

Road in the Museum Area

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The design of roads in a museum environment with its historical image requires that attention be paid to some specific features. Experience with this kind of work in the Byelorussian ethnographic park showed that it was necessary to study not only the natural environment but also the historical regional principles of road design and the formation of the road's environment. The alignment of the road was designed both in correlation to its profile and as the borderline corresponding to some landscape forms, for example separating the cultivated plots of land. Use was made of the historical types of pavements, planting, and installation of traditional road signs. The investigation shows that the environmental approach must ensure coordination not only with the natural but also with the cultural and historical context of the environment.

A folk architecture and life park museum is being created at the present time not far from Minsk, the capital of the Republic Belarus. It is an ethnographical open-air museum in the tradition of the Scansen Park in Sweden. Original country buildings, articles of everyday life, and masterpieces of applied art are being brought from different regions of Belarus to this museum.

Because of the deficit of well-organized recreation zones around Minsk and in proximity to the center of the city (30–40 minutes away by automobile), this place will be of interest to both citizens and tourists. After the declaration of independence, Belarus is seeking a national identification with its traditions of folk art and everyday life.

With the historical expansion of Russia and Poland, Belarussian national culture was mainly preserved in a conservative rural environment. It influenced the special attention paid to the development of the territory by governmental and nongovernmental circles.

The park area adjoins the Minsk circle highway (3 miles away) and has access to it throughout a local road. The amount of traffic on the circle road is high (according to local standards) and amounts to 10,000 to 12,000 vehicles per day. The local road serves only a small dwelling area in the suburbs of Minsk and some industrial and trade storehouses. Approximately 1,000 vehicles per day travel on the local road.

An access road in the museum area connects the local road with the entrance to the museum. The museum territory consists of 370 acres. On these grounds will be grouped old buildings of mainly wooden construction with intervals of 200 to 300 yd between each group. This grouping is based on the principle of correspondence to the scientifically adopted subdivision of Belarus. There are six of such zones.

After the principal plan of the territory development had been designed, specialists in landscape architecture in the

field of road design were engaged for the project (Institute Belremdorproject, Architectural and Landscaping Design Bureau).

The purpose of landscape design in the park area was to

1. Create the design for an access road,
2. Design a parking zone,
3. Create the design of roads for mixed use (for pedestrians and sporadic automobile traffic),
4. Design roads between the groups of buildings,
5. Introduce plantings, and
6. Create some landscaping.

The work was divided into two main aspects: first, the special landscape character of the roads had to be designed and the roads fitted into the existing and future landscape; second, the design of the roads had to be correlated with the historical image of the whole territory. Both aesthetic and historical criteria will determine the future visual qualities of the museum area. The museum environment must serve the purposes of knowledge and recreation.

HISTORICAL OBSERVATIONS

Study of the road's history in Belarus made it possible to specify certain features of its genesis. Organized construction of roads had been carried out sporadically since the 17th century. This process was influenced by the events in Europe, mainly in France and Poland. Before this period, roads had only been kept in condition or repaired. Since the 16th century, road maintenance was included in the juridical state documents (statutes) and feudals were obliged to supervise the process. The width of main roads was juridically determined to be the same as "a width of two big carts."

The principal road network was formed during the centuries as a communication system between big cities: Grodno, Wilno, Polotczk, Vitebsk, Orsha, and Mogilev. Road repair meant filling in holes, cutting through bushes and woods, and laying of logs in boggy places. Roads do not dominate the landscape by their embankments or cuttings, they follow the main forms of relief by a "wrapped line."

In the 16th century, stone pavement appeared in some sections of streets in big cities and across the main road settlements. The application of this technique became widespread because of the availability of a large number of boulders of glacial origin. The technique was used until the third decade of the 20th century (Figure 1).

Road plantings played an outstanding role in the history of the road. Plantings have been widely used since ancient times as a means of marking roads (especially in snowy conditions).

