SCHEDULES / BILLS OF QUANTITIES

Part 1 – Bidding Procedures

Attachment to Section IV. Bidding Forms

PREAMBLE AND SCHEDULE OF PRICES

General Stipulations

Preamble

1. Rates and prices shall exclude taxes and the Price Schedules shall identify the (a) import duties and (b) taxes, fees, levies and other charges estimated in accordance with ITB 14.7, as separate amounts. Information on applicable tax exemptions is provided in Sub-Clause 14.1 (b) of the Particular Conditions of Contract.

2. The Price Schedules must be prepared in accordance with the currency alternative retained in QBDS – ITB 15.1.

3. The Price Schedules shall be read in conjunction with the Instructions to Bidders, General and Particular Conditions of Contract, the Technical Specifications and the Drawings and shall form part of the Contract.

4. The Contractor is deemed to have satisfied himself in calculation of the rates / prices as to the meaning of every item in the Price Schedules and the frame conditions for the execution of the respective work.

5. The Contractor is deemed to have covered himself in calculation of the rates / prices for all work, services and materials which according to the true intent and meaning of the Contract may be reasonably inferred as necessary for completion of the Works described in the Technical Specifications, Drawings, and Price Schedules, and for all duties, obligations, liabilities and responsibilities which the Contract places upon the Contractor in connection with or in relation to the Contract whether expressly mentioned therein or not.

6. The unit rates entered are deemed to be appropriate and reasonable unit prices, reflecting the cost of the works or deliveries / installations or services (plus reasonable overhead, margin, risk, and profit) and are not deemed to be speculative (unit prices calculated unduly by offsetting between profitable and less profitable positions with the intention to achieve the lowest Tender Price and/or to take undue financial advantage from expected changes in quantities of positions in the Price Schedules).

7. In this Price Schedules the item descriptions address the works covered by the respective items. The exact nature and extent of the work to be performed is to be ascertained by reference to the Drawings, Technical Specification and Conditions of Contract and requirements for completion of the Works etc. as the case may be.

8. The description of tasks and quantities given in the Price Schedules are estimated, prepared following described scope of Work specified on the Drawings prepared following National legislation and regulations. The Contractor shall note that specified under the row “Description’ materials and equipment names including the manufacturers names are indicative may differ from the manufacturers data sheets and provided only for guiding information. The Contractor shall follow the materials and equipment specifications provided under Technical Specifications.

9. Mechanical and Electrical Equipment Installation works items as specified and described in the Price Schedules (as example item 5.2.1 in Price Schedule 2) shall include all design, manufacturig, testing, transportation, offloading and all other costs as explained further in this document.

10. Price Schedules and Provisional Sum items and are given to provide a common basis for bidding. In no sense shall such quantities be considered as limiting or extending the amount of the work to be done by the Contractor and of the materials to be supplied by him. The Contractor shall be responsible for checking quantities and for making any necessary site investigations prior to placing his order for materials and pricing the works to be performed. However, quantities shall not be altered in the Price Schedules.
    Fourteen (14) days before beginning of any work component, section or partly execution, etc. of the Works, the Contractor has to submit to the Engineer for his approval the following components:
    a) Detailed Design (Stage R) and Shop drawings (layout) including updated survey reports
    b) If necessary and if so requested by the Engineer, all cross-section of the works,
    c) If necessary and if so requested by the Engineer all necessary details shown on the drawings,
    d) New detailed Price Schedule (as part of the Stage R design) with explanations how the items specified are related and correspond to the Price Schedules that are part of the Contract.

11. The basis of payment will be the actual quantities of work ordered and carried out, as quantified and declared (measured) by the Contractor, verified by the Engineer and valued based on the rates and prices in the Contract priced Price Schedules. Where applicable and if so decided otherwise at such rates and prices as the Engineer may determine within the terms of the Contract.

12. The items set forth in the Price Schedules and the prices entered therein shall, except insofar as may be otherwise expressly provided for in the Contract, be deemed to cover all the Contractor's cost for or arising out of (if specific task is not stated separately in the Price Schedules);
    a) mobilization and demobilization
    b) site inspections and Engineering surveys;
    c) supply and reproduction of the standards and codes to be used on site;
    d) preparation of design documents and supply to the Engineer of all necessary drawings, calculations and technical documents;
    e) inspection and testing at manufacturer's works, including inspection to satisfy government import regulations;
    f) procurement of materials and equipment to temporary works and for incorporation into the final works, including, packing, loading, transport, unloading, intermediate storage / storage at Site (under the prevailing weather conditions at Site), un-packing, insurance, import duties and taxes from manufacturer's place till the Site;
    g) construction of / incorporation into / installation of / erection of temporary or final works with the materials and equipment procured, including moving into position, erecting, fixing including supervision, tools, special appliances, scaffolding, tackle, consumable items, etc.
    h) all labor costs;
    i) supervision of labor and works;
    j) testing of materials and equipment at factory, during transport, and at Site, and execution of testing, setting to work and putting into service, commissioning, testing at and after (if any) completion in accordance with the Conditions of Contract;
    k) provision of consumables and spares needed for maintaining the Site facilities and execution of Works;
    l) making good of any damage and remedy of any failure in accordance with the Conditions of Contract;
    m) safety at Site and of traffic and third parties;
    n) cleaning of Site and removal of waste;
    o) security at Site including fencing of the Site during construction period;
    p) quality control and quality assurance measures;
    q) control of public vehicular and pedestrian traffic, including the supply and maintenance of temporary passageways;
    r) public convenience and cleaning of public roads used during construction works;
    s) sub-contractor's works;
    t) insurance, overhead, provision for risks and liabilities, bonds and securities, margins for profit, and taxes and duties;
    u) repairs, delivery and installation of replacement parts including associated cost for personnel executing repairs and replacement, undertaken or utilized by the Contractor during the Defects Notification Period and in general all cost for remedying of any defects reasonably to be inferred during the Defects Notification Period;
    v) all liabilities and obligations and all matters and things necessary for the proper performance, intended function and maintenance and completion of the Works as specified in the Conditions of Contract;

13. A rate or price shall be entered against each item in the priced Price Schedules, whether quantities are stated or not. The cost of Items against which the Contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Price Schedules.

14. The whole cost of complying with the provisions of the Contract shall be included in the Items provided in the Price Schedules , and where no Items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related Items of Work.

15. General directions and descriptions of work and materials given on the Drawings and explained also in the Technical Specification need not necessarily be repeated nor summarized in the Price Schedules. References to the relevant sections of the Contract documentation shall be made before entering prices against each item.
16. Provisional Sums included and if so designated in the Price Schedules shall be expended in whole or in part at the direction and discretion of the Engineer in accordance with Sub-Clause 13.5 and Clause 13.6 of the General Conditions.

17. Any arithmetic errors in computation or summation will be corrected by the Employer as follows:

a) where there is a discrepancy between amounts in figures and in words, the amount in words will govern; and
b) where there is a discrepancy between the unit rate and the total amount derived from the multiplication of the unit price and the quantity, the unit rate as quoted will govern, unless in the opinion of the Employer, there is an obviously gross misplacement of the decimal point in the unit price, in which event the total amount as quoted will govern and the unit rate will be corrected.

18. Indicated specific manufacturer's brands are not obligatory. Products from other manufactures are also permissible, provided that the properties are equivalent.

Works to be Measured

Quantities of all positions described in the Price Schedules shall be measured against actual work performed except lump sum items. Measurement of Works shall in principle follow the stipulations made in the Conditions of Contract.

Method of Measurement

Except where otherwise specified all measurement shall be made net from the lines and dimensions shown on the Drawings or defined in the Technical Specifications without any allowance for bulking, shrinkage, waste or overlaps.
In general, measurements and related calculations shall

- conform to the methods of measurement stipulated in the Contract,
- be based on the approved Drawings. Where no drawings exist sketches shall be prepared, supported by explanatory text and photographs, if necessary,
- be clearly allocable to positions in the Price Schedule,
- be comprehensible,
- be verifiable.

