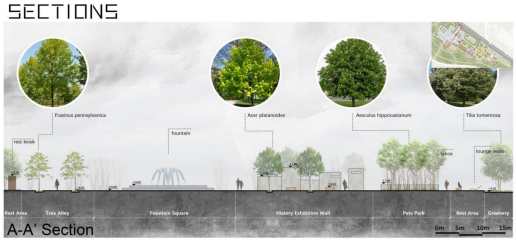
Planting Planning Plan

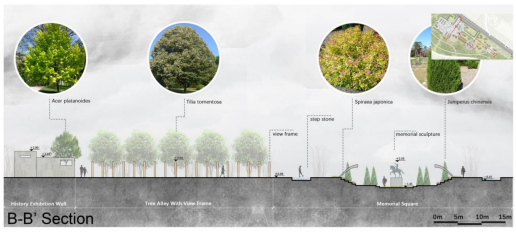
NAME: WANG BINGQUAN NEPTUN CODE: HKB9K6 SUPERVISOR:JAKLI ESZTER

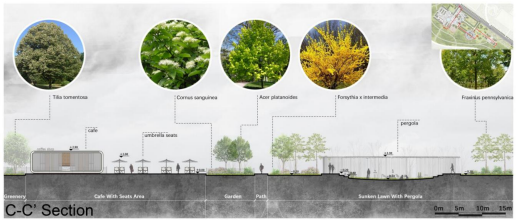
OPEN SPACE DESIGN OF THE HISTORIC EQUESTRIAN AREA IN DUNAKESZI – 06

HIGHLIGHT AREA PLAN – ALAG EQUESTRIAN HISTORY EXHIBITION & EDUCATION AREA 1:1000

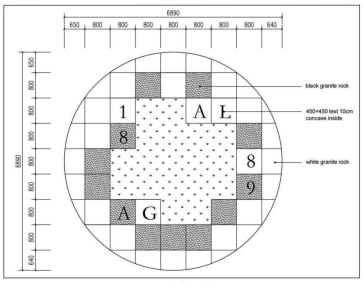
SECTIONS



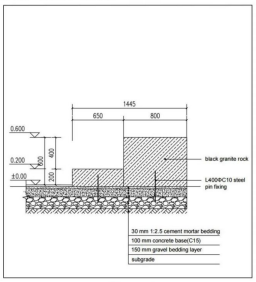




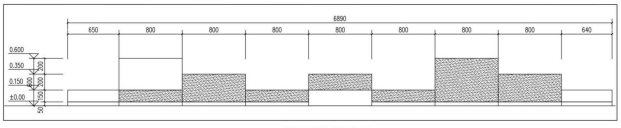
TECHNICAL DETAILS – CHARACTERISTIC TREE SEAT



