
PROTECTION AND REVALORISATION OF PUBLIC SPACES IN THE HISTORIC CENTRE OF WIELICZKA IN THE FIRST TWO DECADES OF THE 21ST CENTURY

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ABSTRACT: The town of Wieliczka was founded around a salt mine, which is now a UNESCO World Heritage Site visited by millions of tourists. Due to its geological structure and mining activities, the area was at risk of sinkholes. The subsidence hazard was eliminated by underground mining safety works. Over the centuries, the development of the town has been documented by historical maps, engravings and photographs, which are now valuable iconographic sources in conservation efforts. In 1977, the urban layout of the centre of Wieliczka was entered in the register of historical monuments. A local spatial development plan was adopted for the area in 2010. During the first two decades of the 21st century, a number of investments have been made in Wieliczka that have improved the appearance of the historic town, making its public spaces more welcoming to residents and visitors.

KEY WORDS: urban development, townscape iconography, restoration of monuments, revalorisation of public spaces

1. Introduction - making use of *Genius loci*

Wieliczka is a place known all over the world for its salt mine, which was inscribed on the first UNESCO World Heritage List in 1978¹. In 2019, this one of the most popular tourist attractions in Poland was visited by more than 1.8 million tourists and guests, mostly from abroad². Visitors usually reach the mine by the shortest route from the car park, paying no attention to the surrounding town. In order to arouse their interest in the vicinity of the mine, attempts are being made to guide tourist traffic through the centre of Wieliczka and to make its public spaces more attractive. Such an attempt was made in 2012, when the artist Ryszard Paprocki, inspired by the identity of the place, created the 3D street painting 'Salt World' on the Upper Market Square (Fig. 1).



Fig. 1 Wieliczka, Upper Market Square, 3D street painting 'Salt World' created by R. Paprocki in 2012 (photo: T. Stachurska)

¹ UNESCO World Heritage Centre. (n.d.), World Heritage List, Wieliczka and Bochnia Royal Salt Mines. Retrieved January 6, 2023, from <https://whc.unesco.org/en/list/32>

² Wieliczka Salt Mine. (2020, January 8). The „Wieliczka” Salt Mine. Knowledge mine. From the Life of the Company, *The Mine sums up 2019*, Added on: 08.01.2020. <https://www.wieliczka-saltmine.com/knowledge-mine/the-mine-sums-up-2019-rjxt>

The largest piece of 3D street art in Poland, covering an area of more than 350 square metres, depicted, using a technique of optical illusion called *anamorphosis*, a view through a crack in the pavement into the interior of the mine³.

2. Geological, water and mining hazards

Due to the complex geological structure of the area and the mining exploitation of the salt deposit, such sinkholes really occurred in Wieliczka. In 1992, there was a sudden leakage of water carrying a large amount of rock material from the so-called Chodenice beds into the Mina crosscut on level IV of the mine, about 170 m below ground level.

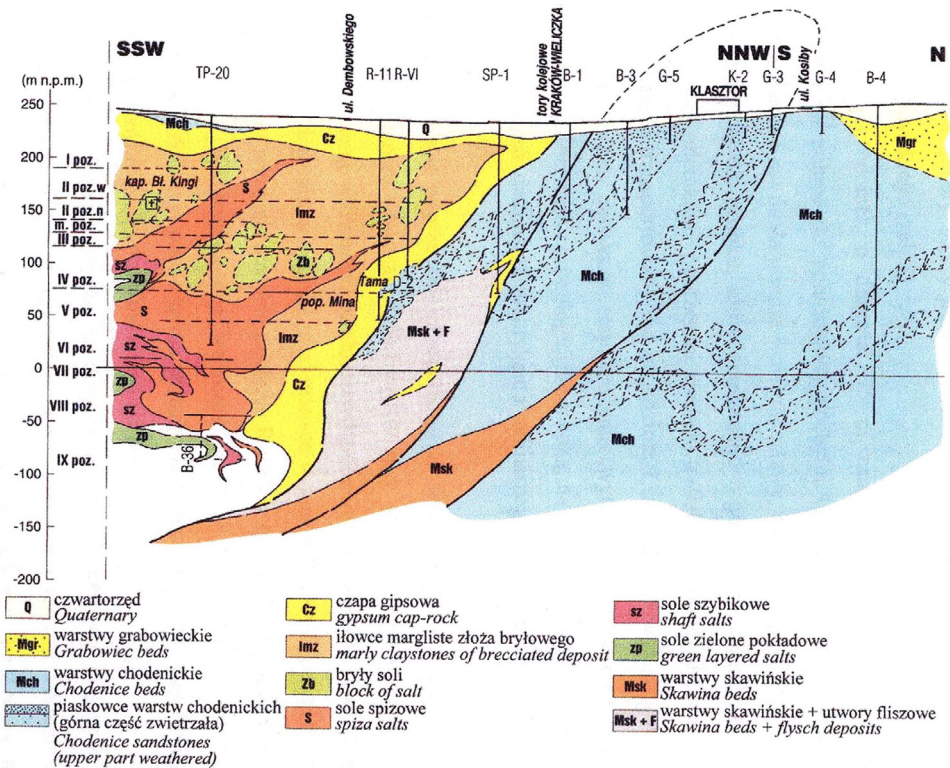


Fig. 2 Wieliczka, geological cross-section through the area of the Mina crosscut (according to K. Brudnik & A. Szybist, 1995)

On the surface, it caused the destruction of the railway tracks, the collapse of a stone wall and the formation of a suffosion sinkhole in the garden of the Franciscan-Reformed monastery, as well as the destruction of the underground infrastructure and the cracking of buildings within a radius of several tens of metres (Fig. 3).

³ Wieliczka - Oficjalny Portal Miasta. (2014, June 20). Strona główna. Malowidło 3D Solny Świat. Malowidło uliczne 3D (3D street art) w Wieliczce. <https://www.wieliczka.eu/pl/201548/0/malowidlo-3d-solny-swiat.html>



Fig. 3 Wieliczka, destroyed railway tracks and the wall of the Franciscan-Reformed monastery in the centre of the subsidence basin formed after the catastrophic water leakage into the Mina crosscut in 1992 (photo: J. Przybyło)

The subsidence of the town has been halted as a result of years of specialised work to secure the underground workings. Salt extraction at the mine was terminated in 1996. Since then, its primary function has become combating underground hazards, securing historic pits, tourism and spa activities⁴.

3. Location and topographical relief

Wieliczka was founded at the meeting point of two physico-geographical regions: Carpathian Foothills and Sandomierz Basin. This location in an area of two geological structures, on the boundary between the Carpathian overthrust and the Carpathian foredeep, has resulted in a varied relief, different in the southern and northern parts. To the south are steep hills of more than 350 m above sea level, cut by valleys, ravines and landslides. To the north and east there are low elevations of up to 250 m above sea level, separated by wide, trough-like depressions. At the bottom of the basin, open to the west, flows the Serafa stream, at which the first traces of settlement have been recorded⁵. Today, this location in a basin between the surrounding hills is important for both the active and passive exposure of the town.

