



WATER TREATMENT SOLUTIONS FROM DESIGN TO CONSTRUCTION

Modern and reliable partner



Engineering company I-Com LLC is a modern and reliable partner, a specialized design organization in the field of creating water supply and sanitation systems, including solving complex tasks from collecting initial data and feasibility studies to the development and release of design and executive documentation, construction and installation works (supply of equipment) and commissioning (supervision and commissioning).

The high quality of our projects is due to many years of design experience, highly qualified and a fully staffed staff, as well as close interaction with Customers and Partners.



PRE-DESIGN WORK

Development and execution of design assignments.

Development and execution of the Task for the implementation of the complex engineering research. Work contract signing.

Development of basic process solutions (if necessary).

EXECUTION OF A COMPLEX OF ENGINEERING SURVEYS

Execution of a complex of engineering surveys in accordance with the Task for the execution of a complex of engineering surveys. Preparation reports.

DEVELOPMENT DOCUMENTATION

Project documentation development according to the «Regulation on the composition of sections of project documentation and requirements for their content» which ratified by Russian Federation Government Regulation №87 of 16.02.2008 (no expiration date).

Obtaining necessary approvals.

Documentation expertise. Passing the examination of project documentation and the results of engineering surveys.

Development of design and work documentation.

CONSTRUCTION ASSEMBLY WORKS

Development of an executive documentation.

Carrying out construction and installation works at the construction site.

Supply technological equipment.

COMMISSIONING

Facility construction supervision.

Obtaining permission from Rostekhnadzor.

Performance of commissioning works.

Execution of supervision works.

Final Commissioning.

Our competencies



WATER SUPPLY FACILITIES

Water treatment facilities
Pumping stations
Linear water supply facilities
Blocks and systems of circulating water supply



WATER DRAINAGE FACILITIES

Sewage treatment plants
Linear wastewater facilities
Industrial wastewater treatment facilities
Domestic wastewater treatment facilities
Surface water treatment facilities
Sludge dewatering and drying facilities



HYDROTECHNICAL FACILITIES

Hydraulic structures of liquid waste storage tanks of industrial enterprises
Water intake structures from surface sources. Pump stations
Discharges of treated wastewater into water bodies
Systems of engineering protection of territories, buildings and structures. Bank protection and protective structures
Water pipelines, water supply networks, sewerage networks and structures on them
Water intake hydroelectric facilities



ADDITIONAL ACTIVITIES

Design of industrial enterprises, complexes, individual buildings and workshops, in any industries (including the pulp and paper industry)
Design of complex projects of boiler houses, including engineering facilities
Design of new facilities and reconstruction of existing ones
Solving environmental issues
Network engineering
Author's supervision and field engineering
Supply of technical equipment
Installation supervision and commissioning

Information about permission to perform work



I-com Engineering LLC is a member of:

- 1) Associations Self-regulatory organization "MezhRegionProekt" (Association SRO "MRP") with the right to prepare project documentation for capital construction projects, including especially dangerous, technically complex and unique objects.
- 2) Associations Self-regulatory organization "InterRegionResearch" (Association of SRO "MRI") with the right to carry out engineering surveys in relation to capital construction projects.
- 3) Associations Self-regulatory organization "Interregional Association of Construction Companies"

УТВЕРЖДЕНА приказом Федеральной службы по экологическому, технологическому и атомному надзору от 4 марта 2019 г. N 86

ВЫПИСКА ИЗ РЕЕСТРА ЧЛЕНОВ САМОРЕГУЛИРУЕМОЙ ОРГАНИЗАЦИИ

«16» августа 2019 г. №000000000000000000002828
Ассоциация Саморегулируемая организация «МежРегионПроект»
 (Ассоциация СРО «МРП»)

СРО, основанные на членстве лиц, осуществляющих подготовку проектной документации
 190000, г. Санкт-Петербург, переулок Гринцова, дом 4, корпус 2, лит А, 3 этаж, офис 60,
<http://www.sro-mrp.ru>, info@sro-mrp.ru
 Регистрационный номер в государственном реестре саморегулируемых организаций СРО-П-161-09092016
 выдана Обществу с ограниченной ответственностью «АВ-ком»

Наименование	Сведения
1. Сведения о члене саморегулируемой организации:	
1.1. Полное и (в случае, если имеется) сокращенное наименование юридического лица или фамилия, имя, (в случае, если имеется) отчество индивидуального предпринимателя	Общество с ограниченной ответственностью «АВ-ком» (ООО «АВ-ком»)
1.2. Идентификационный номер налогоплательщика (ИНН)	7842481146
1.3. Основной государственный регистрационный номер (ОГРН) или основной государственный регистрационный номер индивидуального предпринимателя (ОГРНИП)	1127847458397
1.4. Адрес места нахождения юридического лица	191119, РОССИЯ, г. Санкт-Петербург, г. Санкт-Петербург, ул. Чернышевского, д. 51, лит. А, пом. 3Н
1.5. Место фактического осуществления деятельности (только для индивидуального предпринимателя)	---
2. Сведения о членстве индивидуального предпринимателя или юридического лица в саморегулируемой организации:	
2.1. Регистрационный номер члена в реестре членов саморегулируемой организации	1953
2.2. Дата регистрации юридического лица или индивидуального предпринимателя в реестре членов саморегулируемой организации (число, месяц, год)	27 июня 2019 г.
2.3. Дата (число, месяц, год) и номер решения о приеме в	27 июня 2019 г., №26-04-П/19

УТВЕРЖДЕНА приказом Федеральной службы по экологическому, технологическому и атомному надзору от 4 марта 2019 г. N 86

ВЫПИСКА ИЗ РЕЕСТРА ЧЛЕНОВ САМОРЕГУЛИРУЕМОЙ ОРГАНИЗАЦИИ

«26» июля 2019 г. №00000000000000000000003142
Ассоциация Саморегулируемая организация «МежРегионИсследования»
 (Ассоциация СРО «МРП»)

СРО, основанные на членстве лиц, выполняющих инженерные изыскания
 190000, г. Санкт-Петербург, переулок Гринцова, дом 4, корпус 2, лит А, 3 этаж, офис 62,
<http://sro-mri.ru>, info@sro-mri.ru
 Регистрационный номер в государственном реестре саморегулируемых организаций СРО-И-035-26102012
 выдана Обществу с ограниченной ответственностью «АВ-ком»