They were also used for drainage of wet places and, especially after the Renaissance period, for decorative purposes. Avenues of birches, oaks, pines, and fir and lime trees were planted on the approaches to cities, roads leading to residences of the aristocracy, and churches and monasteries (Figure 1).

Sacred and ritual traditions also influenced the roadsides. Christian crosses or small chapels (Kaplitchka) were erected on the crossroads, road forks, and at the approaches to settlements. As places of worship and prayer, they were also special kinds of road signs used for marking specific places and their form served this purpose well (Figure 2). Crosses had stretched proportions and large height and the chapels were usually painted white. Sometimes there was a small space inside the chapel where a carved statue of Jesus was placed (Figure 3). Most of these monuments were destroyed during the communist period.

There were some special traditions in the alignment of country roads. In many cases roads appeared as borderlines between settlements and cultivated land (Figure 4). Some roads followed the river coastlines. Heaps of stones gathered from the fields were placed along the roads. They were also prototypes of road signs.

Historical analysis made it possible to formulate five traditions in road construction and road landscape that had in common:

1. Close correspondence of the roads to landscape,
2. Plantings,
3. Stone pavement,
4. Use of different kinds of road signs, and
5. Using roads as a borderline.

There existed other local traditions. For example, it was customary to build inns with rooms and stables for horses under one roof. These buildings were often large. In some cases when the road went through the settlement it led to the church, with its vertical spire or high roof.



FIGURE 2 Roadside Christian chapel.

ANALYSIS OF THE EXISTING LANDSCAPE

Environmental analysis revealed the complicated natural relief of the museum territory. The gap of vertical points at the distance from 0.5 to 0.8 mi constituted 130 ft.

The determining part of a landscape was the narrow River Ptich (7.5 to 9 yd wide) crossing the museum territory from



FIGURE 1 Old road with stone pavement and alleys.



FIGURE 3 Carved statue of Jesus from roadside chapel.



FIGURE 4 Road as a borderline between cultivated and uncultivated lands.

north to south. The river had a rather wide valley with a higher western (right) bank. Here the small village Strochitzky with about 30 houses and other buildings is situated. The village plan retained its historical drawing with the main (and only) street running parallel to the coastline. Because of this feature and its picturesque look, the village became an integral part of the museum area.

The eastern bank of the river is more sloping. It rises to 75 to 90 ft at a distance of 180 to 200 yd and converts into a rather flat plateau. Further to the east, the landscape becomes sloping and hilly fields of corn. On the eastern side of the river valley on the plateau are situated groups of historic museum buildings.

The banks of the river exhibit the characteristic green of the reeds, willow-trees, and alders. On the mainly open territory of the east side, separate small groups of bushes and trees are scattered. The river is also a traditional nesting ground for various aquatic birds. Most parts of the territory that were previously cultivated now have thick grass.

Designed and already placed buildings are arranged in small groups (12 to 15 objects) of free design. Only some of the houses and buildings have a geometric connection to the plan. A church, with a vertical steeple roof and bulbous head, is placed in the center of almost every group. Windmills are situated separately.

Traditional in character, village architecture is distinguished by the use of natural materials such as wood, cobblestone, and reeds (as roofing), which give a special touch of simplicity to the landscape.

Visually accessible landscapes to the southwest and northwest are mainly of natural character. Depths of visual perspectives are from 1 to 3 mi. To the east and northeast, silhouettes of a city are seen on the horizon. To maintain the natural character, more landscaping and planting work will be needed in future.

METHODS OF DESIGN

The first section of the road design is the main access road (N*1) from a local road to the entrance of the museum (Figure 5). About 0.4-mi long, it crosses the rather flat relief. Taking into account the character of the road as a representative approach and also the type of landscape, it was decided to trace the road with two straight sections with one angle and a short curve.

The middle of the road must be paved with durable asphalt. It was taken into account that there exist heavier transport loads in this part of the road system (Figure 6a). In Belarus, where public transport is well developed, sight-seeing tours are carried out mainly by large tourist buses and not by private automobiles.

