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Administrative and legal aspects of hydraulic engineering (selected issues)

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Abstract:
The subject of analysis in the article are selected administrative and legal issues of hydraulic engineering. These problems occur in particular with reference to the Building Law Act, as it constitutes the fundamental regulation in the construction process. The specificity of regulation of the construction of water equipment contained in the Water Law Act has also been indicated. An evaluation of the solutions adopted in the Water Law has been carried out.

Key words:
hydraulic engineering; water facilities; sustainable development principle; Water law; Construction law

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1. Investment and construction process of water facilities

Hydraulic engineering is part of the problem area of the investment and construction process as a whole[1]. A model course of this process has two main stages. These include the stage of investment preparation and the stage of its implementation[2]. The stages of the investment and construction process are further divided into phases[3]. The investment preparation stage is divided into the location selection phase and the design phase. At the stage of investment realization, one can distinguish between the construction phase and the acceptance phase of the facility[4].

The site selection phase aims to determine the correctness of land selection for the realization of a specific investment. The basic premise for the selection are the requirements concerning the purpose and conditions of development permitted in a given area[5]. They result from the local spatial development plan, decisions on development and land use conditions, and regulations of certain special acts. The design phase includes the collection and development of design documentation and obtaining the necessary opinions, permits, and other documents required by special regulations[6]. The correct course of the design phase completes the stage of investment preparation and enables the transition to the stage of its implementation [7].

The purpose of the construction phase is to carry out the required construction works. Conducting the construction works in accordance with the regulations and technical and construction knowledge is the basis for the control of the investment implementation stage, which takes place in the acceptance phase of the structure. If it is considered that the execution of

[1] Por. W. Tarasiewicz, S. Surowiec, Z. Rybicki, *Prawo wodne. Komentarz. Teksty*, Warszawa 1965, p. 89.

[2] I. Weiss, R. Jurga, *Inwestycje budowlane,* Warszawa 2005, p. 118.

[3] W literaturze występuje także określenie stadia, Z. Leoński, M. Szewczyk, *Zasady prawa budowlanego i zagospodarowania przestrzennego,* Bydgoszcz-Poznań 2002, p. 244.

[4] K. Małysa, *Proces inwestycyjno-budowlany,* Kraków 2002, p. 26.

[5] M. Zakrzewska, *Ochrona środowiska w procesie inwestycyjno-budowlanym*, Warszawa 2010, p. 32.

[6] K. Małysa, *Proces inwestycyjno-budowlany,* Kraków 2002, p. 28.

[7] M. Zakrzewska, *Ochrona środowiska w procesie inwestycyjno-budowlanym*, Warszawa 2010, p. 46.

the investment has been carried out correctly, it is possible to authorize the use of the work[8].

The course of the investment and construction process is primarily governed by two legal acts, i.e. the Act of 27 March 2003 on Spatial Planning and Development[9] and the Act of 7 July 1994.[10]

2. Scope of regulation of the Water Law in the field of hydraulic engineering

In the Act of 20 July 2017 Water Law[11] the legislator provided for detailed regulation in the field of hydraulic engineering. The subject matter of the regulation covers the issues of design, execution, and maintenance of water facilities[12]. The notion of water facilities, crucial from the point of view of the scope of the subject of water construction regulation, has been defined in article 16 section 65 of the Water Law.

This definition consists of two parts. In the first part, the legislator provides a general formulation, according to which the term 'water facility' should be understood as equipment or structures used to shape or exploit water resources. The second part includes an example catalogue of facilities that fall within the limits of the general formulation. Water facilities or structures *ex lege* thus include: damming[13], flood control[14] and regulation facilities or structures, as well as canals and ditches; artificial reservoirs

[8] K. Małysa, *Proces inwestycyjno-budowlany*, Kraków 2002, p. 31.

[9] Consolidated text: Journal of Laws of 2018 it. 1945 as amended.

[10] Consolidated text: Journal of Laws of 2019 it. 1186 as amended.