Наименование	Сведения
1. Сведения о члене саморегулируемой организации:	
1.1. Полное и (в случае, если имеется) сокращенное наименование юридического лица или фамилия, имя, (в случае, если имеется) отчество индивидуального предпринимателя	Общество с ограниченной ответственностью «АВ-ком» (ООО «АВ-ком»)
1.2. Идентификационный номер налогоплательщика (ИНН)	7842481146
1.3. Основной государственный регистрационный номер (ОГРН) или основной государственный регистрационный номер индивидуального предпринимателя (ОГРНИП)	1127847458397
1.4. Адрес места нахождения юридического лица	191119, РОССИЯ, г. Санкт-Петербург, г. Санкт-Петербург, ул. Чернышевского, д. 51, лит. А, пом. 3Н
1.5. Место фактического осуществления деятельности (только для индивидуального предпринимателя)	---
2. Сведения о членстве индивидуального предпринимателя или юридического лица в саморегулируемой организации:	
2.1. Регистрационный номер члена в реестре членов саморегулируемой организации	1574

Our projects



Dozens of objects have been designed and implemented by our specialists. Here is some of them:



Construction of infrastructure facilities for special economic zones "National industrial petrochemical technopark" in Atyrau region (sections Karabatan and Tengiz). Installation water treatment and wastewater treatment"

Implementation of the largest project in the Republic of Kazakhstan for "Karabatan Utility Solutions» LLP for preparation, storage, and distribution of industrial, desalinated, fire-fighting, demineralized and drinking water for the needs and requirements of consumers of the National Industrial Petrochemical Technopark in the Atyrau region (Karabatan and Tengiz sites).

The source of raw water is the main water pipeline «Astrakhan - Mangyshlak».

In the context of this project, I-Com Engineering LLC is a developer of basic technological solutions, an equipment supplier, an organisation that performs installation supervision and commissioning.



Construction of infrastructure facilities for special economic zones "National industrial petrochemical technopark" in Atyrau region (sections Karabatan and Tengiz). Installation water treatment and wastewater treatment"

The following production complexes are provided for the implementation of this project:

The building of water treatment equipment (WTE) - is designed to produce fire-fighting, industrial, desalinated and demineralized water from source water, which is a mixture of treated wastewater obtained at the wastewater treatment plant and river water from the Astrakhan-Mangyshlak main water conduit. The installation is located on the territory of the site.

ZLD building (Zero Liquid Discharge building) - designed for deep processing of mineralized wastewater and mainly the concentrate of the first stage reverse osmosis plant, which is formed in the process of desalination of the source water, which is a mixture of treated wastewater and river water (Volga River, the source of income is the Astrakhan-Mangyshlak conduit).

Bulding of sewage treatment plant 1 (STP1) and Bulding of sewage treatment plant 2 (STP2) - are designed to receive and treat industrial wastewater coming from the PGTPP LLP "KUS", IGCC LLP "KPI", installation for the production of fire-fighting, desalted and demineralized water (item 1 according to the general plan), as well as for receiving and cleaning domestic wastewater from the SGTPP LLP "KUS", IGCC LLP "KPI" and the entire UVPiOS site.

This project is an EPC contract and includes a full cycle of implementation starting from the development of a feasibility study, design estimates, equipment supply, construction and installation works and ending with the transfer of equipment into operation to the end customer.



Reconstruction of treatment facilities in the city of Tyumen Construction / reconstruction / modernization wastewater treatment facilities, taking into account the increase in the total capacity of facilities up to 260 thousand m³/day

Goal:

Increasing the productivity and efficiency of wastewater treatment with the achievement of acceptable quality indicators for discharge into a water body.

Technology:

As a result of the reconstruction, the facilities will include

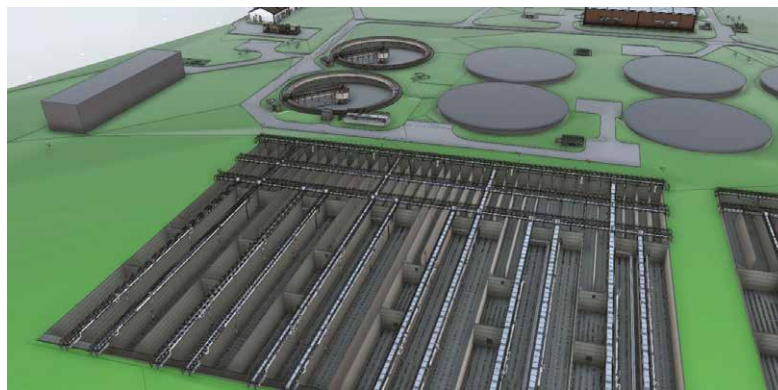
a complete set of water treatment stages, including

- mechanical cleaning on automated gratings;
- mechanical cleaning on aerated sand traps;

- mechanical cleaning on primary radial settling tanks;
- complete biological treatment in aeration tanks;
- sludge separation in secondary radial clarifiers.

Provides the required degree of purification according to technologically standardized parameters in accordance with the indicators of the best available technologies (BAT).

The discharge of pollutants will be significantly reduced, which will reduce the negative impact on aquatic biological resources.



Construction of a mining and processing complex (GOK) at the Talitsky site of the Verkhnekamskoye potassium and magnesium salts deposit. Stage 3. Construction of the surface complex. Tailings facilities

The developed documentation provides for technical solutions for organizing a tailings facility, recycling water supply, measures to protect the environment and reduce the negative impact of the designed facilities on the adjacent territory.

The structure of the tailing facilities of the GOK includes:

Salt dump: bulldozer dump; salt dump site (located between dams); brine collectors; conveyor transport facilities; construction of a system of circulating brines for hydro-washing of halite (floating brine pumping stations, brine conduits).

Sludge storage: structures of the system of hydrotransport and storage of sludge (main and distribution slurry pipelines); sludge storage bowl (fenced by dams); construction of the system of circulating brines (floating brine pumping station, brine conduits).

Environmental protection facilities: impervious screen; drainage structures (reservoir drainages, drainage drains, drainage pumping station, drainage water pipeline); control and measuring equipment; observation wells; upland channels.