⁴ Brudnik K., Gonet A., Przybyło J., Stryczek S., Wolańska A. (eds.), *Kopalnia Soli „Wieliczka”. Natura i technika. Ratowanie zabytku*, Wieliczka: Kopalnia Soli „Wieliczka” Trasa Turystyczna Sp. z o.o., 2017.

⁵ Kurowski R., Wiewiórka J., *Środowisko geograficzne Kotliny Wielickiej*, [in:] S. Gawęda, A. Jodłowski, J. Piotrowicz (eds.), *Wieliczka. Dzieje miasta (do roku 1980)*, Kraków: Oficyna Cracovia, 1990, p.29; Noga Z., *The natural environment*, [in:] R. Czaja (Ed.), *Historical Atlas of Polish Towns*. Z. Noga (ed.), Vol. V, *Małopolska Lesser Poland*. Z. Noga (ed.), Fasc. 3, Wieliczka, Toruń-Kraków: Nicolaus Copernicus University Press in Toruń, Kraków Saltworks Museum in Wieliczka, Pedagogical University of Cracow, 2015, p. 14.

4. Salt brewing and settlement development

From the very beginning, Wieliczka owes its development to the exploitation of salt. The oldest discovered remains of salt brewing in the area date back to the 9th century. Initially, salt was boiled from brine extracted from springs on the ground. Later, these springs were deepened by building wells. In the middle of the 13th century, deposits of rock salt were discovered. It began to be mined using the deep mining method, by digging shafts, underground passages and chambers⁶. From the 11th to 13th century an early medieval settlement developed at this site (Fig. 4).

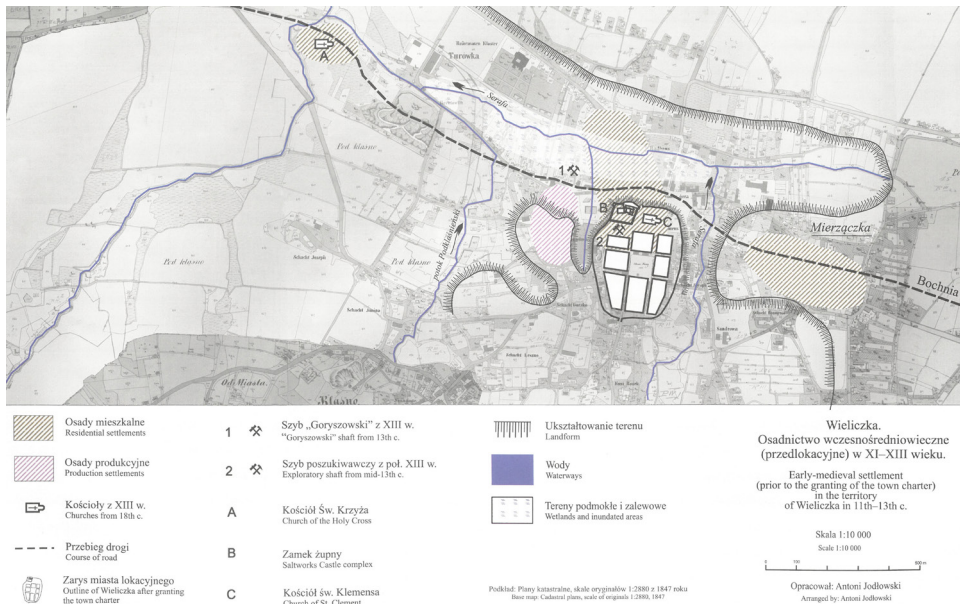


Fig. 4 Early-medieval settlement (prior to the granting of the town charter) in the territory of Wieliczka in the 11th–13th centuries (arranged by: Jodłowski A., 2015, *Historical Atlas of Polish Towns*, Vol. V, Fasc. 3, Table III.3.2, section)

Archaeological excavations have shown that on the slopes of the Wieliczka Basin, on the road leading from east to west along the Serafa stream, there were at that time, among other artefacts, three residential settlements, two churches, a complex of brine facilities and two shafts⁷. In a

⁶ Pająk K, *Wieliczka, stare miasto górnicze. Zarys monograficzny*, Kraków: Wydawnictwo Literackie, 1968, pp. 7–11.

⁷ Jodłowski A., *Początki osadnictwa na terenie Wieliczki*, [in:] S. Gawęda, A. Jodłowski, J. Piotrowicz (eds.), *Wieliczka. Dzieje miasta (do roku 1980)*, Kraków: Oficyna Cracovia, 1990, pp. 51, 56; Jodłowski A., *The early-medieval settlement (prior to the granting of the town's charter) from the 11th–13th centuries*, [in:] R. Czaja (ed.), *Historical Atlas of Polish Towns*, Z. Noga (Ed.), Vol. V, *Małopolska Lesser Poland*, Z. Noga (Ed.), Fasc. 3, Wieliczka, Toruń-Kraków: Nicolaus Copernicus University Press in Toruń, Kraków Saltworks Museum in Wieliczka, Pedagogical University of Cracow, 2015, p. 14.

document dating from 1123-1127, issued by the papal legate Gilo of Tusculum, this settlement complex was mentioned under the Latin name *Magnum Sal* (Great Salt), from which the Polish name *Wieliczka* comes⁸.

5. Granting of the town charter and delineation of the urban layout

Duke Henry IV Probus (1288-1290) allowed the brothers Jescho and Hysinbold to found the town under Franconian law, which was confirmed by Duke Premislaus II granting the town charter in 1290⁹. After that, the delineation of the town's spatial layout began (Fig. 5).