Work shall be measured net as fixed in position and each measurement shall be taken to the nearest 10 millimeters; this principle shall not apply to dimensions stated in descriptions.
Except otherwise stated, no deduction shall be made from items required to be measured by area for voids of less than 1.00 m^2.
Where no method of measurement is detailed in the Contract, the Civil Engineering Standard Method of Measurement, 4th Edition (2012) shall apply.

Units of Measurement

All measurements shall be in accordance with the International System of Units (SI). No other units shall be used. Any units not mentioned in the technical documentation shall be expressed in terms of the SI as well.

Definitions

Ditto	Shall mean the whole description of the preceding item except as qualified in the description of the item in which it occurs. Where it occurs in brackets it shall mean the whole of the preceding description which is contained within the appropriate brackets.
Standard Valve Chamber	Valve chamber with circular or quadratic shape
Non-Standard Valve Chamber	any other valve chamber than Standard Valve Chamber (like not round or quadratic valve chamber, valve chamber with change in cross-sectional shape across depth, chambers with dimensions clearly larger than Standard Valve Chamber or irregular shape – pentagonal, trapezoid, etc.)
Rock	Rock is defined as all materials that, in the opinion of the Engineer, require blasting, or the use of metal wedges and sledgehammers, or the use of compressed air drilling for their removal, and that cannot be extracted by ripping with a tractor of at least 150 brake hp with a single, rear-mounted, heavy-duty ripper.

Abbreviations

The abbreviations listed hereunder denote the following:

%	percent
°C	degree Centigrade
A	Cross-sectional area
A*	Product of longitudinal length and peripheral length
BoQ	Bill of Quantities
C12/15	Concrete Class 15, nominal strength 15 N/mm² (cube strength)
C20/25	Concrete Class 25, nominal strength 25 N/mm² (cube strength)
C25/30	Concrete Class 30, nominal strength 30 N/mm² (cube strength)
C30/37	Concrete Class 37, nominal strength 37 N/mm² (cube strength)
cm	centimeter
d	diameter
DCI	Ductile Cast Iron
DI	Ductile Iron
dia	Diameter
DN (or ND)	Nominal Diameter in mm, unless stated otherwise (equivalent to inside diameter)
E.O.	Extra Over
H or h	Height
HC	House Connection
HDPE	High Density Polyethylene
Hr or hr	hour
Kg	kilogram
Km	kilometer
L or l	length
l/s	liters per second
m	Meter
m2	square meter
m3	cubic meter
masl	meters above sea level
max	maximum
min	minimum
mm	Millimeter
M-M	man-month
n/e	not exceeding
No(s)	Number(s)
OD	Outer Diameter in mm
p.a.	per annum
PE	Polyethylene
pm	Peripheral meter
PN	Nominal pressure rating in bars
T or t	metric ton = 1000 kg
TWL	Top Water Level
uPVC	unplasticized Polyvinyl Chloride for Pipes
V	Volume
W or w	width

Measurement and Payment

General Site Clearance

Measurement

General clearance of construction sites for pumped or gravity pipelines, water tanks, pumping stations, buildings, and other structures and point installations shall be paid for per plot area of each Site (inside the designated plot limits), shown in the approved Drawings. Clearance outside the plot limits shall not be measured.

Rates to be inclusive

The rate is deemed to include:

1. Removing site features (including fences, gates, walls, roads, paved areas and the like; but excluding demolition of structures), including breaking out foundations;
2. Removing trees and tree stumps, including grubbing up roots if applicable;
3. Clearing site vegetation (including hedges, bushes, scrub and undergrowth, including grubbing up roots, if applicable;
4. Protecting site features, trees and site vegetation which are to remain;
5. Removing general debris and rubbish;
6. Filling voids;
7. Disposal of materials;
8. Temporarily, diverting ditches, field drains and other waterways including reinstating on completion or cleaning and filling;
9. Clearance outside the plot limits.

Breaking of existing Road Pavings

Measurement

Cutting and breaking of road pavings (bituminous pavings, asphalt paving, concrete paving) shall be measured by area, measured from dimensions of actually executed works, approved by the Engineer. Areas not approved by the Engineer shall not be included for payment. Paving cuttings shall not be measured.

Rates to be inclusive

The rate is deemed to include:

1. Provision, transport to Site, operation and maintenance of special machines for cutting and breaking;
2. Cutting and breaking of road pavings, loading of broken material, transport to appropriate disposal site, unloading /tipping, providing tip and paying fees and multiple handling;
3. Removal of items that can be reused: curb stones, gullies, gutters, manhole covers, etc., transport to temporary storage area, cleaning, storage, protection for re-use;

Earth Works for Pipes, Buildings, and Structures

Measurement

The measured excavation / filling volume for buildings and structures shall be the net in-situ volume obtained from the differences between

For excavation: the lines, levels and profiles of the natural ground or rock surface, to the lines, levels and profiles of the levels reduced as per approved drawings. This applies as well for levels of existing soils to be replaced by quality refill.

For filling: the lines, levels and profiles of the levels excavated as per approved drawings, to the ready lines, levels and profiles as per approved drawings.

The excavation / filling volumes for line assets like pipelines shall be calculated by means of pipeline profiles and pipeline cross-sections to be applied section-wise (wherever dimensions change) to the pipeline profile.
For the purpose of invoicing, the measurement for pit excavation / refill shall be as follows:

1. The length and width of the pit shall be measured as projection of the length and width of the structure for which the excavation is performed as if the completed structure would be lifted vertically out of the ground plus the min. work space required to both sides of the excavation as per Specifications.
2. The depth of pit excavation shall be measured from the existing ground surface or the planum level prepared to the level of the underside of the concrete soil slab.

For the purpose of invoicing, the measurement for pipe trench excavation / refill shall be as follows:

3. The linear measurement of lengths shall be along the pipe axis. At locations with change of pipe directions, the length shall be measured between intersections of pipe axes. Furthermore, the length of pipe axis shall be measured continuous through manholes, valve chambers, and the like (but not through tanks and buildings).
4. The width of pipe trenches shall be as shown on the drawings up to the min. work space required as per Specifications.
5. The depths of pipe trench excavation shall be measured from the existing ground surface to the invert level of the pipes.

Rates to be inclusive - Excavation

The rate is deemed to include:

1. All survey of levels, grades, dimensions before starting, during progress and after completion of any kind of excavation;
2. Obtaining excavation permits from the relevant Authorities;
3. Any method of excavating and working;
4. Commencing excavating at any level and excavating to any depth. Any width of trench and any number of pits;
5. Excavating in “soft material” or any material whatsoever encountered including “hard material”, except where excavation of “hard material” is stated in separate items in the Bill of Quantities. The definition of “soft material”, “hard material”, and “rock” is contained in the Technical Specification. Payment for excavation in “hard material” or “rock” shall be by volume (m3) as an extra-over rate to the rate for excavation of “soft material”;
6. Trial excavation to locate existing services and utilities;
7. Identification of existing utilities using pipe/cable (metal) locator along the alignment of the pipe trench plus a strip of 2 m left and right the pipe trench;
8. Removal, storage (temporary and final) and replacement / re-instatement of top soil and soil as directed by the Engineer;
9. Excavation volumes due to bulking;
10. Excavating below ground water level (irrespective of any difference between the post-contract and pre-contract level);
11. Excavating next to existing services and around existing services crossing excavations including temporary support, temporarily re-routing, sealing and removing services as required;
12. Extra excavation for working space more than the min. work space specified in the Contract, and/or to accommodate earthwork support (bracing, formwork, sheeting / shoring and the like) including additional disposal, backfilling, work below ground water level, breaking out and earthwork support;
13. Extra excavation for bedding (as specified in the Contract and drawings) below the pipe invert level;
14. Provision of any extra working space required for installing joints and fittings, and for backfilling as specified, as well as for up transportation of the material, if proves to be needed;
15. Breaking out existing materials and hard paving including concrete, reinforced concrete, brick-work, blockwork, stonework, drains, and coated macadam or asphalt and the like;
16. Trimming of excavation to correct lines, levels and profiles, including preparation of stepped plana for laying of pipes with different invert level, and preparation and maintenance of planum for foundations for the reception of concrete or pipes, as specified, except where specifically provided for in separate bill items;
17. Making good of all slips and falls of materials;
18. Surface treatments including compacting surface of ground and bottoms of excavations, levelling and grading to falls, trimming slopping surfaces and trimming vertical surfaces to sides of cuttings (including trimming in rock) and applying herbicides and pesticides;
19. Earthwork support (including interlocking steel piling) including support below ground water level, to unstable ground, next to roadways, next to existing buildings and support left in;
20. Disposal of ground water and surface water;
21. Disposal of excavated material off site, including spreading and levelling or depositing in spoil heaps, providing tip and paying fees and multiple handling;
22. All barriers, lighting, warning signs, traffic controls and any other measures necessary to ensure complete safety around the area of the works.