Technical and design solutions for hydraulic structures ensure their complete sealing, which eliminates possible environmental pollution.

The composition of the tailings facilities determined by the design documentation provides the technological needs of the enterprise for 35 years of safe operation, followed by the conservation of the facilities and the reclamation of waste storage facilities.

Capacity: 2,000 tons/year



Combined sludge
accumulator
phosphogypsum JSC
Apatit, Cherepovets

The purpose of this work is to develop a project for the operation of the GTS complex of integrated phosphogypsum sludge reservoir for 2021-2026, (for the initial period of the fourth stage of the merger) and organization of the supply of clarified water to buffer pond.

To reserve the supply of clarified water, it is planned to build a backup siphon spillway, which provides, if necessary, 100% replacement of existing spillway structures of the sill type in case of repair, extension of spillway wells or failure of existing spillway structures.

The design of the siphon spillway uses modern high-quality durable environmentally friendly materials.

The capacity of the siphon spillway is 1.1 m³/s.



JSC Lebedinsky MPP.
Mining and Processing Plant.
Tailings department.
Enclosing and separating
hydro technical facilities
tailing dumps up to the level
of 250.00 m. Process water
removal system. Drainage
facilities of compartment
No.4

The purpose of this work is to increase the volume of clarified water, bypassed from the accumulation compartment No.4 of the tailing dump to the pond of clarified process water b.Orliny Log.

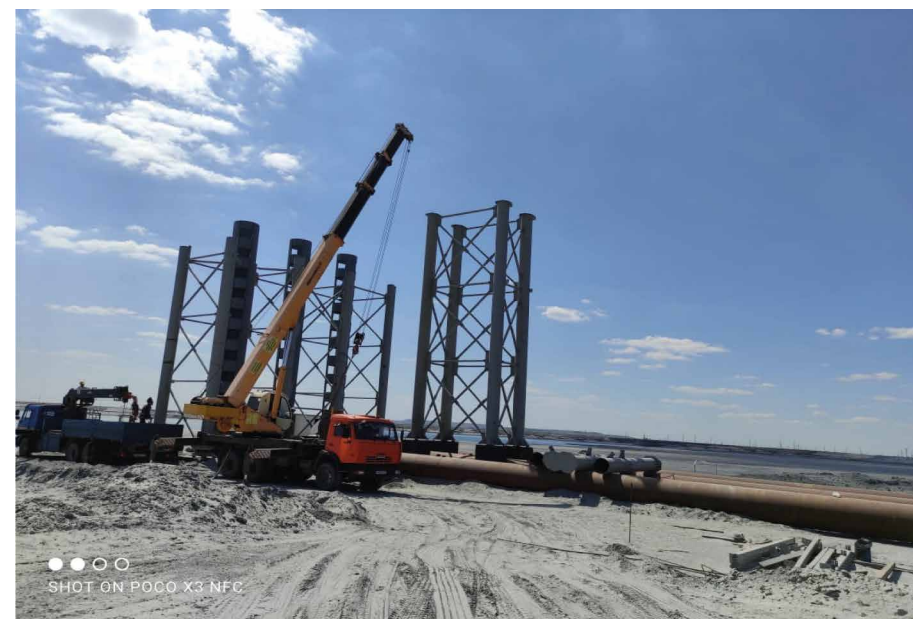
The project provides for the tie-in of an additional pipeline into the outermost collector of the spillway facility of compartment No.4 (from elevation 232 to elevation 242) and the construction of new spillway facility on the left-bank dam of compartment No.4 (from elevation 242 to elevation 252).

The spillway structure of compartment No.4 (from elevation 242 to elevation 252), includes:

- spillway wells;
- clarified water collectors;
- clarified water supply control chamber in b. Orliny Log.

The maximum capacity of spillways is
- 30000 m³/h.

The design of the spillway used modern high-quality environmentally friendly materials.



Highway M-4 «Don» - from Moscow through Voronezh, Rostov-on-Don, Krasnodar to Novorossiysk. Construction with subsequent operation on a paid basis of an automobile road M-4 "Don" - from Moscow through Voronezh, Rostov-on-Don, Krasnodar to Novorossiysk on the section of the far western bypass of Krasnodar. Training construction area. Reorganization ameliorative systems.

The purpose of this work is to restore the efficiency of reclamation systems in the Dinskoy district of the Krasnodar Territory on the land plots of the following farms: OJSC «Semenovodcheskaya Agrofirma «Rus», LLC «Vasyurinsky MPK», LLC «Bonduelle-Kuban», LLC «Kubanskiye konservy», JSC «Agricultural Association «Kuban».



To restore functionality reclamation systems, measures are provided for the reconstruction of individual sections of irrigation and drainage systems of farms that fall into the land allotment for the road, based on the specifications from each owner:

- removal of drainage wells-absorbers, inspection wells from the land drainage strip of the highway;
- reconstruction of tubular crossings;
- laying an additional drains and "slukers" (wells that absorb water in depressions. It is used to drain surface water through a drainage system);
- arrangement of wellhead structures;
- laying of an additional water supply system with water outlets and installation of water wells.

After the reconstruction of sections of meliorative systems, it is carried out reclamation of disturbed lands, from the restoration of the fertile soil layer to the boundaries of the permanent land allotment of the road.

Reconstruction and modernization of treatment facilities for industrial and rainwater sewage at the Izhorsky Plant

Purpose of construction, modernization and reconstruction:

1. Increasing the efficiency of economic activity of JSC «GSR Vodokanal»;
2. Compliance with legal requirements in in the field of water supply and sanitation, as well as environmental legislation of the Russian Federation.
3. Continuous supply of consumers of JSC «GSR Vodokanal» with technical water of proper quality and modernization of the disposal syst.m.



Completed events:

First event: Construction of a sludge dewatering station.

Second event: Reconstruction of facilities and modernization of technological equipment of Central treatment facilities, including: reconstruction of the industrial storm water treatment system, including modernization of mechanical treatment facilities at sand traps; reconstruction of radial settling tanks at Central treatment facilities; reconstruction of technological pipelines; reconstruction of the raw sludge station.