[11] Consolidated text: Journal of Laws of 2018 it. 2268 as amended.

[12] Art. 186 of Water Law.

[13] The concept of damming structures has been additionally defined in Article 16(2) of the Water Law Act, according to which this type of structures is understood as structures allowing permanent or periodical damming of surface water above the adjacent area or natural water surface level.

[14] The concept of anti-flooding structures is defined in Article 16(1) and includes flood canals, guideways in river estuaries to the sea, detention basins, artificial anti-flood reservoirs, dry anti-flood reservoirs, flood embankments, river regulation structures, floodgates and storm gates, breakwaters, coastal protection structures, water stages together with facilities related to them technically and functionally or immovable property intended for protection against flooding. Detention basins were defined separately. In accordance with Article 16(41), a water facility separated from the river bed and capable of periodically retaining

situated in flowing waters and facilities associated with these reservoirs; ponds, in particular fishponds and ponds for waste water treatment or recreation; facilities for the retention of surface water and groundwater; hydropower facilities; sewerage outlets for the discharge of waste water into water bodies, the ground or into water installations and outlets for the discharge of water into water bodies, the ground or into water installations; fixed installations for catching fish or other aquatic organisms; installations for the breeding of fish or other aquatic organisms in surface waters; retaining walls, boulevards, quays, piers, docks and harbours; fixed installations for interbank transportation.

In general, basing the statutory definition on two elements, i.e. descriptive and demonstrative, should be regarded as a correct legislative procedure which aims at indicating the conceptual limits of the term. Of course, as with any statutory term, the concept will require relativization to a specific case at the stage of applying the law. Reservations can be made regarding the way the descriptive part of the concept is formulated. According to the statutory definition, the term 'water facilities' is understood as facilities or structures. Therefore, in this case we are dealing with a logical error *idem per idem*. The statutory term has been defined using a term that is subject to definition. This indicates semantic difficulties in the correct formulation of the term. Therefore, a functional element contained in the definition will play an important role in understanding it. The facilities or structures in question are intended to shape or use water resources. However, the shaping of water resources is not itself defined normatively. On the other hand, the general regulation of the use of these resources, without defining this concept, appears in the first instance in chapter II of the Water Law.

The regulation of the Water Law in the field of hydraulic engineering includes issues related to the design, execution, and maintenance of water facilities. The above mentioned elements comprise the so-called construction process[15]. The general regulation of the construction process is defined in the Construction Law Act. The regulation of the Water Law, on the other hand, is a special regulation in the scope of the construction process of water facilities. Thus, there is a resultant relationship between the laws based on the *lex specialis derogat legi generali* principle. Hence, in matters

excess flood water, flooded, and then drained by means of intake and drain systems, either automatically or in a controlled manner, is considered a detention basin.

[15] Z. Niewiadomski, *Prawo budowlane. Komentarz*, Warszawa 2018, p. 9.

not regulated by the Water Law, the regulation of the Construction Law applies. The above relationship is confirmed by the Construction Law. Pursuant to Article 2(2)(2) of the Construction Law, the provisions of the Construction Law do not violate separate provisions, in particular those of the Water Law with respect to water facilities[16].

The Water Law Act does not contain a legal definition of the design, construction and maintenance of water facilities. The meaning of these terms should be determined on the basis of Water Law and Construction Law regulations. In the scope of the design of water facilities, special provisions of the Water Law apply concerning the rules applicable to the design of water facilities [17], entities participating in the design costs[18]. In turn, in the scope of general design requirements, the applied provisions of the Construction Law will be those concerning independent technical functions in the construction industry[19], the duties of the designer as a participant in the construction process[20], the investor's duties to ensure the development of the construction design[21], the designer's duties in relation to the prepared design [22], and the control of the design by the architectural-construction authority [23].