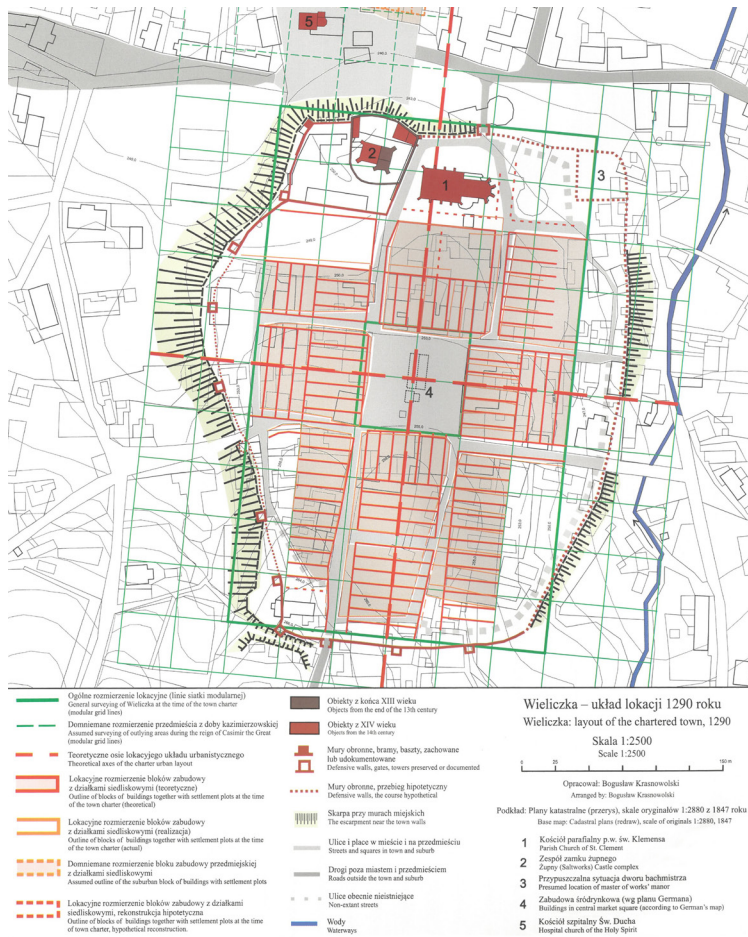


Fig. 5 Wieliczka, layout of the chartered town, 1290 (arranged by: B. Krasnowolski, 2015, *Historical Atlas of Polish Towns*, Vol. V, Fasc. 3, Table III.3.3, section)

⁸ Pająk K, *Wieliczka, stare miasto górnicze. Zarys monograficzny*, Kraków: Wydawnictwo Literackie, 1968, p. 12.

⁹ Ibidem, p. 15; Piotrowicz J., *Dzieje miasta Wieliczki w wiekach średnich*, [in:] S. Gawęda, A. Jodłowski, J. Piotrowicz (eds.), *Wieliczka. Dzieje miasta (do roku 1980)*, Kraków: Oficyna Cracovia, 1990, pp. 63-66.

The basic unit of length measurement was the line (125 feet, i.e. approximately 37.5 m; one foot = 0.3 m). The urban layout was based on a grid of squares with sides of 2 lines (i.e. 2 x 37.5 m). On the plan of such a square the market square and the closer and further blocks of buildings were delineated. Two streets each 2 ½ rods wide (a rod is 4.5 m) were brought out from the corners of the market square. The blocks of buildings were divided into plots 2 ½ rods wide and 1 line deep. The area of the town at that time, including the church of St. Clement and the castle, was contained in a rectangle measuring 6 x 10 lines¹⁰. Some of those plot divisions have survived to the present day. They provide a conservation argument for not exceeding building lines and dimensions when investing in the historic town centre.

6. Transfer of the town to the Magdeburg Law and further development of buildings

During the reign of King Casimir the Great (1333-1370), in 1361 the town was transferred to the Magdeburg Law. It was surrounded by a wall with 21 towers and 2 gates. Next to the parish church of St. Clement, on the north-western side of the town, the complex of the Saltworks Castle (the seat of the salt mine manager) was extended. In the southern frontage of the market square the town hall was built. Trading stalls, butcher's stalls and a pillory were erected in the middle of the square. A mining hospital with the hospital church of the Holy Spirit and new shafts were built to the north of the town: Water Mountain, Swiatkowski, Swietoslowski and Regis¹¹. The Regis Shaft, hollowed out near the centre of the town between 1334 and 1355 and still preserved today, is one of the oldest mine shafts in Poland, in continuous operation for more than 600 years. After several transformations of the shaft superstructure and its restoration between 2010 and 2012, it is used to bring tourists in and out of the mine¹².

7. Old maps and images of Wieliczka as an important iconographic source

The spatial development of this valuable mining town has been documented since the 17th century by numerous maps. The oldest surviving maps are those drawn up by the Swedish geometrician and miner Martin German between 1631 and 1638. They are of iconographic importance for both urban planning and architecture of the town, as they show Wieliczka in a veduta-like perspective (Fig. 6).

¹⁰ Beiersdorf Z., Krasnowolski B., *Spatial development from the granting of the town's charter up to the present day*, [in:] R. Czaja (ed.), *Historical Atlas of Polish Towns*, Z. Noga (ed.), Vol. V, *Małopolska Lesser Poland*, Z. Noga (Ed.), Fasc. 3, Wieliczka, Toruń-Kraków: Nicolaus Copernicus University Press in Toruń, Kraków Saltworks Museum in Wieliczka, Pedagogical University of Cracow, 2015, p. 14.

¹¹ Ibidem, p. 15.

¹² Charkot J., Gawroński W., *Dzieje szybu Regis. Studia i materiały do dziejów żup solnych w Polsce*, 28, Muzeum Żup Krakowskich Wieliczka, 2012, pp. 7-30; Ochniak K., *Architektura historycznych nadszybi w Wieliczce*, Studia i materiały do dziejów żup solnych w Polsce, 23, Muzeum Żup Krakowskich Wieliczka, 2003, pp. 125-127.

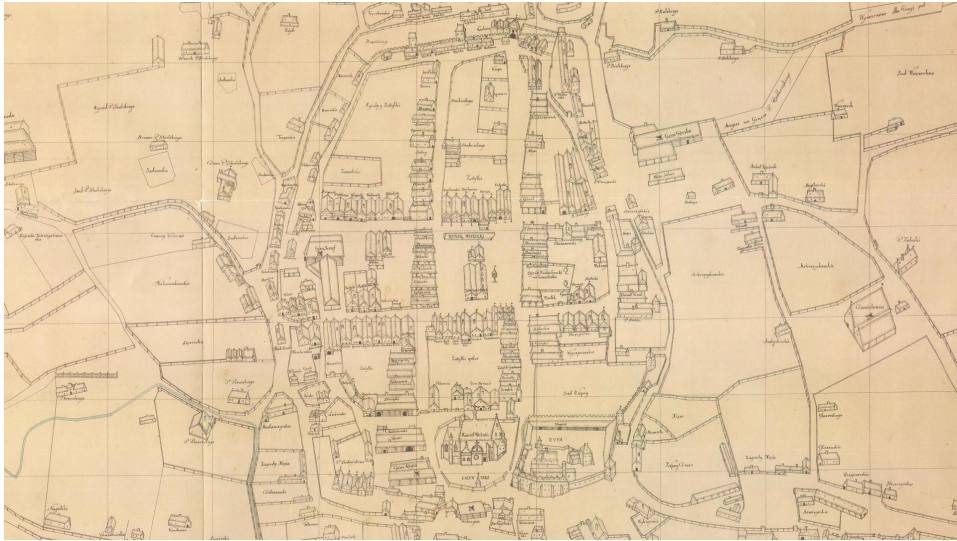


Fig. 6 Wieliczka, plan of the town, 1638, Martin German, copy by Alfons Długosz, 1960, section (Cracow Saltworks Museum in Wieliczka, Cartographic Collection, inv. no. VII/430)