Rates to be inclusive - Earth Filling

The rate is deemed to include:

1. All survey of levels, grades, dimensions before starting, during progress and after completion of any kind of earth filling;
2. Preparing surfaces to receive filling including excavation benchings in sloping ground to receive filling;
3. Procurement, transport, temporary storage at Site of approved selected material for use in the backfilling of trenches and other excavations;
4. Provision and maintenance of (temporary) storage areas of any material required for backfilling which cannot be stored alongside the excavation for any reason;
5. Transport to temporary storage, sieving, further treating, temporary storage, back-transport to Site of previously excavated material approved for backfill (without treatment or including treatment);
6. Re-fill any thickness in layers and compacting layer by layer, including levelling and grading to falls and slopes filling, including trimming sloping and vertical sides of filling and embankments, in accordance with Contract specifications, as well between pipelines in trenches with more than one pipeline laid in parallel – even on different pipe invert level;
7. Testing of filling material and testing of compacted refill at the Site or external laboratory as per Contract Specifications;
8. Filling below ground water level;
9. Blinding surfaces by filling with sand, gravel, ash or other fine material;
10. Providing protective filling and removing on completion;

11. Bedding (as specified in the Contract and Drawings) below the pipe invert level, for water pipes and for sewer pipes;
12. Partial backfilling to create abutment for the purpose of pipe pressure testing;
13. Backfilling of and around (crossing) re-laid existing services;
14. Backfilling to over-excavations to reach the required level with imported filling material including depositing and compacting in layers and multiple handling;
15. Provision of any extra backfilling required for installing joints and fittings, as well as for down transportation of backfilling material, if proves to be needed;
16. Removing from site unsuitable and surplus filling materials including transport and disposal fee.

Earth Works for Roads

Measurement

The measured excavation / filling volume for road cuts / road embankments shall be the net in-situ volume obtained from the differences between

For excavation: the lines, levels and profiles of the natural ground or rock surface, to the lines, levels and profiles of the levels reduced as per approved Drawings. This applies as well for levels of existing soils to be replaced by quality refill.

For filling: the lines, levels and profiles of the levels excavated as per approved Drawings, to the ready lines, levels and profiles as per approved Drawings.

Rates to be inclusive - Excavation

The rate is deemed to include:

1. Survey work necessary for setting out, if not otherwise specified in the Contract;
2. Any method of excavating and working;
3. Commencing excavating at any slope, level and excavating to any depth;
4. Excavating in “soft material” or any material whatsoever encountered including “hard material”, except where excavation of “hard material” is stated in separate items in the Bill of Quantities. The definition of “soft material”, “hard material”, and “rock” is contained in the Technical Specification. Payment for excavation in “hard material” or “rock” shall be by volume (m3) as an extra-over rate to the rate for excavation of “soft material”;
5. Trial excavation to locate existing services and utilities;
6. Identification of existing utilities using pipe/cable (metal) locator along the alignment of the pipe trench plus a strip of 2 m left and right the pipe trench;
7. Removal, storage (temporary and final) and replacement / re-instatement of top soil and soil as directed by the Engineer;
8. Excavation volumes due to bulking;
9. Excavating below ground water level (irrespective of any difference between the post-contract and pre-contract level);
10. Excavating next to existing services and around existing services crossing excavations including temporary support, temporarily re-routing, sealing and removing services as required;
11. Breaking out existing materials and hard paving including concrete, reinforced concrete, brick-work, blockwork, stonework, drains, and coated macadam or asphalt and the like;
12. Preparation and maintenance of planum for the reception of sub-structure material, as specified, except where specifically provided for in separate bill items;
13. Making good of all slips and falls of materials;
14. Disposal of ground water and surface water;
15. Disposal of excavated material off site, including spreading and levelling or depositing in spoil heaps, providing tip and paying fees and multiple handling;
16. All barriers, lighting, warning signs, traffic controls and any other measures necessary to ensure complete safety around the area of the works.

Rates to be inclusive - Earth Filling

The rate is deemed to include:

1. Preparing surfaces to receive filling material including procurement and installation of geo-textiles and procurement and construction of soil stabilization / improvement where not separately stated in the Price Schedules;
2. Procurement, transport, temporary storage at Site of approved selected filling material;
3. Transport to temporary storage, sieving, further treating, temporary storage, back-transport to Site of previously excavated material approved for filling (without treatment or including treatment);

4. Filling in any thickness in layers and compacting layer by layer, including levelling and grading to falls and slopes, including trimming sloping and vertical sides of filling and embankments in accordance with Contract specifications;
5. Testing of filling material and testing of compacted filling material at the Site or external laboratory as per Contract Specifications;
6. Filling below ground water level;
7. Removing from site unsuitable and surplus filling materials including transport and disposal fee;

Rates to be inclusive – Slopes and Surface Treatment

The rate is deemed to include:

1. Trimming of slopes to correct lines, levels, slopes, benches, and profiles;
2. Temporary and permanent protection and reinforcement of slopes with geotextiles or any other system approved by the Engineer where not separately stated in the Price Schedules;
3. Blinding surfaces by filling with sand, gravel, ash or other fine material;
4. Surface treatments including compacting surface of ground, bottoms, slopes, and benches of excavations, levelling and grading to falls, trimming of sloped surfaces, procurement and installation of geo-textiles and procurement and construction of soil stabilization / improvement where not separately stated in the Price Schedules;
5. Application of top soil to grades and levels, either loaded from temporary storage place and transported to place of incorporation, or procured and supplied from elsewhere, transported to place of incorporation;

Additional Works for Pipe Trench

The works under this section comprise shoring of pipe trench and laying of geo-textiles in the pipe trench.

Measurement

Shoring

In case the Engineer instructs the Contractor to execute shoring of pipeline trench, the length of the shoring will be measured as described for item No. 3 in Section 2.3.1, the depth of the shoring will be measured as described for item No. 5 in Section 2.3.1. The area of shoring for the purpose of invoicing will be the product of shoring length (as measured above) x shoring depth (as measured above) x 2.

Additional height of shoring due to installation into sub-soil and protrusion above top earth level shall not be measured.

Geotextile

In case the Engineer instructs the Contractor to lay / install geotextile in the pipeline trench, the dimensions of the pipe trench section that will receive geo-textile shall be measured as follows:

- Length: as described for item No. 3 in Section 2.3.1,
- Width of pipe trench: as described for item No. 4 in Section 2.3.1,
- Height of geotextile inside the pipe trench: from bottom of excavation till top of pipe bedding material, as per Drawings.

The area of geotextile to be invoiced shall be then calculated as product of Length x (Width + height) x 2. Overlaps shall not be measured.