Furthermore, to determine the elements of the construction process, the Water Law Act uses the concept of execution of a water facility. The legislator does not define this term. In the systemic perspective, the term used refers to the concept of construction, as defined in the Construction Law. According to this definition, the term ‚construction' should be understood as the execution of a work in a specific place, as well as the reconstruction, extension, and superstructure of a work[24]. The definition of construction is therefore broad and, in addition to the execution element, includes other elements related to construction. It seems that it is not correct to limit the scope of hydraulic engineering exclusively to the execution of a water

[16] More broadly on this subject see Z. Niewiadomski, *Prawo budowlane. Komentarz*, Warszawa 2018, pp. 30-31.

[17] Art. 187 of Water Law.

[18] Art. 187a of Water Law.

[19] Art. 12-16 of Construction Law.

[20] Art. 17-27 of Construction Law.

[21] Art. 18(1)(1) of Construction Law.

[22] Art. 20 of Construction Law.

[23] Art. 35(1) of Construction Law.

[24] Art. 3(6) of Construction Law.

facility. The consequence of such a limitation would be the lack of possibility of applying the provisions of the Water Law concerning e.g. the rules applicable to the design of water facilities, or entities participating in the design costs in the case of extension or superstructure of water facilities. Therefore, an interpretation of the Water Law should be postulated in the direction of a broader understanding of the concept of execution. However, the most appropriate action would be to amend the regulations and replace the concept of execution with the term ‚construction'.

The last element of the construction process, and determining the scope of the object of hydraulic engineering, is the maintenance of water facilities. The issue of the maintenance of water facilities has also not been defined. However, following the historical interpretation, it can be stated that generally the maintenance of water facilities consists in their maintenance and repair in order to preserve their function[25]. As far as the maintenance of water facilities is concerned, both the special regulations of the Water Law Act[26], and the Construction Law[27] are applicable.

As far as the construction process of water equipment is concerned, the Water Law Act constitutes a *lex specialis* in relation to the Water Law regulations. In the broader perspective of the investment and construction process[28] of water facilities, the Act on Planning and Spatial Development applies in full[29].

3. The special rules for hydraulic engineering

The Water Law Act, in Article 187, provides for special rules for hydraulic engineering. The rules in question are based on the principle of non-contradiction, supplementing the general rules resulting from the Construction Law. The rules resulting from the Water Law apply to the

[25] Art. 64(1) of the act of 18 July 2001 Water Law.

[26] E.g. art. 187.

[27] E.g. art. 5(2), art. 61-72.

[28] On the conceptual scope the investment and construction process and the construction process see K. Kucharski, *Ochrona prawna interesu indywidualnego w procesie inwestycjo-budowlanym dróg publicznych w Polsce. Zagadnienia administracyjno-prawne*, Warszawa 2020, p. 13-14.

[29] Cf. I. Dutkowiak, *Prawo wodne w procesie inwestycyjnym*, Wrocław 2018, p. 29.

entire process of construction of water facilities. Therefore, they apply both to the design, manufacture, and maintenance of water facilities.

In undertaking the above activities within the construction process, the principle of sustainable development should be followed[30]. The concept of sustainable development was used in Article 5 of the Polish Constitution as an element shaping the principle of state independence. The normative definition of this term was included in the Act of 27 April 2001 the Environmental Protection Law. According to Article 3(50) the term 'sustainable development' is understood as social and economic development in which the process of integration of political, economic, and social activities takes place, while maintaining the natural balance and sustainability of the basic natural processes in order to guarantee the possibility of satisfying the basic needs of particular communities or citizens both of the present and future generations. The above definition of sustainable development is fully applicable under the Water Law, since the Environmental Protection Law is the basic legal act in the scope of the so-called ecological law[31] and as such is of a *lex generalis* nature.

The importance of the sustainable development principle has been emphasized in the Water Law Act already in Article 1. The legislator, when defining the subject matter of the Act, indicated that water management, consisting in particular in the development and protection of water resources, water use, and management of water resources, is to be based on the sustainable development principle. Therefore, it can be stated that the above principle is fundamental for overall regulation of the Water Law. Therefore, even if the legislator did not repeat it in relation to the process of construction of water facilities, it would still be applicable in hydraulic engineering under Article 1 of the Act[32]. This is indicated by the systemic character of the above principle, not only in the Water Law, but in the entire environmental protection law. The legislator in the scope of regulation of the principles of the construction process of water facilities has also defined other detailed principles, which will be discussed below. They constitute in their essence a form of application of the sustainable development principle.