Before they were found and copied in the 1950s by Alfons Długosz, founder of the Cracow Saltworks Museum in Wieliczka, they were known only from copperplate replicas, the most impressive of which was made by the court engraver of the Polish King Władysław IV, Wilhelm Hondius, in 1645. The most accurate map of Wieliczka was created in 1784-1785 by Austrian saline officials and mine surveyors Karl Franz Nicolaschy and Joseph Fleckhammer¹³. (Fig. 7)



Fig. 7 Wieliczka, plan of the town within its earthworks, 1784-1785, K. F. Nicolaschy, J. Fleckhammer, section (Cracow Saltworks Museum in Wieliczka, Cartographic Collection, inv. no. VII/482)

¹³ Krasnowolski B., *Old maps and images of Wieliczka.*, [in:] R. Czaja (ed.), *Historical Atlas of Polish Towns*, Z. Noga (Ed.), Vol. V, *Małopolska Lesser Poland*, Z. Noga (Ed.), Fasc. 3, Wieliczka, Toruń-Kraków: Nicolaus Copernicus University Press in Toruń, Kraków Saltworks Museum in Wieliczka, Pedagogical University of Cracow, 205, p. 18.

Its authors, in addition to the then existing and collapsed shafts, ropeways, depots and other mining equipment, have plotted watercourses, streams and ponds, fields, trees, gardens, imperial roads leading from Wieliczka to Kraków, Niepołomice, Bochnia, Gdów and Rożnów, Austrian earth fortifications and even lightning masts on neighbouring hills to protect the town from lightning. Both this, recently restored, and other maps in the cartographic collection of the Cracow Saltworks Museum in Wieliczka, provide an excellent source of spatial information for conservation and preservation activities in the historic urban fabric.

8. Conservator's decision to enter the urban complex of the historic town of Wieliczka in the register of monuments

In 1977, the Cracow Regional Conservator of Monuments entered the urban complex of the historic town of Wieliczka in the register of monuments. In his decision, the urban area was divided into two protection zones: A - direct protection zone and B - indirect protection zone. The boundaries of both zones were plotted on the attached plan (Fig. 8).

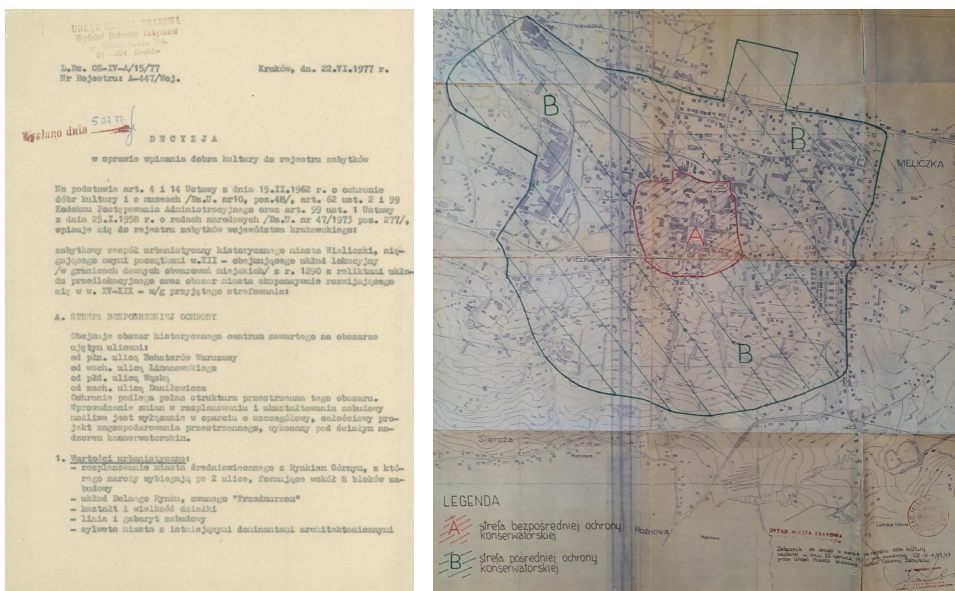


Fig. 8 Decision on entering the urban complex of the historic town of Wieliczka into the register of historic monuments from 1977, first page and attached plan (Cracow Regional Office for Protecting Historic Monuments, Department for the Registration and Documentation of Immovable Monuments, sign: A-447 [A-632/M])

Zone A contains the historic centre, within which the full spatial structure is protected. Changes to the layout and form of the buildings can only be made on the basis of a detailed overall development plan, carried out under strict conservation supervision. The following were listed as urban values: the layout of the medieval town with the Upper Market Square, the layout of the Lower Market Square, the shape and size of the plots, the lines and dimensions of the buildings, the town silhouette with the existing dominants, the relics of the fortifications and the historical

road network. Protected architectural values include the complexes of the castle, church and municipal hall, the Przychocki palace, the Mining School and the Saline Museum, the Regis shaft, residential buildings of stylish value and the greenery of the Saline Garden. In order to secure the proper exposure of the historic layout in zone A, zone B has been delimited. It covers the area surrounding the historic centre and extending to the line of the neighbouring hills. It is subject to protection in terms of the essential elements of layout and the character and scale of development. Modifications to the layout are possible here, with the extent of conservation requirements and the framework of acceptable interventions by the modern urban planner to be determined on a case-by-case basis for each ensemble. In this zone, urban values such as the historical road network, the scale and dimension of the buildings and the spatial arrangement of the mining colony are protected. Also protected are the structural units of monumental objects such as: Franciscan-Reformed monastery complex, the palace of the Konopka family, the wooden church of St. Sebastian, the Daniłowicz shaft with the Kinga park, the former salt store (now a hotel) Turówka with the Mickiewicz park, a cemetery with a chapel, relics of mining shafts and buildings individually listed in the register of monuments.

9. Adoption of a local spatial development plan for Wieliczka – area 'A'

In 2010 the City Council of Wieliczka adopted the local spatial development plan for the town and commune of Wieliczka - area 'A'. It contains '§ 11. Principles of protection of cultural heritage and monuments', which lists objects entered in the register of monuments, records of monuments and archaeological sites. The boundaries of the zones delineated in the entry in the register of monuments were repeated and marked as K1 and K2 (Fig. 9).

