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Landscape design of a small residential garden in the city of Arad

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Abstract: *The paper presents the landscape design for a 255 m² private garden in Arad, in the Western Plain, where summers are hot and dry. The aim was to turn a small space with ageing vegetation and disparate furnishings into a functional garden that is attractive in all four seasons. Two mature walnut trees (*Juglans regia*), the grapevines and the metal gazebo were kept. The garden was organised into a cobblestone relaxation area, the restored gazebo area, a central roll-out lawn crossed by a stepping-stone path and perimeter beds mulched with pine bark or anthracite gravel, with automated sprinkler irrigation and an anti-mole mesh under the lawn. The planting scheme has 35 items (280 plants) in nine groups. The estimated cost is 53,606 lei, of which planting material accounts for 26%.*

Keywords: roll-out turf, sprinkler irrigation, pine bark mulch, cobblestone paving, functional zoning, seasonal interest

• Introduction

Private gardens help make up for the shortage of green space in cities, contributing to green infrastructure, microclimate regulation and biodiversity [1, 2]. Small gardens need a rigorous approach: functional zoning, the right proportion between built and planted space and visual continuity between house and garden are the basic principles [3].

Arad lies in the Western Plain, with hot summers, dry spells, mild winters and 550–700 mm of annual precipitation, which calls for drought-tolerant species, mulching and irrigation [4]. The aim was to design a 255 m² garden that keeps the existing vegetation and offers interest throughout the year.

• Material and method

The site is the garden of a house on Udrea Street, Arad (255 m² excluding buildings). It contained two mature walnut trees, seven grapevines (*Vitis vinifera*), six Virginia creepers, a concrete path, a metal gazebo, a bench and a swing. The walnuts, grapevines, gazebo and wrought-iron furniture were kept.

The work comprised a literature review, an inventory of the existing situation from field surveys and photographs, the site plan and general landscape plan at 1:200, photomontages, plant selection by soil, climate, mature size and season of interest [5], the execution stages and a cost estimate at market prices.