[30] Art. 187(1) of Water Law.

[31] B. Rakoczy, *Prawo wodne. Komentarz*, Warszawa 2013, p. 369.

[32] Cf. J. Szachułowicz, *Prawo wodne. Komentarz*, Warszawa 2006, p. 177.

The legislator indicates that the construction process of water facilities should be carried out taking into account the need to achieve good water conditions and their characteristic biocoenoses. The biocoenosis condition refers to surface waters. „Biocoenosis is (...) a collection of populations of organisms of all species in a specific space, which are interdependent on one another. If the co-existence of all species in a given space is invariable over a long period of time, it is assumed that a given habitat is characterized by sustainable development based on the maintenance of continuity of good environmental conditions"[33]. On the other hand, good water status refers to both surface and underground waters. Both statuses are defined by law. Good surface water status is understood as the status of surface water bodies characterized by good chemical status of surface water and at least good ecological status or at least good ecological potential[34]. In turn, surface water is understood to be a separate and significant element of surface waters, such as: a lake or other natural body of water; an artificial water body; a stream, brook, river and canal or parts thereof; internal marine waters, transitional waters or coastal waters[35]. A good surface water chemical status is also defined by the law. This is the chemical status of surface water bodies which, on the basis of the classification of the chemical status of these waters, made taking into account the definition of the classification of this status, is defined as good[36].

Good groundwater status[37] means the status of groundwater bodies in which the quantitative status of the groundwater and the chemical status of the groundwater are defined as at least good[38]. A groundwater body is

[33] Ibidem, p. 178.

[34] Article 16(17) of the Water Law. In turn, good ecological potential, pursuant to Article 16(6), should be understood as the potential of radically changed surface water bodies or artificial surface water bodies which, on the basis of the classification of the ecological potential of these waters, made taking into account the definition of the classification of this potential specified in the regulations issued pursuant to Article 53(4) of the Water Law, is defined as good.

[35] Art. 16 (20) of Water Law.

[36] Art. 16 (8) of Water Law.

[37] The concept of groundwater is set out in Article 16(68) and includes stratified or non-stratified, permeable and water saturated rock formations with sufficient porosity and permeability to allow significant groundwater flow or abstraction.

[38] Art. 16 (11) of Water Law.

a defined volume of groundwater present within an aquifer[39] or aquifers. On the other hand, the quantitative status of groundwater can be defined as good when, on the basis of the assessment of the quantitative status of these waters, made taking into account the definition of the classification of this status, it is defined as good[40]. On the other hand, good surface water chemical status is understood as the chemical status of surface water bodies, which, on the basis of the classification of the chemical status of these waters, made taking into account the definition of this status, is defined as good[41].

A detailed assessment of water status is carried out on the basis of two implementing acts. The Regulation of the Minister of Maritime Economy and Inland Navigation of 11 October 2019 on the classification of the ecological status, ecological potential, and chemical status and the method of classification of the status of surface water bodies, as well as environmental quality standards for priority substances[42]. As far as groundwater is concerned, the detailed regulation is contained in the Regulation of the Minister of Maritime Economy and Inland Navigation of 11 October 2019 on the criteria and method of assessment of the status of groundwater bodies[43].

Hydraulic engineering is moreover intended to achieve specific environmental objectives. The environmental objective for surface water bodies not designated as artificial or heavily modified is to protect and improve their ecological and chemical status with a view to achieving at least good ecological status and good surface water chemical status and preventing deterioration of their ecological and chemical status[44]. In the case of artificial and heavily modified surface water bodies, on the other hand, the aim is to protect these waters and to improve their ecological potential and chemical status so as to achieve at least good ecological potential and good surface water chemical status and prevent deterioration of their

[39] According to Article 16(66) of the Water Law, stratified or non-stratified rock formations, permeable and saturated with water, showing sufficient porosity and permeability to allow a significant flow of groundwater or the abstraction of significant quantities of groundwater are considered to constitute an aquifer.

