

## REVITALISATION OF THE PARK AT THE SCHOOL IN CERVENY HRADOK

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The primary school campus in Cerveny Hradok (CH) was designed and realised according to landscape garden principles on an area of about 2.2 ha by the landscape architect Ivan Tomasko. From the originally planted 1,049 woody plants, there are currently only 350 (documented in the inventory of woody plants). This is a consequence of the absention maintenance, as well as weather calamity situations in recent years. The proportion of domestic and introduced species is approximately 50 : 50. The domestic species composition is dominated mainly by deciduous species and the introduced are mostly coniferous. The inventory results prove that without the recommended interventions (cutting down 130 trees of bad health conditions) there is no development perspective. The 4 design projects aim at a conversion of the area to a space for sport, leisure, relax and education.

**Keywords:** inventory, landscape architecture, park design, school garden, woody plants

### Introduction

School gardens are an important component of urban areas and an essential part of each educational establishment since the beginning of modern education system in Slovakia. They are important components of the urban green infrastructure (Tóth, 2013) and create not only natural environment for students but if the functions are properly designed, they can be involved in the educational process as well (Supuka, Feriancová a i., 2008).

These are the main reasons for revitalisation of these areas and their sufficient and ongoing maintenance to prevent their degradation. The topicality of this issue is proved by the dilapidated state of some of them. Among these may be included also the park at the primary schools and kindergarten in CH. It's a pity as it was designed and realised by professionals from the Mlynany Arboretum using their plants (1964–1970). The plants from that time are now of mature age, but unfortunately due to lack of maintenance, there are some aged veteran plants with the following features: disintegration of their structure, loss of main branches and an evidence of pathogens. All such plants as well as those that are not in accordance with the compositional aim of the design have been proposed for felling. The main goal of the presented research was to develop a park revitalisation project which meets the requirements of school areas considering their educational, leisure and cultural functions.

### Material and methods

Original planting documents were not available. According to one of the available documents "Inventory list of ornamental trees and shrubs located in the area of the primary school in CH" as at June 30 1970, there were 84 woody

plant species and a total number of 1,049 woody plants. Based on the field survey, the woody plants with health or static problems were identified and mapped (1 : 500). An additional field survey aimed biometric measurements (tree height, the diameter  $d_{1.3m}$ , crown width), the landscape architectural value, state of health, damage category, and treatment proposals. Some trees were determined for felling in terms of negative selection (dead, damaged, unhealthy) (Feriancová, 2013). The inventory was conducted according to the modified assessment methodology by Machovec (1987) and Juhásová (2002).

#### • Natural conditions

There are brown soils with neutral to slightly acidic reaction (pH 6.5 to 7.5). In terms of the original natural vegetation, the area belongs to the Carpathian oak-hornbeam forests but in terms of the present landscape structure, it is part of an intensively used agricultural landscape.

#### • The current state of the area

The school area is situated on the edge of the village at the 3<sup>rd</sup>-class road from Vrable to Velké Vozokany. The whole area has a slight height difference – the terrain rises from the southeast to the northwest. The school area is an important part of the village green infrastructure and has the character of a local bio-centre. There is a dense composition of woody plants, which divides the area from the surrounding agricultural landscape. Thus, the area is protected and hidden on three sides by a thick greenbelt. A considerable part of the area is dedicated to playgrounds. Besides the primary school and kindergarten buildings, there is a gym and warehouse and a bicycle shed. The buildings, paths and other paved areas have been renewed. There is also site furniture for children. Due to the

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congested composition of plants, there are no views. Their application is desirable and possible by felling of selected trees. The school building dominates the composition and is located on the main compositional. A negative component of the composition is the alley of thujas leading to the main entrance. The most frequented pedestrian route is the entrance to the school, kindergarten and gym. A partial maintenance is done by the pupils, teachers and janitor. Felling trees is proposed due to safety and hygiene reasons. These are plants with substandard health status and low landscaping value. There are 130 trees proposed for felling from a health perspective and 42–79 trees proposed for felling from a compositional perspective (ranging according to the 4 different design solutions). All studies have proposed to cut down the 22 thujas along the pedestrian entrance to the area (Hrdličková, Kopponová and Mlynarčíková, 2013; Petruchová, Slušný and Surovka, 2013; Slezáková et al., 2013).

The predominant species are *Acer platanoides*, *Pinus sylvestris*, *Picea abies*, *Pinus nigra*, *Thuja occidentalis* 'Malonyana', *Populus nigra* 'Italica' and *Quercus robur*. The identified diseases and damages indicate that certain species may be problematic for the site (Supuka, 2011). *Cameraria ohridella* was identified on all *Aesculus hippocastanum* specimens, scab on *Sorbus aucuparia*. The results of the inventory prove that without the recommended interventions to plantations, a perspective development is not possible (Kuczman and Feriancová, 2013).

## Results

Within the inventory of woody plants, 350 individuals were documented according to the described methodology, using the method of negative selection. From these, approximately the half was represented by native and the other half by introduced species. The group of native species was dominated by deciduous woody plants and the group of alien species by coniferous woody plants. The inventory resulted into the decision to remove 130 woody plants due to their insufficient health condition.