Rates to be inclusive

Shoring

The rates for shoring of pipe trench shall include:

1. Procurement and supply, shipping and transport to Site, unloading at Site, temporary storage of all shoring and shoring bracing material (timber, steel sheet piles, cross-sectional and longitudinal bracing profiles, box systems, slide rail shore systems, pile guide boxes, etc.), needed including connection material, and removal from Site after use;
2. Provision, operation, maintenance, and removal from Site after use of all ramming machines, cranes, etc. needed to install and to remove shoring and shoring bracing;
3. Installation of shoring and shoring bracing, including manufacturer of openings for crossing utilities or similar, and removal during / after backfilling of pipe trench
4. Survey works;
5. Extra excavation to accommodate earthwork support (shoring, bracing, formwork, sheeting / shoring and the like) including additional disposal, backfilling, work below ground water level, breaking out and earthwork support;
6. Additional height of shoring (installation into sub-soil and protrusion above top earth level;

Geotextile

The rates for laying geotextile include:

1. Procurement and supply, shipping and transport to Site, unloading at Site, temporary storage at Site, placing and aligning of geotextile into the pipe trench, fixing / anchoring of geotextile with securing pins, including delivery of pins;
2. Extra filling (first fill to protect geotextile, if needed);
3. Longitudinal overlap in accordance with the manufacturer's instructions;
4. Full overlap across the trench width on top of bedding material.

Water Pipe Laying

Measurement

This section does not apply for installation works inside the facilities (pumping stations) or buildings.

For the purpose of invoicing, the measurement of pipe lengths shall be as follows:

1. Each size of nominal pipe diameter, pipe material, and pipe pressure class respectively wall thickness class installed shall be measured separately within the limits shown on the Drawings or ordered by the Engineer;
2. The linear measurement of lengths shall be along the pipe axis. Length of pipe axis shall be calculated using X,Y,Z dimensions. At locations with change of pipe axis directions, the length shall be measured between intersections of pipe axes.
3. The length of pipe axis shall be measured continuous through T-pieces, bends, valves, appurtenances, and the like.

Rates to be inclusive

The rates for pipe laying shall include:

General

1. Procurement and supply, shipping and transport to Site, unloading at Site, temporary storage and protection during temporary storage at Site, all joint types, including force transmitting joint systems;
2. Survey works;
3. Cost for testing of pipeline material;
4. Jointing of pipes (of any joint type) including provision of jointing material, bolts, nuts, washers, gaskets, welding material, electrical energy, welding apparatus, tools, curing of connections, including making good any defects in pipe laying and jointing workmanship or defects to lines or levels;
5. Cutting and isolating, post-treatment of cut pipe faces, re-connection to already laid pipes (existing or newly procured pipes) including provision and execution of any temporary measure for connecting of pipes, be it additional pipe support, measures to deal remove water (for buried pipes), or suchlike;
6. Lining and coating (of liners and coats damaged, or of liners and coats to be applied separately), including provision of liner and coating material;
7. Water and/or air pressure testing (if not stated separately in the Price Schedules) including provision of water/ air (transport to Site, including provision of tankers, pumps, and operating cost for tankers and pumps) and applying pressure and temporary closing of pipe sections to be tested, making good any defects unveiled during testing;
8. Cleaning / flushing, disinfection (if not stated separately in the Price Schedules) including provision of water (transport to Site, including provision of tankers, pumps, and operating cost for tankers and pumps), removal of used flushing water, and of disinfectant;
9. Temporary closing (plugging) of pipeline ends and their removal;
10. Final connection of pipeline ends to existing or other pipelines or buildings;
11. Production of shop and as-built drawings as per Contract Specifications, if not stated separately in the Bill of Quantities;

Pipes outside Buildings / Valve Chambers

12. Procurement and supply, shipping and transport to Site, unloading at Site, temporary storage and protection during temporary storage at Site of all bends, knees, tapers, T-pieces, cross-pieces, pipe coupling pieces and connection pieces, other buried appurtenances, etc., if not separately listed in the Price Schedules;
13. Installation in the pipe trench;
14. Installation of geo-textile in difficult existing soil, approved by the Engineer where not separately stated in the Price Schedules;
15. Protection, temporarily re-routing, removal, re-laying of existing utilities encountered inside the excavated pipe trench;
16. Erection of thrust and anchor blocks for buried pipelines in the dimensions required and approved by the Engineer, including over-excavation for blocks, provision and installation of formwork, provision and

installation of pipe protection wrapping, provision, cutting, bending, placing, connecting of reinforcement steel, provision of concrete in the required strength, pouring of concrete against formwork and undisturbed soil and curing and finishing of non-shuttered surfaces, striking of formwork after concrete has cured;

17. Erection of foundations for above ground laid pipelines in the dimensions required and approved by the Engineer, including excavation for foundations in normal soil and hard soil, chipping of rock for connection with concrete, provision and installation of anchors to be set in rock for good connection between rock and concrete foundations, provision and installation of formwork, provision, cutting, bending, placing, connecting of reinforcement steel, provision of concrete in the required strength, pouring of concrete against formwork and undisturbed soil and finishing of non-shuttered surfaces and curing, striking of formwork after concrete has cured, provision and installation of pipe fixing material (steel plates, bolts, nuts, washers, clamps, bracings, etc., as approved by the Engineer);
18. Installation of warning tapes on top of bedding above laid pipes if not otherwise stated in the Price Schedules;
19. Installation of metal tracking tape on top of bedding above laid plastic pipes if not otherwise stated in the Price Schedules;

Pipes inside Buildings

20. Installation works above floor or along walls or ceilings;
21. Procurement, installation of pipe supports, in case of concrete blocks: in the dimensions required and approved by the Engineer, including provision and installation of formwork, provision, cutting, bending, placing, connecting of reinforcement steel, provision of concrete in the required strength, pouring of concrete and curing, striking of formwork after concrete has cured, in case of steel supports: steel profiles, head plates, other steel members required and approved by the Engineer, Installation of pipe fixing material (steel members, bolts, nuts, washers, clamps, bracings, etc.,) as approved by the Engineer.

Creek Under-Crossings

Measurement

The length of creeks under-crossings shall be measured as shown in the Drawings.
The following works for creek under-crossings shall be measured itemized as stipulated below.

1. Earth works as per Section 2.3;
2. Pipe laying works as per Section 2.5;
3. Concrete works and steel reinforcement works as per Section 2.12 and 2.13;

Valve Chambers

Measurement

Gate Valve, Check Valve, Air Valve, Wash-Out Chambers shown in the Technical Specifications and Drawings as “Standard Detail” shall be counted.
Earth works, concrete works, and work for steel reinforcement for Standard Valve, Air Valve and Wash-Out , etc. Chambers shall not be measured.
Works for any valve chambers not shown in the Drawings as “Standard Detail” shall be measured itemized as stipulated in this Preamble except:

1. Chamber cover including frame,
2. Entry and exit ladders,
3. Ventilation pipes,
4. Construction of benches and pump pits,
5. Marker posts,
6. that the lengths of valves and fittings to be delivered deviate from the lengths as shown in the Drawings, subject to manufacturers’ particular specifications. If for this case the dimensions of the valve chambers change, the dimensions as per Drawings shall be used for payment. The Contractor may either benefit from reduced dimensions or shall bear the additional cost, as the case may be.
   If earth works are paid separately, as specified above, the excavation for valve chambers shall be covered by the individual rates for such items, as an extra-over rate to the rate for excavation of “pipe trench”.