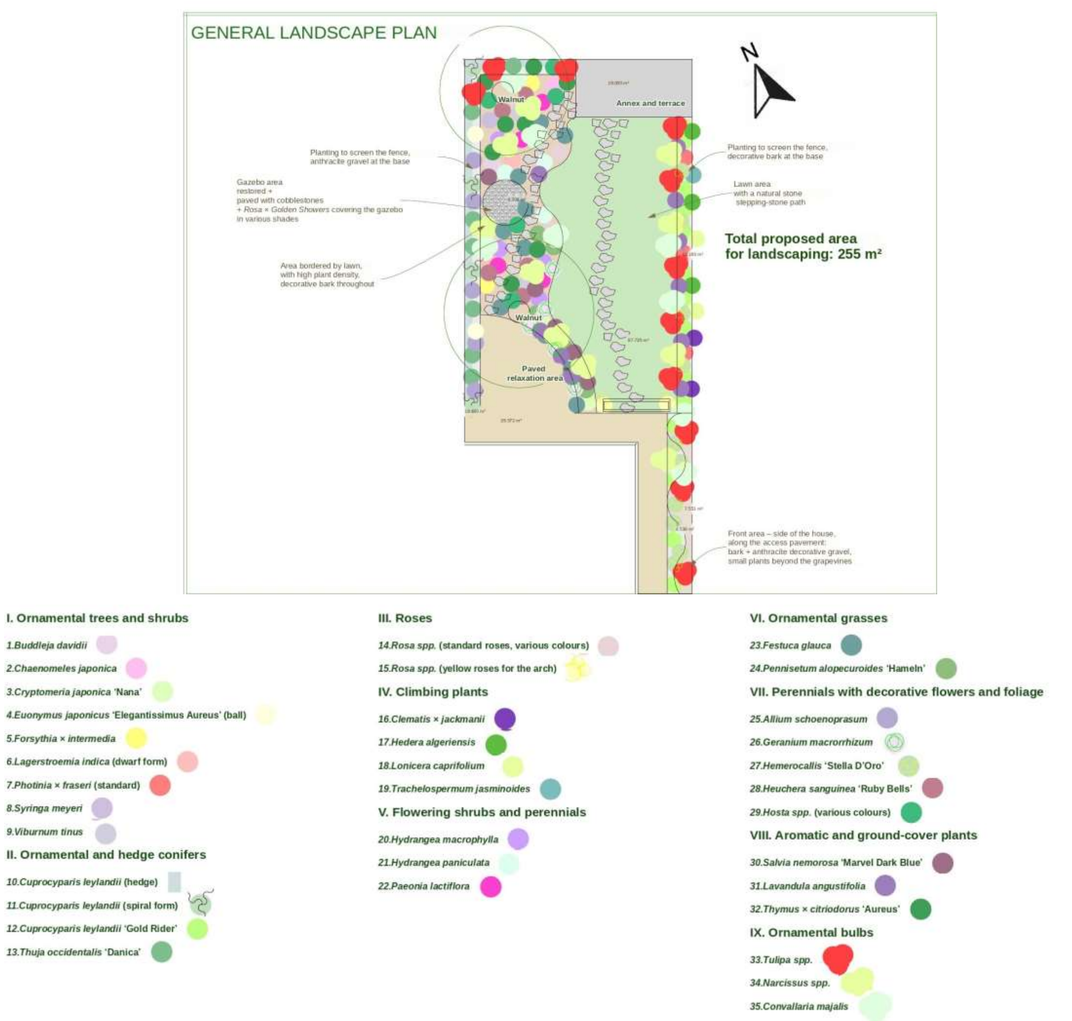


Figure 1. General landscape plan of the garden (top) and legend of the plant material in nine groups (bottom)

• Results and discussions

The plan (Figure 1) has five functional zones: the cobblestone relaxation area under one walnut crown, the restored gazebo area on anthracite gravel with climbing roses (*Rosa* 'Golden Showers'), the central roll-out lawn crossed by a natural stone stepping-stone path, the perimeter beds screening the fences and the front area along the access pavement.

The lawn was laid after grading with a 1–2% slope, preparing a 15–20 cm root zone and installing the sprinklers and the anti-mole mesh, so the sprinkler overlap could be adjusted without damaging the sward. Pine bark mulch, 5–8 cm thick, reduces evaporation and weeds and buffers soil temperature [6].

Conifers account for 41% of the value of the planting material (Table 1) because of their screening role, while bulbs make up 43% of the plants but only 2% of the cost. Bulbs, *Forsythia* and *Syringa meyeri* flower in spring, roses, hydrangeas and *Lagerstroemia* in summer, grasses carry the autumn and evergreen foliage with *Viburnum tinus* the winter. The total cost is about 210 lei/m², with irrigation (18%) and hard landscape elements (24%) as the largest shares (Table 2).

Table 1. Structure of the planting material by plant group

Plant group	Items	Plants	Value (lei)
I. Ornamental trees and shrubs	9	18	3,410
II. Ornamental and hedge conifers	4	48	5,750
III. Roses	2	6	1,000
IV. Climbing plants	4	8	990
V. Flowering shrubs and perennials	3	12	500
VI. Ornamental grasses	2	15	500
VII. Perennials (flowers and foliage)	5	30	890
VIII. Aromatic and ground-cover plants	3	23	620
IX. Ornamental bulbs	3	120	260
Total	**35**	**280**	**13,920**

Table 2. Materials, works and total cost of the project

Material / work	Quantity	Value (lei)
Roll-out turf + anti-mole mesh	77 m²	5,390
Sprinkler irrigation system	1 pc.	9,500
Cobblestone paving	30 m²	4,500
Gravel / weed-control fabric	1.6 m³ / 32 m²	720
Decorative pine bark	55 bags	3,850
Kerb / edging	25 m / 88 m	2,806
Stepping stones + rose arch	59 pcs. + 1	5,420
Labour	–	7,500
Planting material	280 plants	13,920
Grand total		**53,606**

• Conclusions

On only 255 m², five functional zones with two relaxation areas differentiated by material produced a coherent garden with balanced hard and soft elements.

Installing the irrigation and anti-mole mesh before the roll-out turf gives a uniform, durable lawn, and pine bark mulch with weed-control fabric reduces watering and maintenance.

The 35 items (280 plants) in nine groups give interest in all four seasons.

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