Third event: Construction of a wastewater return system from the territory of the Central treatment facilities to the treatment facilities of the Central treatment facilities; landscaping of the site of the treatment facilities.

Reconstruction and modernization of treatment facilities for industrial and rainwater sewage at the Izhorsky Plant

Productivity:

The maximum design capacity of the structures is 95000 m³/day.

The average actual productivity of structures is 25000 m³/day.

The treatment facilities (TF) include: receiving chamber; sand traps with a circular movement of water (8 units); radial (primary) settling tanks with a diameter of 30 m. (4 units) with the building of a pumping station for pumping raw sludge; equalizing pond; filter station building.

The modernization of the sand traps consisted in replacing the sand removal system with hydraulic elevators with a system of hydraulic washing and pumping of sand pulp with sand pumps.

In sand traps and radial sedimentation tanks, the main part of suspended solids is deposited and the film of surfaced petroleum products is retained. The sediment after the sand traps and radial settling tank sends to the ash storage located nearby.



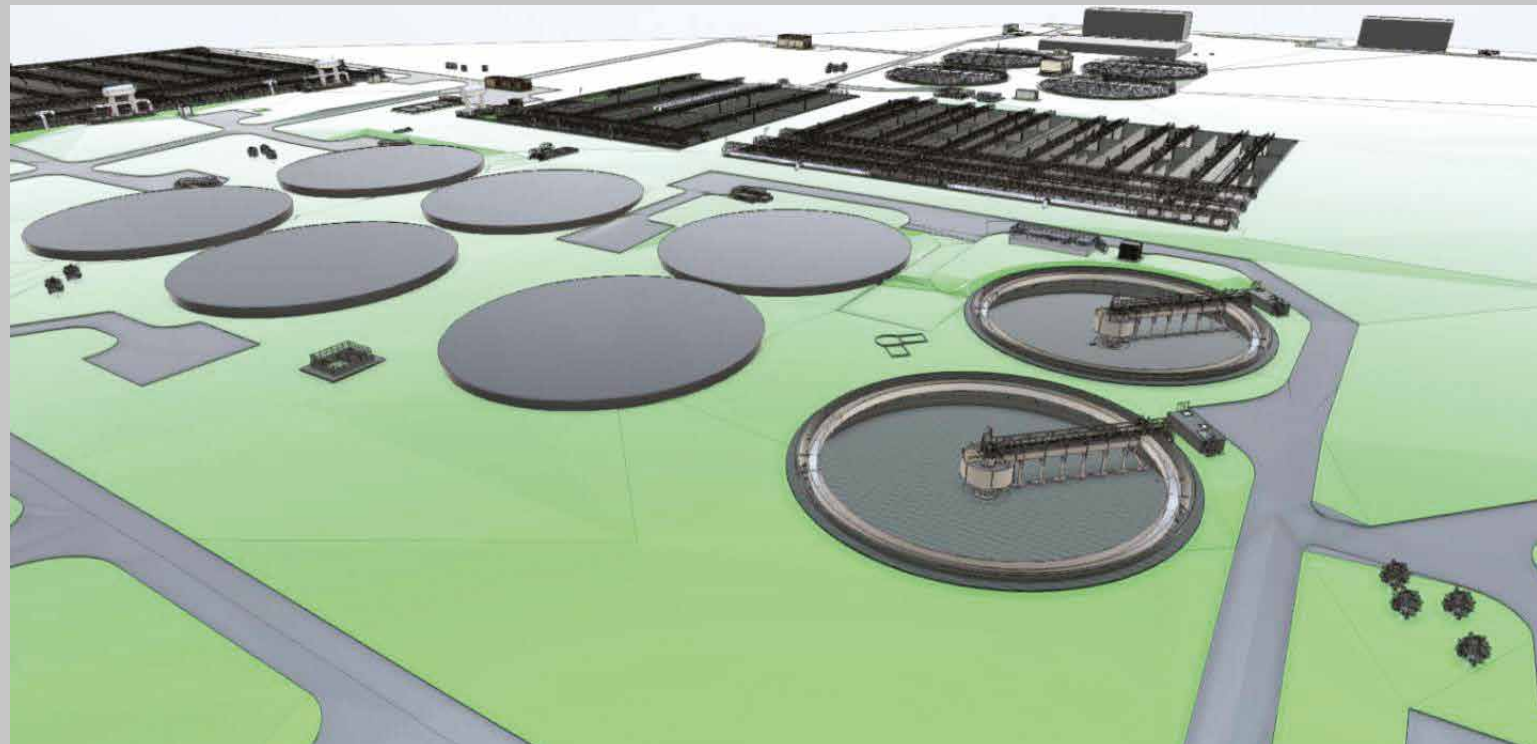
BIM

BIM with I-com Engineering is:

- comprehensive consideration of the building and its systems;
- early detection of inconsistencies in engineering;
- systems of buildings and structures;
- rationality and reasonableness of design solutions;
- improving the quality of products.

Our Goals:

- reduction of design time;
- reduction of construction time;
- decrease in the percentage of unexpected costs.



Application possibilities of BIM models



PLANNING

Drawing

Analysis of the concept and schematic design at the initial stage, when the cost of making changes is minimal

DESIGN

Detailed study

Drawings and reports

Cost estimate

CONSTRUCTION

Linking the model to the construction schedule

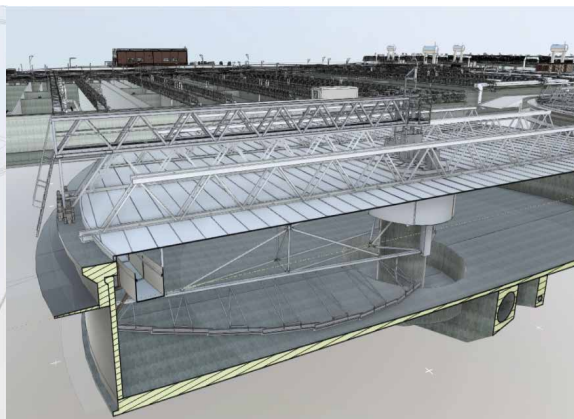
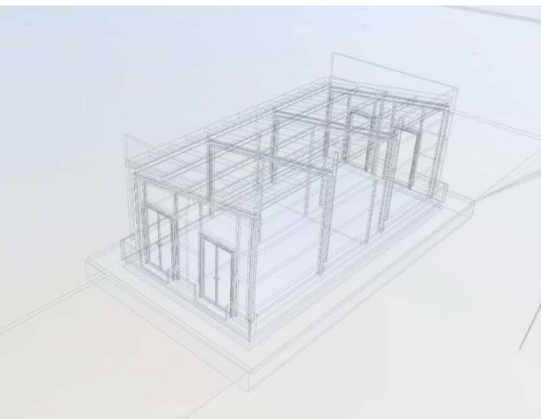
Comparing «plan» with «fact»