Rates to be inclusive

The rates for valves and fittings shall include:

For all valve chambers:

1. Procurement and supply of manhole cover frames and covers, including supporting beams, connection material (anchors, bolts, nuts, washers) and locking bars, locks and keys, shipping and transport to Site, unloading at Site, temporary storage and protection during temporary storage, placing and casting of head plates for beams into concrete to lines and level, placing and assembly of covers to frames including opening mechanism (if any), fixing of supporting beams to head plates and concrete walls, metal jointing material, electrical energy, welding apparatus, curing of connections, including making good any defects in installation and connection workmanship, including factory and Site coating and making good any defects in coating;
2. Procurement and supply of entry and exit ladders / steps including connection material (anchors, bolts, nuts, washers), shipping and transport to Site, unloading at Site, temporary storage and protection during temporary storage, placing and casting of frames and head plates for fixing of ladders / steps to lines and level, placing and assembly and fixing of ladders to head plates and concrete walls, metal jointing material, electrical energy, welding apparatus, curing of connections, including making good any defects in installation and connection workmanship, including factory and Site coating and making good any defects in coating;
3. Procurement and supply of ventilation pipes including connection material (anchors, bolts, nuts, washers), shipping and transport to Site, unloading at Site, temporary storage and protection during temporary storage, casting of pipes into concrete ceiling to lines and level, pipe jointing material, electrical energy, welding apparatus, curing of connections, including making good any defects in installation and connection workmanship, including factory and Site coating and making good any defects in coating;
4. Construction of benches and pump pits with lean concrete inside the chamber or as recess in the reinforced soil slab;
5. Procurement and supply of marker posts including shipping and transport to Site, unloading at Site, temporary storage and protection during temporary storage, casting of marker posts into concrete to lines and level, earth works and concrete for concrete foundations, including making good any defects in installation workmanship;

For Check Valves, Air Valve and Wash-Out Chambers only:

6. Works for site clearance as per Section 2.1;
7. Works for breaking of existing road pavings as per Section 2.2 and road reinstatement as per Section 2.10;
8. Earth works as per Section 2.3;
9. Pipe laying works and works for valve and fittings as per Section 2.6;
10. Concrete works and steel reinforcement works as per Section 2.12 and 2.13;

For Wash-Out Chambers only:

11. Pipe laying works for wash-out pipe of any diameter, up to a length of 30.0 m;
12. Outflow structure at the end of the wash-out pipe.

Works for Trenchless Pipe Road Crossings (if so applied and decided)

Measurement

For payment purposes, solely the length of the casing pipe will be measured as further detailed in Section 2.6.1.

Any other work, like preparatory works, excavation for start and terminal shafts, installation of drilling machines, etc., will not be measured.

Rates to be inclusive

The rate is deemed to include:

1. Survey work necessary for setting out;
2. Preparation of space needed for drilling rig and conduit pipe welding plot;
3. Transport to site, install, make ready for operation, execute drilling, remove from site after drilling of horizontal directional drilling machine, bentonite mixing and processing plant, directional drilling stem and head, back reamer, pipe thruster (if needed), and all equipment, consumables, and spare parts needed for execution of the boring;
4. Supply / use / installation / read-out of locating and tracking devices, apparatus, etc.;
5. Construction of start and terminal shaft, including refill after pipe conduit and media pipe have been laid and successfully tested, including all earthworks as per Section 2.3,

6. Supply, transport to Site, installation of casing pipe, in the required diameter, material, and wall thickness and inclusive of casing spacers in the quality and no. needed, and of end seals to close the annular gap between conduit pipe and water pipe on both sides;
7. Monitoring, removal of groundwater and supply and installation of all needed equipment to monitor and remove groundwater;

Roads Surfaces and Road Reinstatement (if applicable)

Measurement

1. Quantities of earth works for sub-structure of roads shall be measured as surface area of the top road paving (to be measured from the Drawings), taken at the top of the road paving.
   Where a specific thickness of material has been stated in the Specifications or Bill of Quantities or Drawings, the area of material shall be used.
   Where no specific thickness was stated in the Contract Documents, the measured thickness of the layer of material that has been placed shall be multiplied with the area, measured as described above, to derive the volume of the layer of material that has been placed;
2. For earth works no deduction in measuring the area shall be made for manhole covers, gullies, and gutters;
3. Quantities of road pavings shall be measured as surface area of the top road paving (to be measured from the Drawings), taken at the top of the road paving, however, excluding width of gutters.
   Where a specific thickness of road paving has been stated in the Specifications or Bill of Quantities or Drawings, the area of road paving shall be used.
   Where no specific thickness was stated in the Contract Documents, the measured thickness of the layer of road paving that has been placed shall be multiplied with the area, measured as described above, to derive the volume of the layer of road paving that has been placed;
4. For road paving works no deduction in measuring the area shall be made for manhole covers, and gullies;
5. Curb stones and gutters shall be measured as linear length from the Drawings;
6. Manhole covers are counted in other Section of the Price Schedules;
7. Gullies shall be counted as per approved Drawings;

Rates to be inclusive

The rates shall include:

General

1. Construction of temporary reinstatement measures;
2. Making good of any damage to existing roads caused by traffic of Contractors vehicles and activities;
3. In case of new construction: Supply, transport to Site, temporary storage at Site,
   In case of re-instatement of roads: transport from temporary storage to Site
   In any case: installation and placing into lean concrete to line and levels of gutters, gullies, manhole covers, curb stones, including provision of lean concrete;
4. Sampling and testing of base material layers and paving layers at Site laboratory or at external laboratories;

Earth works (sub-structures) for Road Reinstatement

5. Earth works as per Section 2.3 for the base course(s), including rolling and compaction in layers as per Contract Specifications;
6. Extra quantities for protrusion of base course layer(s) from the edge of paving as shown in the Drawing;
7. Trimming and grading of base course surface to slope fall or gradients;
8. Provision, transport to Site, operation, maintenance of appropriate machines for spreading, grading and compaction;

Paving Works

9. Procurement, supply, transport to Site, preparation and application in accordance with the Contract and manufacturer's instruction of bituminous prime coat;
10. Procurement, supply, transport to Site, preparation and application of paving material, as specified in the Price Schedules and Drawings;
11. Any extra quantities for curved section jointing, pointing and expansion joints (if any);
12. Extra quantities for protrusion of paving layer(s) from the edge of road paving as shown in the Drawings;
13. In case of bituminous or asphalt paving: provision, transport to Site, operation, maintenance of appropriate machines for spreading, compaction, rolling;
14. In case of bituminous or asphalt paving: painting of road markings;

Concrete and Reinforced Concrete Works

Measurement

For the purpose of invoicing, the measurement of lean concrete and reinforced concrete shall be as follows:

1. Lean concrete below soils slabs and foundations; soil slabs; foundations; walls; columns; beams and lintels; ceilings; staircases (including steps, landings occurring between floor levels and strings) shall be measured from the approved Drawings, for each strength class of in situ concrete as itemized in the Bill of Quantities;
2. The length and width of lean concrete as blinding below foundations and soil slabs shall be measured as projection of the length and width of the foundation and soil slab under which the lean concrete is casted; Where a specific thickness of the lean concrete layer has been stated in the Specifications or Bill of Quantities or Drawings, the area calculated (by multiplying length with width) shall be used. Where no specific thickness was stated in the Contract Documents, the measured thickness of the lean concrete layer that has been placed shall be multiplied with the area, calculated as described above, to derive the lean concrete volume that has been placed.
3. Kickers of walls and columns will not be separately measured and are included into the measurements of walls and columns, respectively;
4. Projections, nibs and the like are included with the measurement of the adjacent concrete member;
5. Isolated columns are only measured as “column” when their width on drawings is not exceeding four times their thickness, otherwise those isolated columns shall be measured as “wall”;
6. Volume of in situ concrete is measured net except that deductions are not made for the following:

- Reinforcement;
- Sections of area not exceeding 0.50 m2;
- Cast in accessories and pipe parts;
- Voids not exceeding 0.1 m3 volume.

7. Lintels, sills and copings and the like shall be measured in meters length.
8. Concrete for pile heads shall not be measured. For measuring of pile heads refer to Section 2.14.