[40] Art. 16(10) of Water Law.

[41] Art. 16(7) of Water Law.

[42] Journal of Laws of 2019 it. 2149.

[43] Journal of Laws of 2019 it. 2148.

[44] Art. 56 of Water Law.

ecological potential and chemical status[45]. The third environmental objective concerns protected areas. It is to be achieved by meeting the standards and objectives arising from the legislation under which such protected areas were established, and the legislation establishing those areas or concerning those areas, unless they contain provisions to the contrary in this respect[46]. More specifically, the achievement of this objective is to be implemented by taking the measures contained in the river basin management plan[47].

The construction process of water facilities has also to take into account the need to preserve the existing topography. Therefore, the investment „(...) should not change the coordinates that have formed the area over the course of many years"[48]. The construction process is also intended to maintain biological relations in the aquatic environment and water-dependent land ecosystems. This means that water facilities „(...) should not drain adjacent land and alter the ecosystem that forms water relationships in the aquatic environment"[49]. For the design, construction, and maintenance of damming structures, on the other hand, the principle should be maintained that these structures allow for the migration of fish[50]. Despite the fact that a separate rule has been defined for water damming structures, it should be stressed that the above structures, apart from allowing for the migration of fish, should also be implemented on the basis of the other principles of hydraulic engineering.

The rules indicated by the legislator in the Water Law are of a normative nature and supplement the rules resulting from the Construction Law. In connection with the special provisions contained in both Acts, they define the patterns of conduct to be followed in the design, execution, and maintenance of water facilities. The obligation to comply with the above principles lies first and foremost with the investor, as well as with the competent water administration authorities, which should assess the way these principles are implemented by the investor in the public interest. The scope of application of the above principles depends on the type of investment and should be assessed *ad casum*, depending on the type of a water facility implemented.

[45] Art. 57 of Water Law.
[46] Art. 61(1) of Water Law.
[47] Art. 61(2) of Water Law.
[48] M. Kałużny, *Prawo wodne. Komentarz*, Warszawa 2016, p. 373.
[49] Ibidem.
[50] Art. 187(2) of Water Law.

4. Conclusion

De lege lata the legislator provides for a detailed regulation concerning hydraulic engineering in the Water Law Act. The need to introduce regulatory distinctions with respect to the Construction Law results from the specificity and role of water facilities in the sphere of water management. A general regulation of the Construction Law would not be sufficient to safeguard the public interest in this sphere. In order to secure the proper course of the construction process of water facilities, the legislator determines the principles behind it. They are of a normative character. Their observance in hydraulic engineering is the basis for considering a specific process of construction of a water facility to have been carried out in accordance with the Water Law. However, with regard to the investment and construction process it should be stated that water facilities are fully subject to the regulations of the Act on Planning and Spatial Development.

The above indicates that hydraulic engineering is an institution of administrative law[51] with specific qualities. This specific construction is dictated by the need to protect the public interest in the area of water management. The restrictions on the freedom of construction[52] set out in the Water Law constitute a justified interference with the freedom in question. The principle of proportionality of interference with the principle of freedom of construction has also been preserved. In order to maintain the principle of proportionality, it is essential that the water administration authorities apply suitable interpretation

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[51] Cf. J.G. Renauld, *La systematisation dans le raisonnement jurudique*, Logique et Analyse 1958/3-4, p. 172.

[52] More broadly on this subject see Z. Niewiadomski, T. Asman, *Wolność budowlana jako prawo podmiotowe inwestora*, (in:) *Księga Jubileuszowa Profesora Stanisława Jędrzejewskiego*, eds. H. Nowicki, W. Szwajdler, Toruń 2009.

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