No construction delays due to clash detection

EXPLOITATION

Each element of model contains geometric and attribute information

It is possible to enter information into the model during entire life cycle





DESIGN OF BUILDINGS AND STRUCTURES

- Water and sewer treatment facilities
- Pumping stations
- Linear water supply facilities and sewerage
- Units and systems of circulating water supply
- Facilities for the treatment of domestic, surface and industrial wastewater
- Sludge dewatering and drying facilities



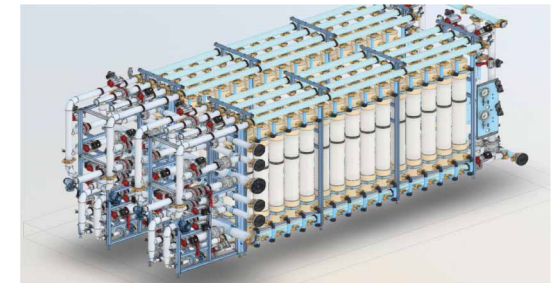
DEVELOPMENT OF ENGINEERING NETWORKS

- Technological networks of external water supply and sewerage
- On-site water supply and sewerage networks
- Power supply and communication networks
- Heat supply networks



DESIGN EQUIPMENT

- Vacuuming units
- Reagent solution dosing units
- Membrane-sedimentation units
- Ion exchange filters
- Pump filters
- Electrodialysis units
- Submersible ultrafiltration
- Microfiltration units

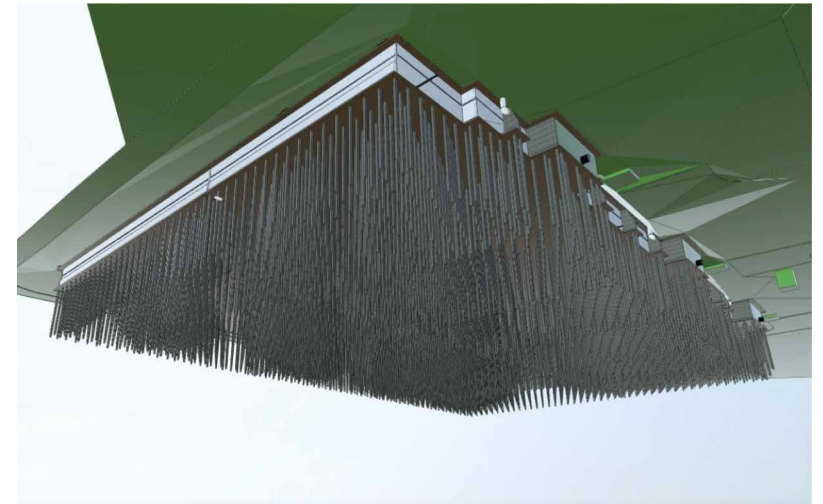
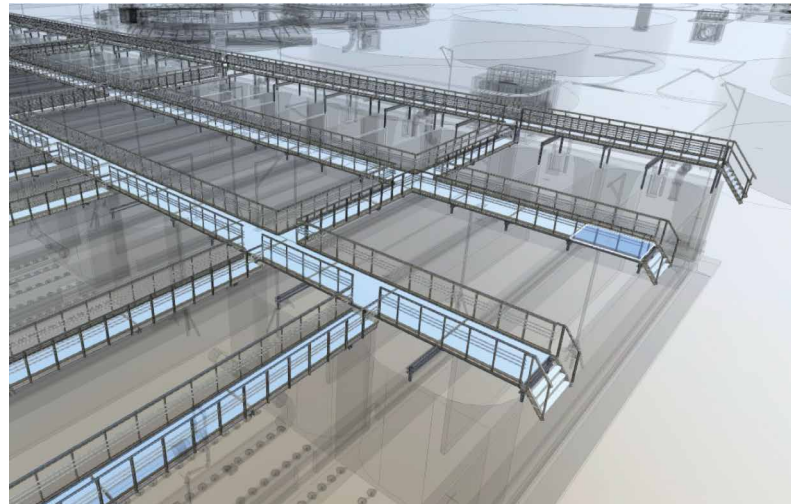