Rates to be inclusive

The rate shall include for:

1. Designing concrete mixes, preparation and testing of trial mixes;
2. Provision of all formwork parts (if not stated separately in the Bill of Quantities) and anchoring and bracing material, transport to Site, erection, assembly, shaping to dimensions as per Drawings, anchoring, bracing, providing openings, recesses, edges, splayed edges / sloped tops, grooves, chamfers, end of walls, sides of voids, fitting formwork around joints, fixing of cast in parts to positions and levels, all small items (like mails, screws, bolts, fixing and sealing material), erection of platforms needed for casting of concrete including access ladders / stairs and handrails;
3. Procurement and transport to Site of concrete in the approved mix, either from external batching plant (ready-mix concrete), or with Contractor’s own batching and mixing plant (then including procurement and transport to Site of water, aggregates, cement, concrete admixtures and additives), execution of all batch tests required by the Contract, provision of any tool for concrete compaction, incl. vibrators, provision of (spot)lights for casting at night, casting / placing in layers (any thickness, cross-sectional area or number of members, horizontal, sloped / sloping, vertical and curved work, any method of casting / pouring / placing, including pouring on or against earth or unblended hard-core), compaction, finishing as struck from formwork, protection and curing, final finishing sampling, transport of samples to laboratory, execution of laboratory tests as required by the Contract, execution of concrete non-destructive testing as ordered by the Engineer, concrete repair as ordered by the Engineer with approved repair methods and materials;
4. Striking of formwork after curing, cleaning and post-treatment of formwork parts, temporary storage of formwork ready for re-use or removal from site if formwork cannot be used anymore;
5. All sub-sequent works on concrete including working around pipes or cables, cutting channels, recesses, chiseling, chases, mortises, pockets and holes, subsequent grouting or filling including closing of anchor holes for formwork;
6. Provision and transport to Site of fillers and sealers for construction and movement joints, and bond breakers and installation of fillers and sealer and application of bond breakers;
7. Water tightness testing (if applicable and if not stated separately in the Bill of Quantities) including provision of water and filling of water (transport to Site, including provision of tankers, pumps, and operating cost for tankers and pumps) and provision and installation of measuring apparatus and instruments, execution of testing as per Contract specifications, making good any defects unveiled during testing including but not limited to resin injection, surface repair, and re-testing after repair;
8. Lean concrete below foundations and soil slabs: overlaps and protrusions reaching beyond the dimensions of foundations and soil slabs;
9. Extra width of concrete or formwork to edges of blinding beds;

10. Formwork or other form of temporary support to top of sloping upper surfaces of blinding beds;
11. Construction / movement joints and structural joints required in the forming of bars including formwork and treatment of reinforcement crossing the joint;
12. Formwork and reinforcement steel for lintels, sills and copings.

Steel Reinforcement

Measurement

For the purpose of invoicing, the measurement of steel reinforcement for concrete shall be as follows:

1. Measurement unit is ton of steel;
2. Only structural reinforcement steel shall be measured in accordance with the approved reinforcement drawings. Non-structural reinforcement steel like hooks, chairs, stools and the like shall not be measured. Structural steel bars needed to reinforce edges of smaller openings / voids / cast-in pipes with circumferential length of edge less than 2.00 m shall not be measured.
3. Different classes of steel strength (if any) shall be measured without any allowance for any of them.
4. Reinforcement steel for pile heads shall not be measured. For measuring of pile heads refer to Section 2.14.

Rates to be inclusive

The rate shall include for:

1. Preparing bar bending schedules;
2. Execution of all Site and laboratory tests required by the Contract;
3. Procurement of structural reinforcement steel (bars and mats) and non-structural steel (for hooks, spacers, chairs and the like) and transport to Site, temporary storage at Site (including necessary protection measures);
4. Provision of bending and cutting machines, bending and cutting of steel bars and mats at Site, including forming straight, bent and curved bars and links, hooks, chairs, stools, and the like;
5. Fixing bars, mats, hooks, chairs, spacers, etc. in any position and in any member, horizontally, vertically and sloped, any diameter, section and length of bars, lapping and jointing of bars and mats, including provision of tying wire and spacers;
6. Procurement, transport to Site, temporary storage at Site of all materials and tools needed for movement and construction joints, including water-stops, joint tape / metal sheet, and placing, jointing, and fixing of all materials / tapes / sheets including fitting reinforcement steel around joints;
7. Removal of any steel waste from Site;

Cast-in-place Concrete Piles (Not applicable)

Measurement

For the purpose of invoicing, the measurement of cast-in place concrete piles shall be as follows:

General

Supplying and placing cast-in-place concrete piles will be measured as product “A*” of longitudinal length (of pile, length measured from approved Drawings) and peripheral length of the pile cross-section (measured from approved Drawings). The so calculated A* to be paid for will be the total of all A* of each pile placed in position, successfully tested, and accepted by the Engineer. Any depths or diameter in excess of depth and diameter as approved in the Drawings shall not be measured.

Other works (either as specified in the Sections for Concrete and Reinforcement Steel above or as additionally needed for construction of the piles) will not be measured.

Pile heads for Pipe Bridges

Pile heads will be counted. Pile heads shall be counted itemized for three classes of pipes to be fixed on pile heads: Single large diameter pipes (ND > 400 mm), single small diameter pipes (ND <= 400 mm), double diameter pipes (both ND <= 400 mm).

Rates to be inclusive

The rate shall include for:

1. Survey work necessary for setting out;
2. Preparation of space needed for drilling rig and steel preparation plot;

3. Transport to site, install, make ready for operation, remove from site after drilling of suitable rotary drilling rig, bentonite mixing and processing plant (if needed), and all equipment, consumables, and spare parts needed for execution of the boring;
4. Procurement and transport to Site and of approved drill casings;
5. Execution of boring and driving down of steel casings, cleaning;
6. Dewatering the pile shaft as required to prepare the pile for concrete placement, if no underwater concreting method is being chosen;
7. Purchase, transport to Site, cutting and bending in accordance with drawings, inserting into steel casings and installation and connecting at Site for pile and pile head, of structural deformed reinforcement steel bars of any grade, and distance holders, as per Section 2.13.2;
8. Purchase, transport to Site, placing, compacting, curing, surface finishing during pouring and after hardening of concrete of any strength class for piles and pile heads, including uncovering of reinforcement steel at top of cast pile for connection of reinforcement steel of pile head, as per Section 2.14.2;
9. Pulling of steel casings during concreting;
10. Delivery to site, installation, connection, bracing, anchoring, and alignment of formwork for each pile head: underside, sides, including material for connecting, bracing, anchoring and removal of formwork after concrete has cured, cleaning, repair, transport to storage site, as per Section 2.12.2;
11. Any pile depth or diameter in excess of pile depth and diameter as approved in the Drawings;
12. Execution of static load test, including of provision of test weights, compilation of results and elaboration of test report, including removing of not accepted piles and replacement of not accepted piles.

Metal Work

Measurement

Handrails and ladders shall be measured by length, measured from the axes of posts in the centerline of handrails.

Gratings, checker plates, and sheet metal coverings shall be measured by area, measured as clear opening in ceilings.

All other items are measured by units as in listed in the Bill of Quantities and Drawings.

Rates to be inclusive

The rate shall include for:

1. Preparation and submission of shop drawing to be approved by the Engineer before manufacturing commences;
2. Procurement and supply of all metal members, profiles, plates, gratings, ironmongery, etc., including connection material (anchors, bolts, nuts, washers, clamps, brackets, gussets, etc.), hot dip galvanizing at the factory (if specified in the Contract), shipping and transport to Site, unloading at Site, temporary storage and protection during temporary storage, placing and casting of head plates for beams into concrete to lines and level, placing and assembly / jointing / fixing of metal members to each other and/or to concrete members, metal jointing material, electrical energy, welding apparatus, curing of connections, including making good any defects in installation and connection workmanship, including factory and Site coating (and supply of coating material according to the Specifications) and making good any defects in coating, including re-sending back to galvanizing workshop of steel members not accepted for galvanization by the Engineer and re-galvanizing and sending back to Site.
3. Support beams / profiles including head plates for gratings, checker plates, and sheet metal coverings, if necessary in case for too high spans for static reasons;
4. Frames and rebates for gratings, checker plates, and sheet metal coverings;
5. For handrails: sockets / base plates, posts, intermediate vertical members, mid rail, top rail, toe plates, for horizontal and sloped handrails,

Mechanical Works

Measurement

Mechanical works will be counted and paid itemized as per Bill of Quantities.