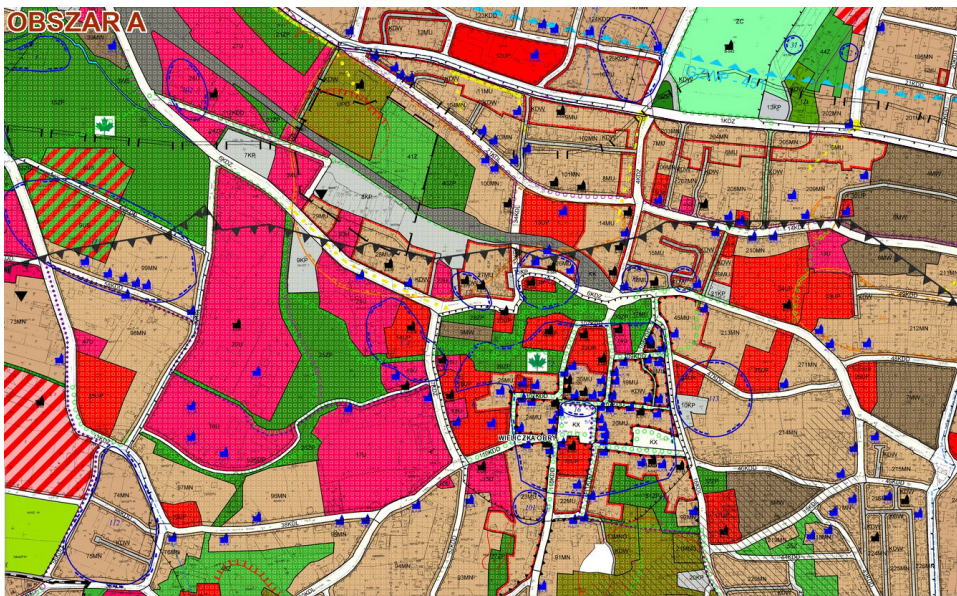


Fig. 9 Wieliczka town and commune local development plan - area 'A', section (Retrieved January 6, 2023, from <http://www.wieliczka.e-mpzp.pl/>)

In the K1 direct protection zone, conservation issues take precedence over other issues in the area. It prohibits the location of cubature objects that are not a supplement or continuation of the existing spatial layout or actions reconstructing the form and dimensions of the objects. Natural red ceramic tile should be used as a roof covering, except for historically found elements. The use of other roofing materials, with textures and colours that relate to the roofs of neighbouring buildings located on the plot, is permitted only with the approval of the conservation service. Investment activity, including the extension of existing buildings, is possible only with due regard to conservation guidelines. In the K2 zone of indirect protection, there are orders to preserve the existing historical substance (buildings and complexes), the layout of streets and squares, as well as to adapt new elements to the historical urban composition, to the scale, dimensions, architectural divisions, mutual proportions of wall surfaces, openings and roofs. Buildings being redeveloped should relate to their surroundings (including especially to buildings in the immediate vicinity) with the texture of the finishing materials and the colours of the facades and roofs. The roof covering should be use ceramic roofing tiles, galvanised sheeting, zinc-titanium sheeting, copper sheeting, etc., to the exclusion of bituminous roofing (including bituminous shingles), metal roofing tiles, as well as trapezoidal and corrugated sheeting. Also delineated is the K3 zone of exposure of the historic urban ensemble, in which insights and viewpoints are protected, the PP zone of protection of the space of the historic urban ensemble, which protects against destruction and degradation of the cultural landscape, obscuring of monuments and their surroundings, violation of spatial order and historical tradition related to the place of representative character of the space, and the zone of archaeological supervision, in which earthworks must be supervised by a person authorised to conduct archaeological research. In order to maintain the spatial order and aesthetics of the historic town, an obligation was imposed to agree with the architectural services of the town on elements of small architecture, such as advertising boards, street lamps, fountains, benches, sculptures, monuments, etc.¹⁴

10. Archaeological excavations

When the Wieliczka Town and Commune Council launched a project entitled 'Revitalisation of traffic routes, squares and plazas in the town centre of Wieliczka', co-financed by the European Union as part of the Lesser Poland Regional Operational Programme 2007-2013, the modernisation of the underground infrastructure was preceded by archaeological excavations. In 2009-2010 archaeologists from the Cracow Saltworks Museum in Wieliczka discovered under the streets in the town centre the original pavements made of wooden logs laid perpendicularly to the course of the street (Fig. 10).

¹⁴ Uchwała Nr XLVI/763/2010 Rady Miejskiej w Wieliczce z dnia 10 listopada 2010 r. w sprawie uchwalenia miejscowego planu zagospodarowania przestrzennego miasta i gminy Wieliczka – obszar „A” (Dziennik Urzędowy Województwa Małopolskiego z 2010 r. Nr 662, poz. 5505, z późn. zm.) http://www.wieliczka.e-mpzp.pl/teksty/xlvi_763_2010.pdf



Fig. 10 Wieliczka, Zamkowa St., wooden log pavement discovered during archaeological excavations in 2010

In the Upper Market Square, on the other hand, the remains of a pebble pavement, wooden wells and sewage pipes from the 19th century, wooden foundations of buildings from the 17th century and numerous objects of daily use from different periods, made of wood, leather, metal and glass, such as a wooden spoon, a knife, a key, buttons, a leather shoe, a medal, fragments of barrels, glass containers, cooker tiles, clay vessels, pipes, lamps and coins were discovered. In one of the clay vessels was found the so-called 'Wieliczka treasure', i.e. a deposit of 180 silver Prague groshes, minted during the reigns of Kings Wenceslas II and John I of Luxembourg at the beginning of the 14th century (Fig. 11).



Fig. 11 Wieliczka, Upper Market Square, wooden well and treasure of 180 silver Prague groshes from the 14th century found during archaeological excavations in 2009

These finds, which bear witness to the history of the town, were displayed in an exhibition at the Wieliczka Salt Mine Castle in 2010 ¹⁵. However, neither the remains of the butcher's stalls nor the pillory, depicted on Martin German's 1638 town plan, were found during the excavations.

¹⁵ Krzysztofek D., Fraś J., *Tajemnice Rynku Górnego w Wieliczce. Gazeta Muzealna – Miesięcznik Muzeum Żup Krakowskich*, 84, II, [in:] *Panorama Powiatu Wielickiego*, 6(211), 2010.

11. Conversion of the former Saline Baths into a Grand Sal Hotel and revalorisation of St Kinga's Park

At the same time, to the west of the Daniłowicz shaft superstructure, the Wieliczka Salt Mine converted the former Salinar Baths into the Grand Sal Hotel. The original bathhouse building was designed between 1899 and 1905 in the style of late historicism with modernist elements by the Cracow architect Władysław Ekielski in collaboration with the Salinar builder Konstanty Słotwiński¹⁶. It was erected in what was then the park of the Empress Elisabeth (now St Kinga) between 1906 and 1908¹⁷. After World War II, it lost its picturesque form, becoming a simple 'barrack' with salt-soaked walls. For this reason, it was not entered in the register of monuments, and its location in the intermediate zone of protection of the urban layout offered the possibility of its reconstruction (Fig. 12).