Implementing sections

Architectural solutions

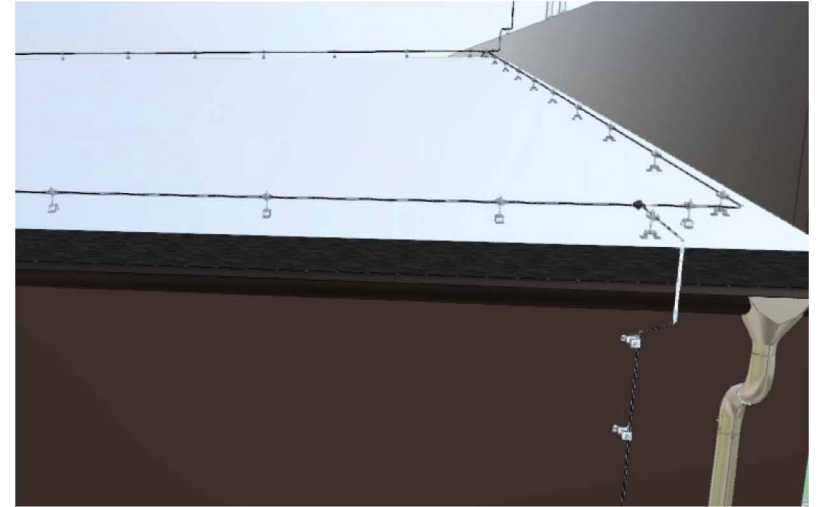


Constructive solutions

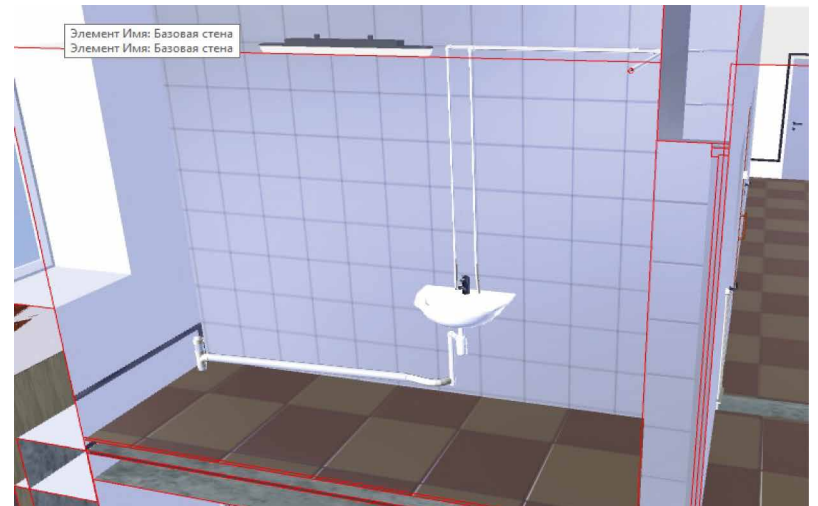
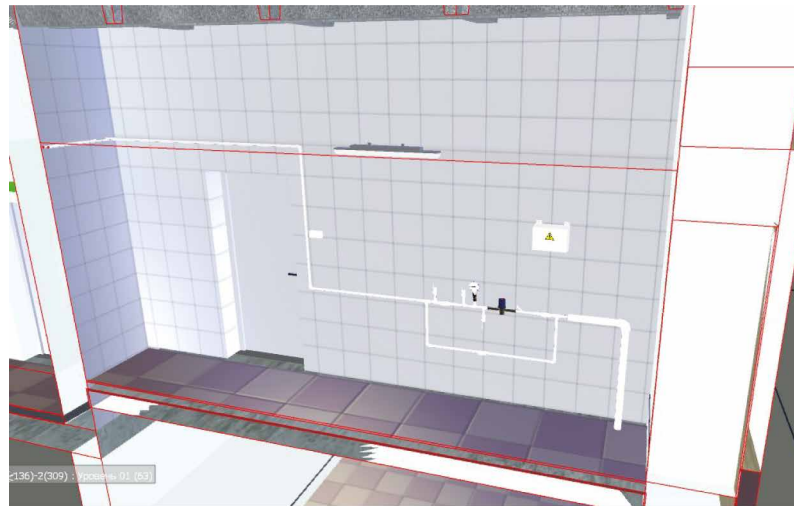


Implementing sections

Systems electricity supply

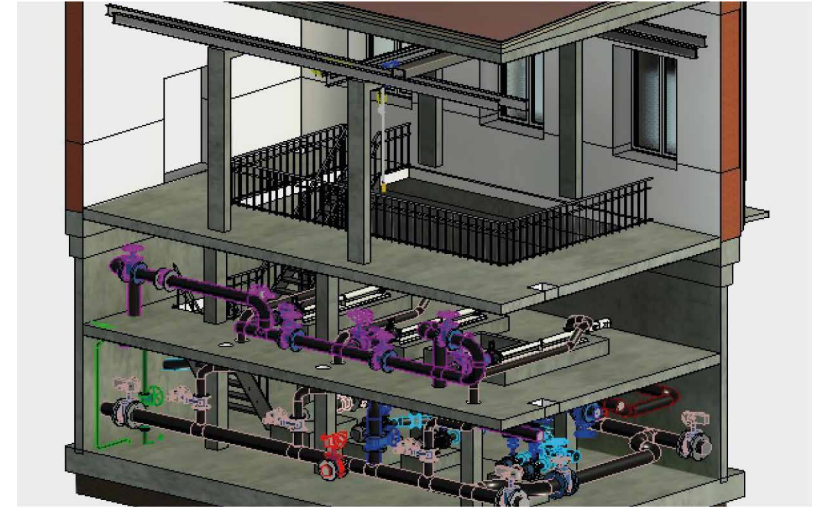
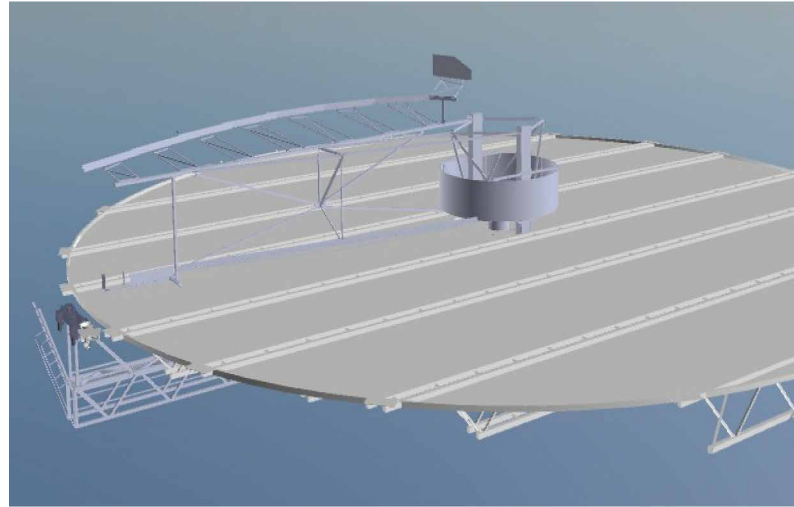