Rates to be inclusive

The lump sum rate for counted items shall include for:

1. Preparation and submission of equipment and material approval sheets and shop drawings to be approved by the Engineer before manufacturing commences;

2. Manufacture of equipment, transportation from place of manufacture to place of installation, including packing and disposal of packing materials, insurance, providing temporary storage place on Site, putting into storage, guarding, unpacking, and installation at relevant locations;
3. Providing necessary auxiliary erection equipment and machinery for erection of plant, transportation to Site, loading and unloading, all erection works, maintenance and repair works, depreciation, operation and dismounting;
4. Providing all kinds of materials, equipment, tools, energy, gas, oxygen, etc. required for supply and erection of plant, their transportation to Site, loading and unloading and all erection works;
5. The initial filling of the machines with oil, grease, coolant fill, fuel fill;
6. All necessary accessories including those necessary for the safe and vibration free mounting, e.g. heavy iron brackets with round bar clamps, in order to enable the Contractor to guarantee the correct running of the installation;
7. All fix installed or mobile lifting devices;
8. Labelling, tagging, and applying color codes;
9. Connecting all power and signal cables;
10. Putting to work and testing (cold and wet);
11. All kinds of electricity, fuel, oil, etc. required for the supply and erection works;

Electrical Works

Measurement

Electrical works will be counted and paid itemized as per Bill of Quantities, where applies, except cable lengths, which will be measured from approved Drawings.

Rates to be inclusive

General

The lump sum rate for counted items shall include for:

1. Preparation and submission of schematic drawings (single line diagrams, etc.), of equipment and material approval sheets, and shop drawings to be approved by the Engineer before manufacturing commences;
2. Manufacture of equipment, transportation from place of manufacture to place of installation, including packing and disposal of packing materials, insurance, providing temporary storage place on Site, putting into storage, guarding, unpacking, and installation at relevant locations;
3. Providing necessary auxiliary erection equipment and machinery for erection of plant, transportation to Site, loading and unloading, all erection works, maintenance and repair works, depreciation, operation and dismounting;
4. Providing all kinds of materials, equipment, tools, energy, etc. required for supply and erection of plant, their transportation to Site, loading and unloading and all erection works;
5. Cutting away and making good and all other necessary builders work;
6. Painting and coating;
7. All fix installed or mobile lifting devices;
8. Labelling, tagging, and applying color codes;
9. Connecting all power and signal cables;
10. Putting to work and testing;

Main Distribution Boards and Lighting Distribution Boards, and the like, additional:

11. The complete units as specified including casing, sleeves, all supports, concrete works like ducts and beds, metal works like frames and shaping and adapting the trenches covers and painting all units as specified in included in the item;
12. Circuit breakers, PLCs, contactors, timers, meters, transformers, signal lamps, main and feeder devices, and the like;
13. All conduits and cables glands, internal wiring, cables supports, accessories, necessary to connect the item to its controlling panel board or source of supply with earthing all complete;

Cables

The rate for cables shall include for:

14. Needed excavation, backfilling, compaction, re-instatement and concrete works like manholes, handholes (at any depth), ducts outside operation rooms, trays, pipes and pipes accessories;
15. Needed motors junction boxes and their stands;
16. Cable ends, splices, marking, danger alert tapes and cables tiles;
17. Needed junction boxes and handholes;

18. All conduits and cables glands, internal wiring, cables supports, accessories, necessary to connect the item to its controlling panel board or source of supply with earthing all complete;
19. Labelling, tagging, and applying color codes;
20. Complete megger testing after installation of cables;

Fences and Landscaping (if applicable)

Measurement

Length of fences shall be measured as shown in the approved Drawings.
Gates and man-gates shall be counted.
The Area for landscaping shall be measured as shown in the approved Drawings.

Rates to be inclusive

Fence

Procurement and supply of posts, rails, rods, pickets, struts, bars, mesh-wire, tension bars for mesh wire, connection and fixing material (like bolts, nuts, washers, clamps, tension bands, etc.) including shipping and transport to Site, unloading at Site, temporary storage and protection during temporary storage, execution of earth works and procurement of (reinforced) concrete, pouring of concrete foundations, casting of posts into concrete to plumb and true to lines, assembly of all fence elements, including making good any defects in installation workmanship;

Gates

Procurement and supply of hinge posts, rails, rods, pickets, struts, bars, frames, mesh-wire, tension bars for mesh wire, hinges, drop rod, latches, locks, keys, connection and fixing material (like bolts, nuts, washers, clamps, tension bands, etc.) including shipping and transport to Site, unloading at Site, temporary storage and protection during temporary storage, execution of earth works and procurement of (reinforced) concrete, pouring of concrete foundations, casting of hinge posts into concrete to plumb and true to lines, assembly of all gate elements, including making good any defects in installation workmanship;

Landscaping

Procurement and supply, transport to Site, intermediate storage at Site, spreading and trimming of top soil.

Lump Sums

Payment against all lump sums (excluding Provisional Sums) shall be made by instalment proportional to the extent to which in the opinion of the Engineer the relevant work has been executed.

Dayworks

Measurement

1. All items are measured by units as in listed in the Price Schedules;
2. Operating time and working hours shall be measured net, without break or rest time, time, idle time, down time, standing still time, whether on or off the Site, nor time needed for transport to and from Site;
3. A “day” is considered to be a normal working day of 8 hours. Fractions of a day will be paid for “pro rata”.
4. Overtime of labor – if instructed by the Engineer - shall be measured at the rates entered in the Schedule of Dayworks, however, increasing the work time proportional to the increase of gross staff cost to the Contractor when paying overtime to his workers. For example: If a labor worked 1.0 working hour overtime for which the rate of gross staff cost is 50% higher, payment to the Contractor shall be made for 1.5 working hours at the rate entered in the Daywork Schedule.
5. Overtime rates are to be included in the percentage for overheads and profit.
6. If any material / equipment / personnel to be paid by using the Daywork Schedule does not readily belong to any classification included in the Daywork Schedule, the Engineer shall determine the equivalent classification to be adopted for such material / equipment / personnel, and payment for such will be made accordingly.
7. If – in the Engineer’s opinion – an equivalent classification is not possible, payment for material / equipment / personnel to be paid by using the Daywork Schedule shall be at rates and prices to be agreed upon between the Engineer and the Contractor.

Rates to be inclusive

The rate shall include for:

General

The unit rates for materials, plant and labor shall include all overhead, margin and profits, and shall not be subjected to the percentage addition.

Contractor's Material

1. The unit rates for imported materials, plant, and goods shall include insurance, freight, dock, and customs charges and all other charges. In the case of imported materials, plant, and goods, obtained through a manufacturer's agent, the sum shall be deemed to include the agents fees and charges.
2. The unit rates for materials, plant and labor shall include all the Contractor's obligations whatsoever in purchasing, providing, transporting to Site, storing / handling / stockpiling at Site, removal of surplus material, maintenance and cleaning of temporary storage sites.
3. Contractor's Equipment
4. The unit rates for equipment in the Daywork Schedule shall apply to all equipment whether belonging to the Contractor or hired by him and shall cover all the Contractor's obligations whatsoever in purchasing, providing, renting, transporting to Site, operating, maintaining, repairing, overhauling, replacing such equipment at the Site, including all fuels, lubricants, coolants, and other consumables, spare and replacement parts, and all auxiliary/ancillary equipment necessary for efficient operation and use of the equipment, but excluding the cost for operator or driver (who shall be paid separately as labor).

Labor

5. All labor, whether on the Contractor's own payroll or self-employed or provided under any form of sub-contract;
6. All the Contractor's obligations whatsoever in employing, providing, hiring such labor at home office or at Site, including wages, payment for conditions and for skill, bonuses, paid holidays, paid sick leave, end of term gratuities, allowances for travelling, for accommodation, for subsistence, for expenses, for guaranteed time, and any other fringe benefit, insurance of all kinds, pensions, transport from and to Site, accommodation at Site;
7. The cost of all supervisory staff, including the Contractor's representative, project manager, engineers, foremen, gangers, clerks, store-men, timekeepers, watchmen etc.;
8. Provision, use, and maintenance of protective clothing, of small tools, temporary tracks, ladders, scaffolding, light, and all items of a similar nature unless these are listed separately ion the Daywork Schedule.
9. All incidental expenses.