In the construction of the access road, it was decided to use a specific historic detail. The carriageway is framed with narrow ditches made of cobblestones. This not only creates a hint of tradition but also makes a precise edge for the asphalt pavement. The embankments here are no more than 3 ft high and the slopes have smooth curvings.

Along the access road, regular plantings of birches have been designed with dense groups in the gaps. Here the following points were taken into account: the tradition of plantings along the entrance roads and the necessity of visual curtains at this part of the museum territory, where auxiliary services are to be placed in the future (Figure 7).

A special road sign marking the museum entrance is designed where the access road joins the local road (Figure 8). The first section ends in a crossroad (the junction of four roads). The main parking area is situated at the end of road N*1, to the right. Taking into account the previously mentioned character of the traffic, its capacity is rather small (5 buses and 20 cars). Additional parking areas can be arranged at the beginning of the access road. Groups of trees and bushes around the parking area are placed at the north side. The first landscape panoramas can be seen from this area.

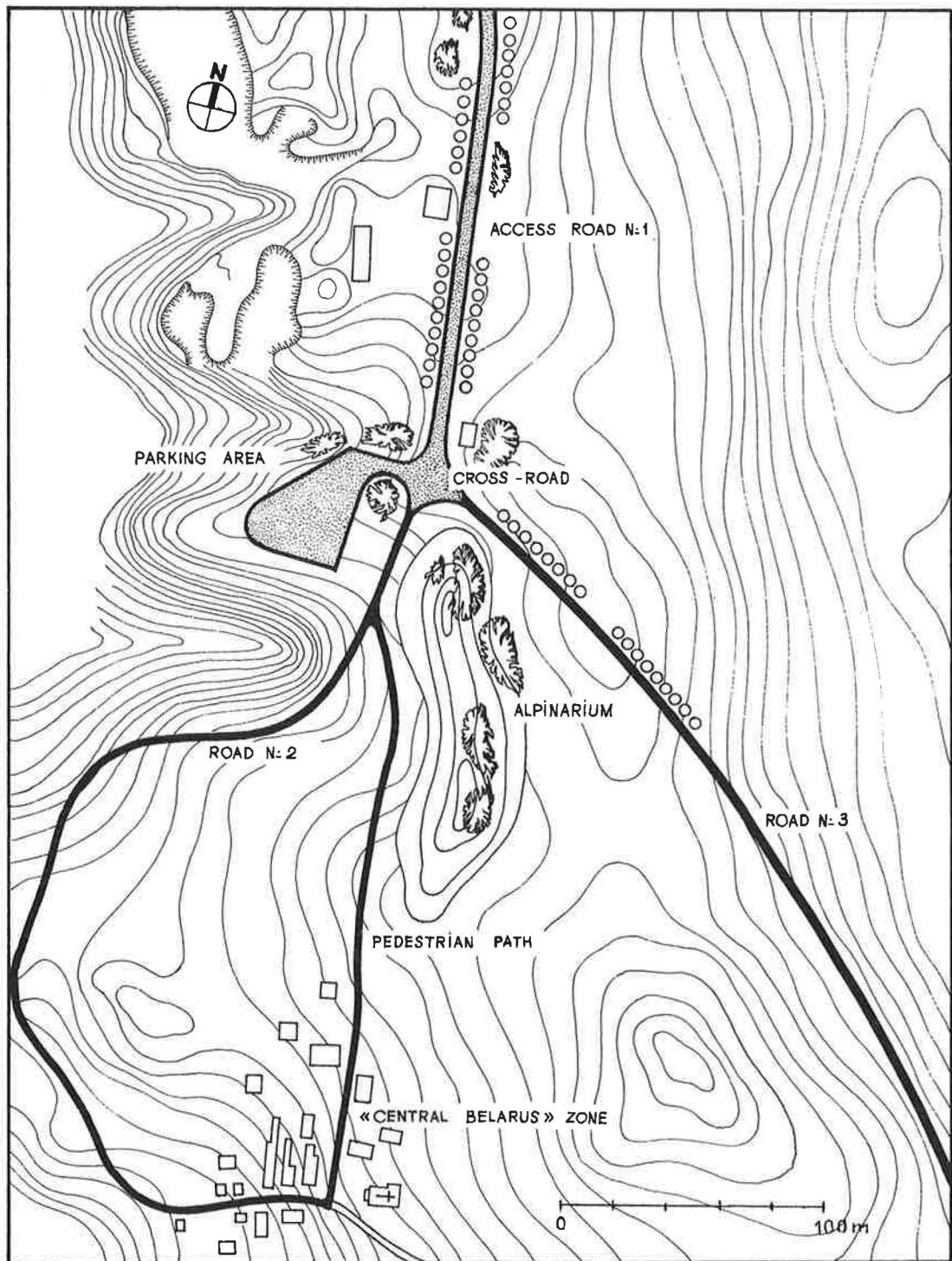
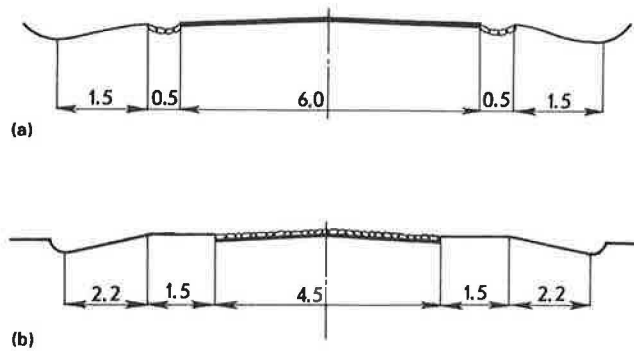