Water supply systems and wastewater

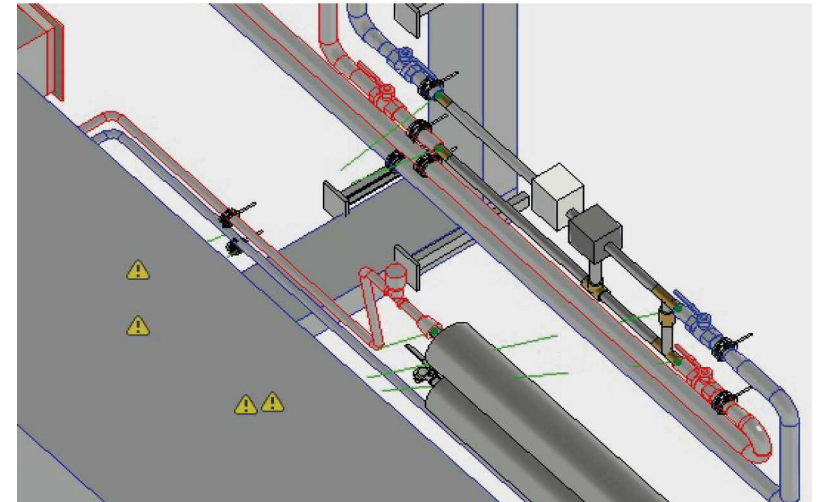
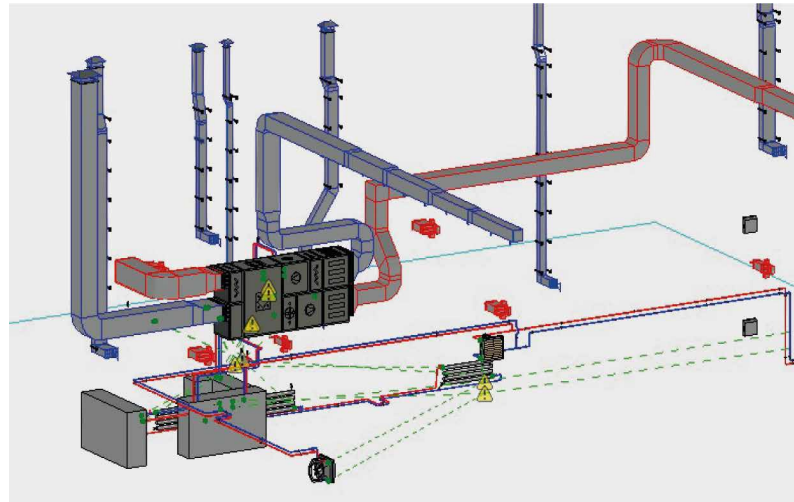