Fig. 12. Wieliczka, former bathhouse for salt mine workers and officials, drawing by K. Słotwiński, c. 1908 (Cracow Saltworks Museum Wieliczka, Cartographic Collection, inv. no. VII/2319/1, fragment), the state of the devastated building in 2005 and the state after conversion into the Grand Sal Hotel in 2009 (photo: 2021)

Based on preserved archival plans and photographs its exterior was reconstructed, while the interior was adapted into a 4-star hotel, opened in 2009. In 2014-2015, an extension was carried out to add a new wing, with which it was connected by an overhanging corridor. Simultaneously with the construction of the hotel, the revitalisation of St Kinga's Park was carried out. Old plans and photographs were also used here. The park was established around 1873 near the houses of the salt mine officials¹⁸. In this landscape park, neglected after the Second World War, adjustments were made after 2005 to the high and low greenery, slopes, course and surface of paths, stylish benches and lanterns were placed, boxwood hedges were planted, grass was sown, the garden arbour was reconstructed, sculptures and a fountain were introduced. In 2010, a section of railway track was reconstructed on the embankment, the viaduct was repaired and an old locomotive was placed under the reconstructed semaphore. In 2014, a brine graduation tower was built north of the park out of larch and blackthorn wood, reminiscent of a castle in form with a viewing tower more than 20 metres high. It provides a vertical compensation to the silhouette of the town for the mine's two cooling towers and chimney, demolished nearby (Fig. 13).

¹⁶ Ochniak-Dudek K., *Przemiany otoczenia nadszybia szybu Daniłowicza i Parku Kingi w Wieliczce. Studia i materiały do dziejów żup solnych w Polsce*, 30, Muzeum Żup Krakowskich Wieliczka, 2015, p. 21.

¹⁷ Krzysztofek D., *Przemiany w urbanistyce Wieliczki w latach 1772-1918. Studia i materiały do dziejów żup solnych w Polsce*, 27, Muzeum Żup Krakowskich Wieliczka, 2011, pp. 66-68.

¹⁸ Ibidem, p. 60.



Fig. 13 Plan of the former park of Empress Elisabeth, drawing by E. Barącz, 1898 (Cracow Saltworks Museum in Wieliczka, Cartographic Collection, inv. no. VII/776, fragment), photograph of the present St Kinga's Park, revalorised after 2005, photograph of the viaduct and embankment with the railway track, locomotive and semaphore reconstructed in 2010, and the brine graduation tower in the background, erected in 2014 (photo: 2022)

12. Renovation of the Upper Market Square and reconstruction of the historic form of the former Przychocki family palace

At the beginning of the 21st century, the Upper Market Square in Wieliczka had the same appearance as when it was rebuilt in 1969. At that time it was paved with purple porphyry, decorated with strips of light grey granite slabs, arranged concentrically in three octagonal rings around a fountain, situated in the centre of the square. The circular bowl of the fountain contained a granite sphere, surrounded by metalwork with symbols of mining work and signs of the zodiac. The author of the fountain was the artist-sculptor Józef Duda of Wieliczka. Both the fountain and the surface of the square were dismantled in 2009, when the Wieliczka Town and Commune Office began a project called 'Revitalisation of traffic routes, squares and plazas in the town centre of Wieliczka', co-financed by the European Union as part of the Lesser Poland Regional Operational Programme for the years 2007-2013. The project initially envisaged 'levelling' the central slab of the medieval market square, which is located on a slope. To do this, several steps were to be used at the bottom and top of the slab. The proposed solution did not take into account the history of the site and would have created unnecessary architectural barriers. Therefore, it was not accepted by the regional conservator of monuments, who allowed only a slight correction of the slope of the square to facilitate the organisation of events there. Since the archaeological excavations in 2009 did not find the remains of the buildings depicted by Marcin German on the 1638 plan of Wieliczka, the idea of marking them in the surface of the square was abandoned. In the central part of the square, a surface of flamed Strzegom granite slabs was used, interrupted by parallel strips of Strzegom granite cobblestones with a split and tumbled texture. On the carriageways surrounding the central slab of the square, the original paving of porphyry blocks from Miękinia, laid in parallel strips, was preserved. Due to the closure of that quarry and the impossibility of obtaining that stone, the neighbouring streets were paved with smaller blocks of Trentino porphyry, laid in a fan pattern. In 2011, life-size bronze statues of miners coming out of the ground were placed in the north-west corner of the Upper Market Square (Fig. 14).



Fig. 14 Wieliczka, Upper Market Square, the state before renovation (photo: 2005), the state after the reconstruction of the representative staircase in front of the Przychocki Palace and the replacement of the square's surface in 2010, as well as after the setting up of the bronze miners' sculptures coming out from underground in 2011 (photo from 2015, retrieved January 6, 2023, from <http://www.polskanapiechote.waw.pl/8-podroze/30-wokol-krakowa-cos-dla-ciala>)

In the southern frontage of the square, in front of the 18th-century Przychocki Palace, which was clumsily converted into a school after the great fire of Wieliczka in 1877, a representative symmetrical U-shaped six-flight staircase with five landings and a fountain in the stair well was reconstructed in 2010, according to archival drawings. On the occasion of the adaptation of this building for the seat of the district authority in 2018, the original mansard roof was reconstructed on it, so that the urban interior of the Upper Market Square regained its dominant building (Fig. 15).

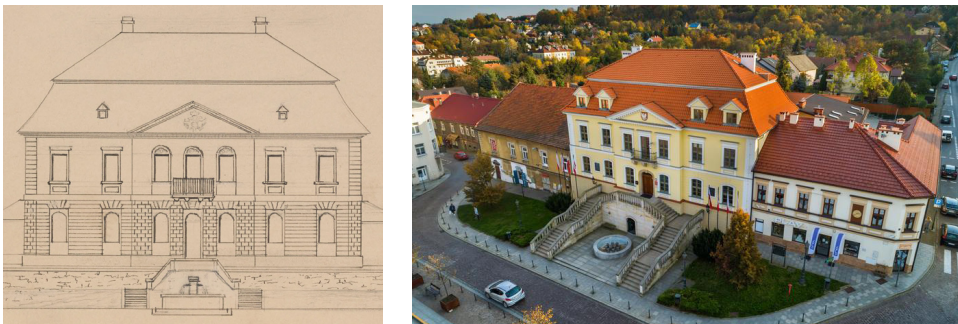


Fig. 15. Wieliczka, Upper Market Square, south frontage, Przychocki Palace, front elevation, drawing by M.A. Seykotta, c. 1863 (Seykotta M. A., *Rękopisy do dziejów Wieliczki M. A. Seykotty (2965 IV T.2 Rkps)*, Biblioteka Książąt Czartoryskich, Kraków, Poland, 1863, p. 315) and a bird's-eye view of the building after its conversion to the seat of the district office with the restoration of the original mansard roof in 2018 (photo: K. Bańkowski, retrieved January 6, 2023, from https://visitmalopolska.pl/pl_PL/obiekt/-/poi/palac-przychockich-wieliczka)

13. Restoration of the green belt on the northern side of the old town

During the first decade of the 21st century, the green belt on the northern side of the old town of Wieliczka, by the Saltworks Castle and St. Clement's Church, was revitalised. New surfaces for the walking paths were made, benches, information boards and lamps with historical forms were erected, and the greenery was carefully tended (Fig. 16).