FIGURE 5 Part of a principal plan for museum territory from northern (entrance) side.



Note: Dimensions in meters.

FIGURE 6 Types of pavements.

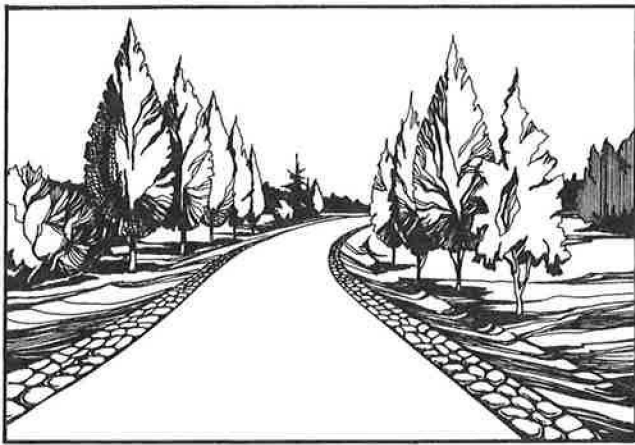


FIGURE 7 Perspective of access road.

Further on from the crossroad the automobile traffic may be divided in two directions. There are two roads of mixed function (pedestrian and sporadic automobile) and the main pedestrian road to the museum zone, Central Belarus.

Road N*2, which routes to the west, is traced along a steep slope to the river valley. It is close to the alignment of the field road that previously existed here. The road is 0.5 mi long and has six turning angles. After the first 0.3 mi it turns almost at a right angle and enters the zone Central Belarus. It is interesting that the first village building that meets a newcomer is a smithy. These are usually placed at the outskirts of villages.

Road N*3 was the main roundabout way of special functions connecting all the museum zones. Here the road was treated as a kind of borderline that divides two types of landscape: cultivated and uncultivated lands.