### The winning project design outlines (Blašková, Brodanský and Rožko, 2013)

- **The representative area in front of the school** – the project includes plantings of perennials and grasses – and placing benches. The flower plantings include a wooden sculpture in the form of two maple leaves.
- **Playgrounds** – next to the gym, there is designed a multifunctional playground for volleyball, basketball, football, badminton etc. The football field is located in the same area as at present, but partially offset due to a new running track around the field.
- **Path System** – the concrete path at the gym is extended to the football field. The terrain elevation towards the field is made accessible through concrete stairs. The current concrete path leading from the kindergarten to the park is replaced in the project by gravel path that continues along the property line and serves as an educational trail with signs of trees and their fruits as well as elements to sit from stumps of the felled trees.

### Small architecture elements

- **A roofed fireplace with sitting** in the rear of the property is roofed with a wooden construction of circular floor plan and with wooden seats and tables.
- **A platform** for various school performances serves also as a playground for children from the kindergarten. Its design includes decking boards made of wood composite. The stage is accompanied by wooden seating in the form of leaf venation.
- **Bicycle racks** are located to the left of the entrance to the complex, under the trees.
- **Fencing:** the front fence is in good condition and does not require any adjustment. Other parts of the fence are proposed to be reconstructed.

### Site furniture

Wooden chimes welcome children when entering the area; Site furniture for children games behind the kindergarten: there are wooden components to support and develop creative thinking, motor skills and imagination, e.g. compounding words by rotating cubes, counting by turning circles etc., water element and sandpit: along the path towards the fireplace, there is a system of wooden troughs connected to the well and alternatively leading to the sandpit; stylised mushrooms are placed in the back, at the path – these are playful wooden elements with images of dangerous toxic species; The sitting on stumps also serves to support the slope and as little arc “tribunes” to observe games on the playground. An open air classroom is furnished using stumps, furniture and lighting: there are new benches and trash cans to be placed in the representative part in front of the school and also at the multifunctional playground. The lighting allows the use of the site also in the evening.

### Interventions into the woody plant composition

The revitalization of the area is determined by pruning the invasive vegetation. Although the peripheral parts provide a good insulating function as they protect the area from external influences, but by thinning in designated areas, a visual link to the adjacent landscape scenery could be achieved. We consider the removal of trees near the main school building as an important intervention aiming at improving the illumination of classes. In the entrance part of the area, the proposed fellings aim at opening the views of the school building. The proposed circular gravel path also requires pruning. This has to be done to achieve the desired illumination of this part of the site. Along the route, there are located entertainment and educational tables depicting trees,

their leaves, flowers and fruits with brief descriptions. The path leading to the fireplace is lined by birches, which release a large portion of sunlight; the colour and texture of the bark are interesting elements contrasting with the greenery. The lilacs behind the football field are acceptable – the proposal foresees their regeneration and additional plantings. In front of the school, there are plantings of weigela, which improves the colourfulness and lightness of the space. On condition of proper and regular maintenance, it blooms almost all year.

The current composition of woody plants contains some good basic (main) tree species and shrub plantings, which are retained in the design project and supplemented by new plantings.

- **Perennial plantings** – in front of the school there is a perennial bed. The spring aspect is provided by geophytes. The summer colourfulness is ensured by the perennials. The autumn aspect is provided by late flowering species of *Anemone*. The winter aspect is created by ornamental grasses. The flower bed is surrounded by low sheared hedges of *Buxus sempervirens*. There will be new lawns after the felling created by new grassing after terrain modifications.
- **Terrain improvements** – the terrain is modified along the gravel path. This alleviates the existing elevation differences to a smooth slope. The other adjustments are rather small like terrain preparation before placing the elements of small architecture.

## Discussion and conclusion

The fact that the 21<sup>st</sup> century draws us into the virtual world of computers and the Internet more than we want to admit it – allows us to appeal to the creation of more interesting spaces for children and youth as a desired counterpoint to their sitting in front of the computer screens. Our mission is to attract not only children but also the elderly into the natural environment in which they have the opportunity to learn about trees, shrubs, flowers. All four design projects elaborated in the studio have fulfilled this ambition. In each of these projects, several educational elements appear that also serve for practical learning in a playful way. Pupils can learn about natural systems, to recognise and grow basic plants in gardens. The school garden provides space for sport, culture and leisure in a cultivated environment. Requirements expressed by the client were fulfilled and it was interesting to follow how difficult was the decision making when choosing the project for realisation. The ideas for designing spaces for games of children and youth and for staying of adults are represented in the proposals also by less traditional approaches, which allow developing imagination and skills, the natural curiosity of children and an active leisure of adults visitors (e.g. permaculture plots, complementary plantings of fruit trees, etc.).

It is a common attribute of all the four studies that they include various versions of open spaces that are compositionally well designed, healthy and safe with a priority for pupils' active stay in the cultural environment of the school. The winning design engaged the school management mainly by its simplicity, clear disposition, open spaces and utilisation of interactive educational elements (Blašková, Brodanský and Rožko, 2013). The other 3 design projects (Hrdličková, Kopponová and Mlynarčíková, 2013; Petruchová, Slušný and Surovka, 2013; Slezáková et al., 2013) were compositionally more complicated and did not consider the linkage between the school area and its surroundings as significantly as the winning design (Blašková, Brodanský and Rožko, 2013). The revitalised park will improve the village green infrastructure and thus has the potential to contribute to a sustainable rural development which agrees with the findings of Tóth (2012).

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