Fig. 16 Wieliczka, bird's eye view of St. Clement's Church, Saltworks Castle, Saltworks Garden and Planty (photo: W. Gorgolewski, 2010)

By decision 37 COM 8B.41 of the World Heritage Committee, the 1978 inscription of the Wieliczka Salt Mine on the UNESCO World Heritage List was extended by including the Bochnia Salt Mine and the Wieliczka Saltworks Castle in 2013. At that time, the green areas of the Saltworks Garden and Planty were designated as a buffer zone of the Saltworks Castle¹⁹.

14. Reconstruction of the historical form of the Regis shaft hoist tower and revitalisation of the former Lower Market Square - today's General Tadeusz Kościuszko Square

At the nearby Regis shaft, a steel hoist tower, erected around 1913²⁰, demolished after 1976, was reconstructed in its historic form in 2012. In this way, a distinctive sub-dominant was restored to the silhouette of the historic city centre, alongside the dominant tower of St. Clement's Church (Fig. 17).

¹⁹ UNESCO World Heritage Centre. (n.d.), World Heritage List, Wieliczka and Bochnia Royal Salt Mines. Retrieved January 6, 2023, from <https://whc.unesco.org/en/list/32>

²⁰ Ochniak K., *Architektura historycznych nadszybi w Wieliczce. Studia i materiały do dziejów żup solnych w Polsce*, 23, Muzeum Żup Krakowskich Wieliczka, 2003, pp. 124, 127 and photo 6.



Fig. 17 Wieliczka, the steel hoist tower of the then Kaiser Franz Joseph I shaft, c. 1913 (photo from the Cracow Saltworks Museum in Wieliczka, Special Collections, inv. no. 1265/1) and its reconstruction in historical form at the present Regis shaft in 2012 (photo: J. Kucharz)

At the same time, in front of the Regis shaft, the revitalisation of the former Lower Market Square, i.e. the current General Tadeusz Kościuszko Square, was completed. In 2011, in the middle of the square, a Carrara marble fountain was erected, which is a replica of the former municipal well built in this place in 1894. The proportions of the surrounding cobblestones, made of red and grey granite blocks, and the low greenery were appropriately balanced in order to preserve the square character of this urban interior (Fig. 18).



Fig. 18 Wieliczka, bird's-eye view of the revitalised former Lower Market Square - the current General Tadeusz Kościuszko Square (photo: A. Rogalska, 2014, retrieved January 6, 2023, from <https://www.szlakwegierski.pl/pl/59/atracje-turystyczne>)

15. Examples of integrating new buildings into historic street frontages

Based on the conservation guidelines from the decision on entering the urban complex of the historic town of Wieliczka in the register of monuments, as well as the provisions of the local spatial development plan of the town and commune of Wieliczka - area 'A', several new buildings were constructed in the historic centre. They were adjusted to the historical urban composition, to the scale, dimensions, architectural divisions, mutual proportions of the surfaces of walls, openings and roofs. They related in form to the history of the site and the buildings in the immediate vicinity by the texture of the finishing materials and the colours of the facades and roofs. An example is the corner building at the junction of Limanowskiego and Szpunara Streets, standing near the site of a non-preserved tower, as well as the building in Słowackiego Street, with a brick and plaster facade referring to the details and colours of the neighbouring tenement house (Fig. 19).



Fig. 19 Wieliczka, a new building on the corner of Limanowskiego and Szpunara Streets, near the place where one of the towers in the line of Wieliczka's defensive walls used to stand, as well as a new building in the frontage of Słowackiego Street, referring in its colours and elevation details to its historical neighbour (photo: 2010)

16. Revitalisation of Professor Mieczysław Skulimowski Square in front of the former palace of the Konopka family

The area in front of the 18th-century palace of the Konopka family was also revitalised. After its renovation in the 1990s and after 2002, the palace was adapted to house the local branch of the Institute of National Remembrance²¹. The former courtyard of this palace was named Professor Mieczysław Skulimowski Square in 2004 in honour of the mining doctor and founder of the underground sanatorium in the Wieliczka salt mine. In the central part of the square stands a fountain which is a composition of five plates on three supports imitating the structure of salt crystals. It was made of reinforced concrete and artificial stone with marble 'White Marianna' in 1972 according to the design of the artist-sculptor Bogumił Zagajewski from Wieliczka, later a professor at the Maria Curie-Skłodowska University in Lublin. In 2011, it underwent careful

²¹ Międzobrodzka M., Krokosz P., *Górnicza Wieliczka*, Przewodnik po mieście. Muzeum Żup Krakowskich Wieliczka, 2013, p. 40.

restoration by modernising its technology, installing lighting, repairing defects in the supports, installing copper drip caps on the plates, as well as repairing the main bowl and covering it with a glass mosaic (Fig. 20).



Fig. 20 Wieliczka, Professor Mieczysław Skulimowski Square, the 18th-century Konopka Palace and fountain from 1972, renovated in 2011, as well as the two-winged Mediatheque building, erected in 2017-2018 on the north-west corner of the square (photo: 2022)

The square was paved with red and grey granite blocks. Stylish benches, litter bins and cast-iron lanterns with forms reminiscent of historical ones were placed. A greenery inventory was carried out and a greenery management project was developed. After reducing the number of tall trees, hornbeam hedges and flower beds were planted. Between 2017 and 2018, a two-winged building known as the Mediatheque was erected as the closing element of the north-west corner of the square. Its external appearance, architectural articulation and facade details have been carefully matched to the forms of the historic Konopka Palace complex. The building provides the setting for mass events organised here. If necessary, an Air Rescue helicopter is able to land on the square (Fig. 21).



Fig. 21 Wieliczka, Professor Mieczysław Skulimowski Square, landing of an Air Rescue helicopter on August 25, 2022 (photo: materiały Patrol998-Małopolska, retrieved January 6, 2023, from <https://dziennikpolski24.pl/interwencja-lpr-w-wieliczce-smiglowiec-ladowal-w-centrum-miasta-wezwano-go-do-naglego-zachorowania/ar/c14-16794881>)

17. Restoration of the historic railway station building and creation of a railway garden next to it

In 2012, Polish Railways rebuilt the viaduct, modernised the tracks and railway stops in Wieliczka. Between 2015 and 2016, restoration was carried out on the historic railway station building, which in its current form was built around 1904. Next to the restored building, in accordance with the tradition of Galician railway stations, a railway garden was arranged, where former elements of the station, such as the buffer stop, turntable and loading gauge, were displayed and described on information boards. In 2017, this investment was awarded the 'Well-maintained monument' prize by the General Conservator of Monuments (Fig. 22).