Computerized perspectives were used in the design of roads N*2 and N*3. After every 20 yd, photographs of landscapes along the planning road axis were taken. Combinations of photographed and computerized perspectives of the future road were used to create maximum integrity of the road and landscape. The exceeding of the point of view on display in



FIGURE 8 Road sign in traditional form.

the computerized perspectives was accepted to be about 6 ft. Thus it corresponds to a pedestrian's glance.

The alignment and profile were designed with maximum fit into existing relief and minimal embankments and cuttings. Road constructions (N*2 and N*3) are of two types: cobblestoned pavement of carriageway (Figure 6b), and gravel and sand mixture. For the cobblestoned pavement, stones that remained on the old roads were used. Some of these roads are under reconstruction now.

Besides the necessity of maximum integrity into the landscape, both roads have been designed for the observation of the museum area by pedestrians. Special observation places were designed to correspond both to the logic of the tourist route with its move-and-stop rhythm and to the merits of visual panoramas. No special arrangements have been made for bicyclists, but most parts of the road system can be used for bicycling.

The main pedestrian path is paved with washed off and consolidated gravel with ditches of tiny stones (Figure 9). In some cases the designing of specific forms of micro-relief and additional plantings were necessary to underline features of the routes. Between the roads on the road fork near the crossing, therefore, a small artificial embankment of soil, boulders, and plantings was designed. It was a kind of park alpinarium in the regional tradition of ground and stone works used during cultivation of the fields. The embankment is underlined by bushes of junipers and dotted with flowers.

RESULTS

The experience of designing roads in the museum area clearly showed the necessity of studying not only the natural but also the cultural environment of developing territory. Its complex

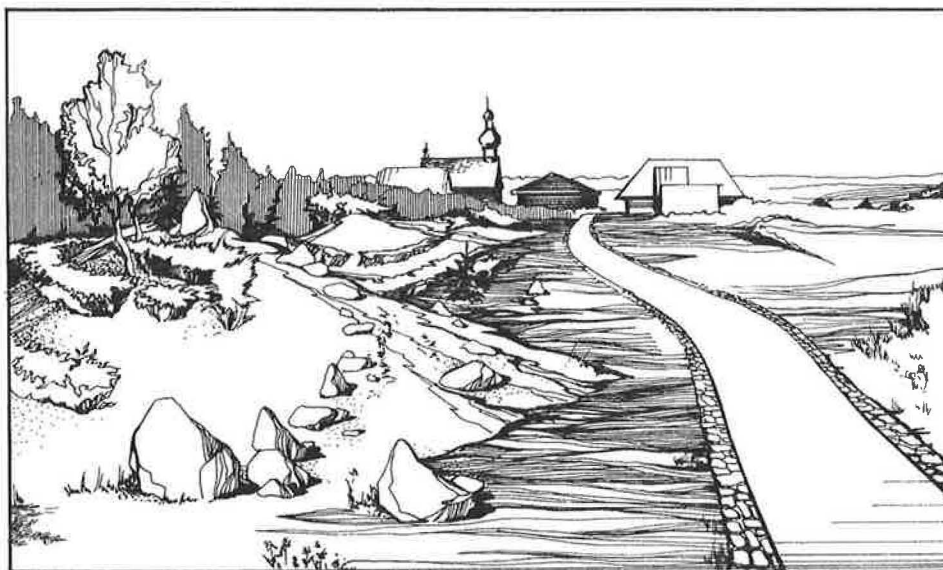


FIGURE 9 Main pedestrian road to the Central Belarus zone.

context includes such factors as traditions of land cultivation, plantings, civil and memorial architecture, and road and roadside development.

The study of historical anthropogenetic influence on the environment, together with natural factors, contributes to a satisfactory design result. It could be said that the area described in this paper presented an ideal situation for a museum territory where natural and historical features must be com-

bined. However, the design process revealed and emphasized the necessity of such study during routine work in road landscape and environmental design. It is important because in every type of environment two kinds of balance are needed, one between the natural and the artificial and the other between the new and the old. If balance is maintained, the human side of life and the linking of the past and the future can be preserved in the design.