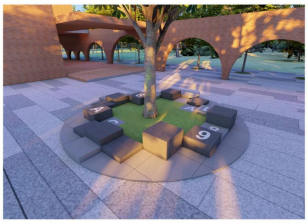
TOP VIEW 1:50



SECTION DETAIL 1:20



SIDE VIEW 1:20

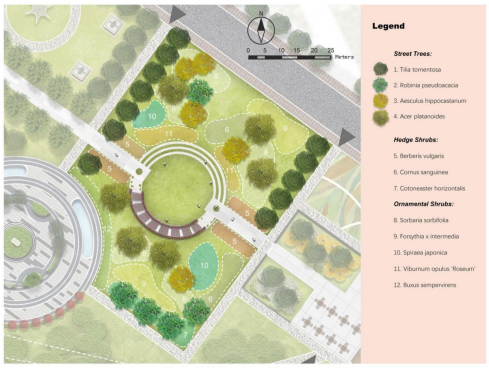



NAME: WANG BINGQUAN NEPTUN CODE: HKB9K6 SUPERVISOR:JAKLI ESZTER

OPEN SPACE DESIGN OF THE HISTORIC EQUESTRIAN AREA IN DUNAKESZI – 07

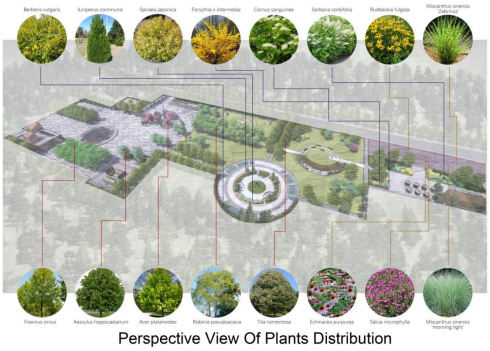
PLANTING DESIGN

Planting Design Plan



Detail Planting Design 1:250

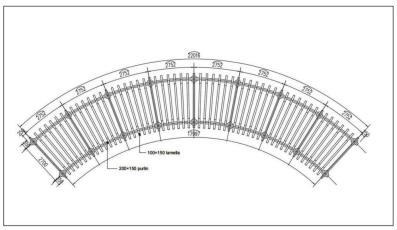
No.	Species (latin name)	Type	Height (m)	Width (m)	USDA zone	Quantities	Area (m²)	Quantities per m²	Demands	Characteristics	Application possibilities
1	Tilia tomentosa	tree (deciduous)	15	9	4-7	70		0.06	full sun; pH6-8; moist	dense; erect; oval; yellow and white flowers in summer	lawn; meadow; street tree
2	Aesculus hippocastanum	tree (deciduous)	15	10	4-7	7		0.05	full sun or partial shade; good drainage	erect; oval; rounded; yellow and white flowers	flowering tree; street tree
3	Robinia pseudoacacia	tree (deciduous)	15	6	3-8	16		0.08	full sun or partial shade; pH6-8;good drainage	erect; oval; white flowers in spring; blue leaf; legume	naturalized area; recreational play area; flowering tree
4	Acer platanoides	tree (deciduous)	12	8	3-7	7		0.15	full sun or partial shade; clay; moist	rounded; brown samara fruits in fall	recreational area; shade tree; street tree
5	Fraxinus ornus	tree (deciduous)	9	5	5-6	18		0.18	mildly acid, neutral; dry or moist soil	rounded; green flowers in spring	mixed woodland, thickets and rocky places
6	Juniperus communis	shrub (evergreen)	2.4	1.5	2-8	6		0.45	good drainage	needled leaf; blue fruit	naturalized area; recreational play area; woodland
7	Spiraea japonica	shrub (deciduous)	1.2	1.2	3-8	20		0.70	full sun or partial shade; clay; pH >8	erect; rounded; pink flowers in spring and summer	drought tolerant; attract butterflies
8	Forsythia x intermedia	shrub (deciduous)	2.4	3	5-8	12		0.30	clay; sand; loam; pH6-8	multi-stemmed; yellow flowers in spring; long-lasting leaf	bank; slope; hedge; drought and salt resistant
9	Cornus sanguinea	shrub (deciduous)	1.5	1.5	5-7	25		0.60	partial shade; clay; sand; pH6-8; moist	multi-stemmed; white flowers in spring; purple fruits in fall	easy to grow; meadow; winter garden; coastal; hedge
10	Berberis vulgaris	shrub (deciduous)	1	1.2	4-8	30		0.8	full sun or partial shade; pH6-8; moist	yellow flowers in spring and summer; long-lasting leaf	walkways; woodland; hedge; border
11	Sorbaria sorbifolia	shrub (deciduous)	1.2	1.2	2-8	35		0.70	full sun; clay; moist	erect; white flowers in summer; compound leaf	shade tolerant; slope; bank; barrier; border
12	Echinacea purpurea	perennial	0.9	0.4	3-8		230	3	pH neutral 6-8; clay; sand	erect; colorful flowers in summer; black fruit in fall	meadow; naturalized area; drought tolerant garden
13	Rudbeckia fulgida	perennial	0.6	0.3	3-9		680	8	full sun; clay	black and yellow flowers in fall and summer; broadleaf evergreen	meadow; naturalized area
14	Miscanthus sinensis 'Zebrinus'	perennial	1.4	1.1	4-9		270	0.8	good drainage, occasionally wet	green leaves with irregularly spaced yellow horizontal bands	meadow; pond; naturalized area; border
15	Salvia microphylla	perennial	0.9	1	7-10		160	2	full sun; pH6-8; good drainage	arching; white, pink, red flowers in spring, summer and fall	coastal; naturalized area; butterfly garden
16	Miscanthus sinensis 'morning light'	perennial	1.2	0.8	5-9		280	1	erect; full sun; clay; pH6-8; good drainage	brown red flowers in fall; green and white leaf	ornamental grasses; meadow, pond, drought tolerant garden
	other perennial species...										



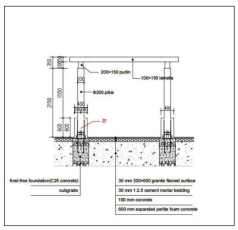
Perspective View Of Plants Distribution

Regarding the maintenance issues of the flowering meadow. In order to save costs, only use perennial species.
Perennials also include: Aster novae-angliae, Stachys byzantina, Panicum virgatum 'Strictum', Santolina chamaecyparissus, Hakonechloa macra, Carex morrowii 'Ice Dance', Ceratostigma plumbaginoides and other species.

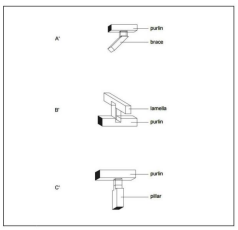
TECHNICAL DETAILS – PERGOLA ON THE OPEN LAWN



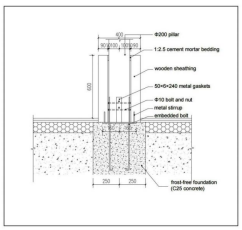
TOP VIEW 1:100



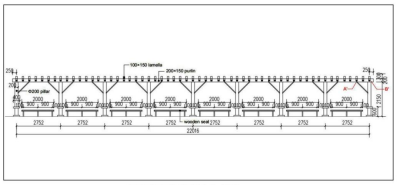
SECTION VIEW 1:50



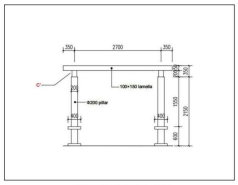
A'B'C' JOINTS DETAILS MODEL



D' JOINTS DETAILS 1:10



FRONT VIEW 1:100



SIDE VIEW 1:100

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ANNEX

DECLARATION

on authenticity and public assess of master's thesis

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Department: Garden and Open Space Design

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