Fig. 22 Wieliczka, historic railway station building, erected around 1904, restored in 2015-2016, with a railway garden created next to it (photo: 2017)

18. Construction of a new public transport station with reference to the surrounding historical buildings and local building traditions

In 2019, the Wieliczka Municipality has decided to build a passenger service point for public transport. For this purpose, a prominent square in the centre of the historic town was chosen, where tourists arrive by train, coach, car and city bus from Krakow and neighbouring villages. The municipality submitted a design for a typical pavilion to be erected at motorway service points, in the primitive form of a grey, partly glazed block. The regional conservator of monuments could not agree to its erection in such a prominent place. After negotiations, a building was constructed between 2020 and 2021, which refers in shape to the form of the historic railway stations, with facades in the light green colour of public transport, with a platform shelter supported by cast-

iron columns and a jerkinhead roof with the Wieliczka coat of arms arranged in blue and yellow tiles. The stripes of black and green tiles covering the roof surface alluded to the colours of the miners' flag. The way they were arranged was a recreation of a forgotten tradition of building such colourful roofs in Wieliczka (Fig. 23).



Fig. 23. Wieliczka, new public transport station, built in 2020-2021 in a form adapted to the historical urban layout, referring to local building traditions, with a jerkinhead roof covered with tiles in the green and black colours of the miner's flag and the Wieliczka coat of arms arranged with blue and yellow tiles (photo: Wieliczka Town and Commune Office, 2022, retrieved January 6, 2023, from <https://www.modernizacjaroku.org.pl/pl/edition/2837/object/2900/budowa-dworca-autobusowego-w-wieliczce>)

This building acts as the 'gateway to Wieliczka' and is a distinctive landmark, visible both from neighbouring streets and from vantage points on the hills surrounding the town. The 'borrowed view' of its roof draws tourists' eyes away from the unattractive facade of the 'Kmita' restaurant at the close of busy Daniłowicza Street and neutralises the bleak sight of the large grey edifice of the Jan Matejko High School standing on the northern hill, outside the monument protection zones (Fig. 24).



Fig. 24 Wieliczka, use of a 'borrowed view' of the colourful roof of the public transport station to improve the aesthetics of the development at the end of busy Daniłowicza Street (photo 2022)

In the opinion of the author of this article, the above-discussed, based on historical sources, local building traditions and town planning knowledge, selected examples of urban interior revalorisation in recent years have positively influenced the appearance of public spaces in the historic centre of Wieliczka, contributing to the improvement of both the living comfort of the inhabitants of this town and the impressions of tourists visiting it.

Conclusions and recommendations

Twenty years of practice in supervising construction, conservation and restoration work on historical monuments in Wieliczka and other towns in Lesser Poland allows the author of this article to draw the following conclusions and make the following recommendations:

I. In order to effectively protect and revalorise the public spaces in the historic centre of the old mining town, knowledge from various scientific disciplines should be used. In particular, knowledge of local geology, archaeology, history, art history, urban planning, landscape architecture, architecture, building law, monument protection law, nature conservation law as well as geological and mining law is needed.

II. The restoration of monuments in such an area must take into account the risks posed by its geological structure and possible mining damage, as well as the legislation requiring the mine to finance the repair of this damage.

III. Views from the slopes of the neighbouring hills to the town located in the basin affect the exposure of its fifth elevation. It is therefore important to use locally traditional roofing materials such as red clay tiles. Exceptions are made for buildings that are intended to stand out in the built-up area of the town due to their importance or function. A serious threat to the correct upward exposure of the historic town is the uncontrolled installation of photovoltaic devices.

IV. Important for preserving the picturesque silhouette of the historic town are the varying heights of its buildings. Dominants, sub-dominants and accents play a special role in the urban layout. If they were once lost, they can be rebuilt, provided that the preserved archival documents and iconographic material allow for a faithful reconstruction of their historical forms, however, with a distinguishable use of modern building technologies.

V. Equally important is the preservation of the colour and textural diversity of the historic town. The erection of mismatched new buildings, with facades lacking articulation and detailing, in gloomy deep black or grey colours, with anthracite doors and windows, creates 'black holes' in the multi-coloured street frontages. To avoid these, new buildings should be carefully harmonised in form and colour with their older neighbours, using contemporary material solutions.

VI. Historic parks and gardens should remain as enclaves of greenery, while open spaces in the historic town centre should retain their form of squares. It would be a mistake to both ahistorically turn former squares into parks and to pave them entirely with stone slabs. The compromise solution is an appropriate balance between partially paving them and partially covering them with low greenery. This creates resident-friendly urban interiors suitable for outdoor events.

VII. Public spaces should give the people in them a sense of security. When transforming these spaces, the creation of new architectural barriers that would be unsafe for users and restrict access for people with disabilities should be avoided. Around historic barriers that need to be preserved, non-exposed bypasses should be created where possible, without damaging the original historic substance and form of the monuments.

VIII. When revalorising public spaces in the historic city centre, it is important to bear in mind the need to provide access for city service vehicles, as well as for the police, fire brigade, ambulance service and even a landing area for Air Ambulance helicopters.

IX. Modern utilities and technological solutions introduced into the old town centre should be carefully concealed so that their form does not interfere with the historic views.

X. Small-scale architecture and sculpture play an important role in the proper display of public spaces. Elements such as the brine graduation tower, the park gazebo for the miners' orchestra, sculptures of miners coming out of the ground, fountains with shapes inspired by the miners' work and salt crystals, massive benches, rubbish bins and lanterns with historic forms cast in cast iron remind us of the mining character of the town.

XI. Placed in public spaces, information boards about historical sites consolidate local identity. In Wieliczka, they raise awareness of the town-forming role of the mine by describing the history of both existing and unpreserved mining buildings, such as salt brewing plants, ropemaking workshops and shafts (Fig. 25).



Fig. 25. Wieliczka, information boards erected at the sites of historic mine shafts, illustrated with engravings from the collection of the Cracow Saltworks Museum in Wieliczka (photo: J. Chrzęszczewski, 2022)

XII. The historic city centre needs a coherent spatial information system consisting of boards with city plans and graphically unified signposts leading tourists to the most important sites. It is unacceptable that a large number of mutually obscuring signs, erected by different institutions, introduce information chaos into public spaces.

XIII. The parking system for the vehicles of the millions of people coming to the town individually or in groups with the intention of visiting the mine needs to be sorted out. These car parks are located on plots of land owned by the town, the mine and private owners. As they generate significant revenue, they compete strongly with each other, which is reflected in public spaces in the form of large advertising banners.

XIV. The terms and conditions for the siting of small architectural objects, billboards, advertising devices and fences in the historic town centre may be established by the Town Council in a landscape resolution.

XV. Making use of the tourist traffic generated by the underground World Heritage Site for the development of the town requires close cooperation between the town authorities and the mine. This concerns in particular the management of visits in such a way that tourists, after leaving the mine, are encouraged to see the attractions on the surface as well.

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