Implementing sections

Technological solutions



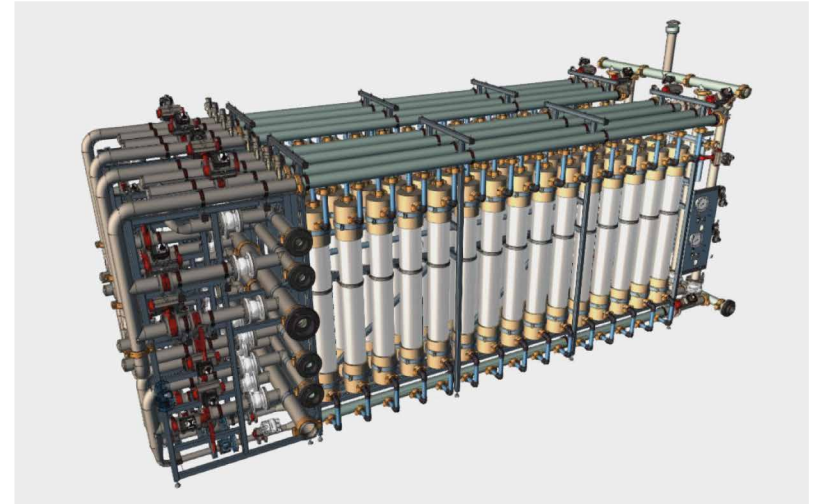
Heating and ventilation



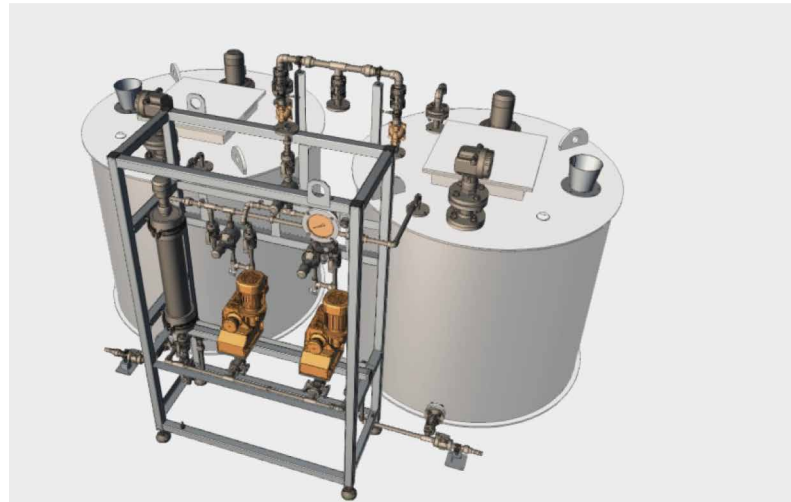
Equipment



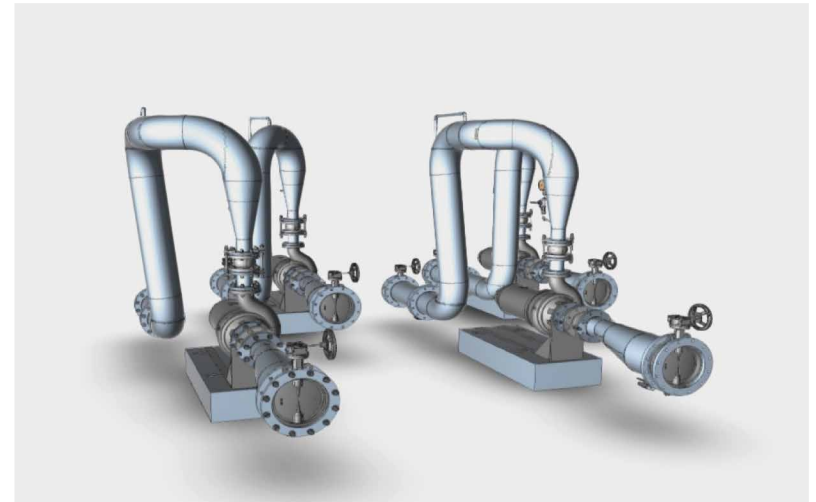
ROP



UUV



F&D of nutrient feeding



Pumping station

Implementation of the project KOS Tyumen in BIM



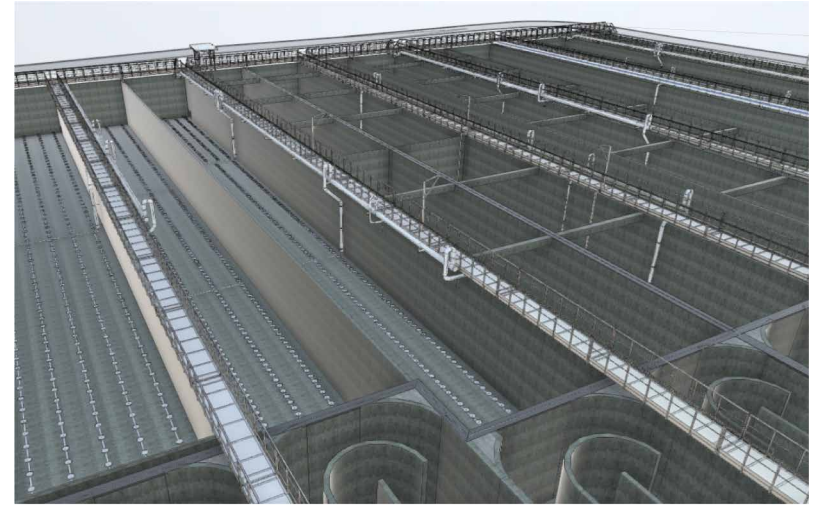
Stereo panorama of
sewage treatment
plant Tyumen



Sewage treatment plant Tyumen



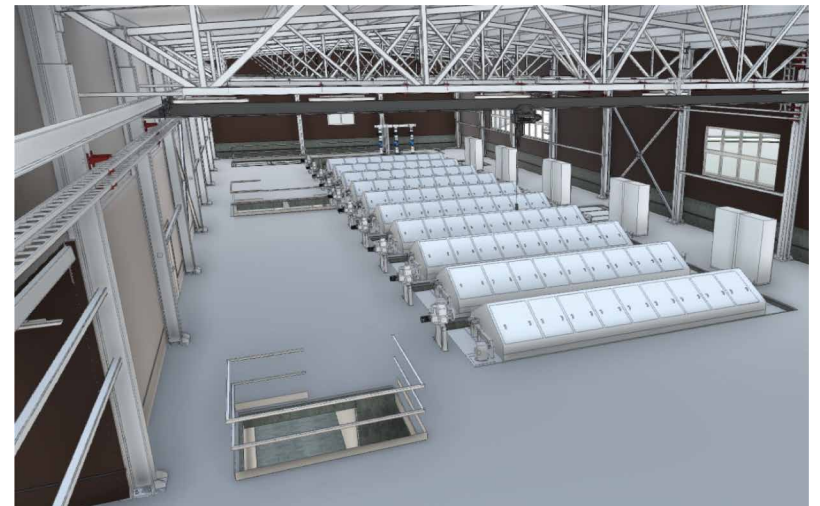
Pumping station for vacuuming



Aerotank



Disc filter building

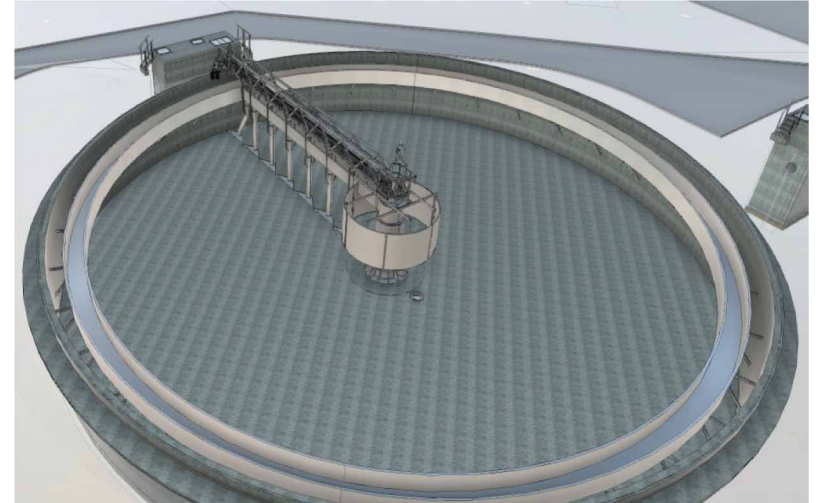


Disc filter building

Sewage treatment plant Tyumen



Air pumping station



Secondary clarifier



Aerotank emptying pumping station



Oxicide dosing station

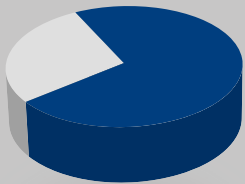
Benefits of BIM



Using BIM in design gives an increase on*:

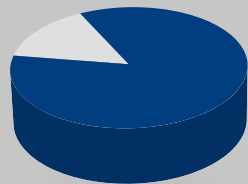
72%

Greater price predictability



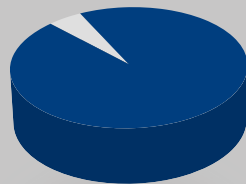
85%

Improved construction schedule



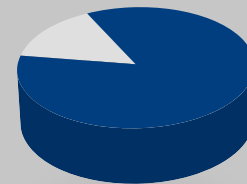
95%

Reducing design errors



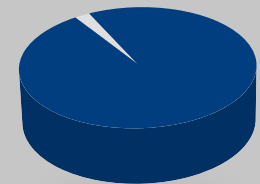
85%

Optimized project



98%

Better understanding



* According to the results of the study of the Ministry of Construction of Russia

Benefits of BIM



Based on the results of the project in BIM , we can get*:

up to
30%

Reduction of
construction
and operation

up to
40%

Reduction of
inaccuracy and
errors in project
documentation

up to
50%

Reducing the project
implementation

up to
90%

Reducing of
coordination and
harmonization time

20-
50%

Reducing design
time

up to **6** times

Reducing the time
to check the model

up to **4** times

Reducing of budget
error planning

* According to the results of the study of the Ministry of Construction of Russia



Pure water - clean planet !

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