Rehabilitation and Modernisation of Raw Water Intake Mytkiv and Water Treatment Plant Vikno
Line 3

PRICE SCHEDULE NO. 1
GENERAL ITEMS

ITEM NO.	DESCRIPTION	UNIT	Q-TY	Summary price excluding VAT, EUR	Summary price including VAT, EUR
1.1	Preparation of Detailed Design Documentation (Stage R), including coordination and approvals of the Detailed Design in accordance with Ukrainian legislation and regulations	L.S	1		
1.2	Site Engineering Surveys and Measurements	L.S.	1		
1.3	Quality assurance system establishment and implementation during design and works performance (incl. CMS, Site Diaries, etc.).	L.S.	1		
1.4	Insurances, facilities, transport and equipment for the Engineer and his Assistants incl. operation costs as specified in the Requirements	L.S.	1		
1.5	Erection and operation cost of all Contractor's temporary installations and facilities, including permit from local authority for site organization offices, accommodation, workshops, storages, etc.	L.S.	1		
1.6	Environmental Protection, Health and Safety related activities (ESHS) incl. signboards, traffic signs, temporary protection fences, cleaning of the site and vehicles, etc. as specified in the Requirements	L.S.	1		
1.7	Sampling, testing of all materials and Works on site and all tests to be performed by the Certified Laboratory (ies).	L.S.	1		
1.8	Equipment performance tests preparation and submission of the documents for Taking Over as specified in the Requirements not included into permanent works	L.S.	1		
1.9	Preparation and submission of “As Built” Drawings together with Taking Over documents as specified in the Requirements	L.S.	1		
1.10	Removal of all Contractor's temporary installations and facilities after issuance of the Taking Over Certificate	L.S.	1		
TOTAL CARRIED FORWARD TO GRAND SUMMARY					

Name:

In capacity of

Signed

Duly authorized to sign the bidder for and on behalf of (bidder name)

_____

Dated on____day of _____

Rehabilitation and Modernisation of Raw Water Intake Mytkiv and Water Treatment Plant Vikno
Line 3

PRICE SCHEDULE No.2

Works Launch Complex (LC) 1 - Mytkiv Surface Raw Water Intake

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
		1	2	3	4	5
1	Preparatory works					
1.1	Disassembly of road asphalt concrete pavements and its foundations	m^3	112			
1.2	Disassembly of pavements and crushed stone foundations	m^3	240			
1.3	Transportation of construction waste by dump trucks at a distance of 30 km	t	670			
1.4	Cutting of vegetation soil layer with a bulldozer with relocation of soil up to 10 m, group of soils 1	m^3	160			
2	Dismantling works					
2.1	Dismantling of steel water supply pipelines B1.1 DN 800	m	20			
2.2	Dismantling of steel water supply pipelines B1.2 DN 1000	m	10			
2.3	Dismantling of steel water supply pipelines B1.3 DN 800	m	16			
2.4	Dismantling of steel water supply pipelines B1.4 DN 800	m	17			
2.5	Dismantling of steel water supply pipelines B1.5 DN 800	m	13			
2.6	Dismantling of steel water supply pipelines B1.6 DN 500	m	28			
2.7	Dismantling of steel water supply pipelines B1.7 DN 500	m	14			
2.8	Dismantling of steel water supply pipelines B1.8 DN 1000	m	112			
2.9	Dismantling of steel water supply pipelines B1.9 DN 1000	m	90			
2.10	Dismantling of steel water supply pipelines B1.10 DN 1000	m	15			
2.11	Water hammer suppressing chamber 1					
2.11.1	Dismantling of cover slabs with supports on both sides and area up to 5 m^2	psc.	4			
2.11.2	Dismantling of ductile iron lifting return valves, flanged rotary return valves for PN 25, DN 800	psc.	2			
2.11.3	Dismantling of steel flanges for pipelines DN 800	psc.	4			
2.12	Water hammer suppressing chamber 2					
2.12.1	Dismantling of cover slabs with supports on both sides and area up to 5 m^2	psc.	4			
2.12.2	Dismantling of ductile iron lifting return valves, flanged rotary return valves for PN 25, DN 800	psc.	2			
2.12.3	Dismantling of steel flanges for pipelines DN 800	psc.	4			
2.13	Water hammer suppressing chamber 3					
2.13.1	Dismantling of ductile iron lifting return valves, flanged rotary return valves for PN 25, DN 800	psc.	1			
2.13.2	Dismantling of steel flanges for pipelines DN 800	psc.	2			
2.14	Water supply chambers 1,3,5,6,7					
2.14.1	Dismantling of manhole cover	psc.	5			

2.14.2	Dismantling of manhole slabs of prefabricated reinforced concrete round manholes	m^3	1			
2.14.3	Dismantling of rings of prefabricated reinforced concrete round manholes	m^3	2			
2.14.4	Dismantling of cover slabs with an area up to 5 m^2 at the largest weight of assembly elements up to 5 tons	psc.	5			
2.15	Water supply chambers 4					
2.15.1	Dismantling of manhole cover	psc.	1			
2.15.2	Dismantling of manhole slabs of prefabricated reinforced concrete round manholes	m^3	1			
2.15.3	Dismantling of rings of prefabricated reinforced concrete round manholes	m^3	1			
2.15.4	Dismantling of cover slabs with an area up to 5 m^2 at the largest weight of assembly elements up to 5 tons	psc.	1			
2.16	Water supply chambers 1,3,4,5,6,7					
2.16.1	Dismantling of DN 100 ductile iron check valves	psc.	6			
2.16.2	Dismantling of the corresponding flanges to steel pipelines DN 100	psc.	15			
2.16.3	Dismantling of DN 50 ductile iron valves	psc.	3			
2.16.4	Dismantling of the corresponding flanges to steel pipelines DN 50	psc.	6			
2.16.5	Dismantling of the flanged ductile iron valves for PN 10, DN 1400	psc.	1			
2.16.6	Dismantling of the corresponding flanges to steel pipelines DN 1400	psc.	2			
2.16.7	Dismantling of the steel weld fittings DN 100-250 – branches	psc.	2			
2.16.8	Dismantling of the double air vavles	psc.	3			
2.17	Pumping Station					
2.17.1	Dismantling of the oil circuit breaker with a drive	psc.	3			
2.17.2	Dismantling of the current transformer with voltage up to 20 kV	psc.	9			
2.17.3	Dismantling of the able up to 35 kV, installed using overlaying fastening brackets	m	120			
3	Civil works					
3.1	PS: foundation of the pump unit №1					
3.1.1	Disassembly of the concrete foundations	m^3	4			
3.1.2	Loading of construction waste on dump trucks by excavators and transportation of construction waste by dump trucks at a distance of 30 km	t	10			
3.1.3	Treatment of surface of the reservoir structures with sandblasting machine	m^2	9			
3.1.4	Construction of reinforced concrete foundations of general purpose, volume up to 5 m^3 including additional works on construction of the complex foundations	m^3	4			
3.1.5	Installation and pathing up of the foundation anchor bolts M24x300	psc.	10			
3.1.6	Formation of 20 mm thick cement coating	m^2	9			
3.1.7	Preparation of heavy cement mortars, grade 400	m^3	1			
3.2	PS: foundation of the pump unit №4					
3.2.1	Disassembly of the concrete foundations	m^3	2			
3.2.2	Loading of construction waste on dump trucks by excavators and transportation of construction waste by dump trucks at a distance of 25 km	t	3			
3.2.3	Strengthening of reinforced concrete foundations for equipment with a volume of up to 10 m^3 in one spot	m^3	2			
3.2.4	Installation and pathing up of the foundation anchor bolts M20x260	psc.	8			
3.2.5	Formation of 20 mm thick cement coating	m^2	9			
3.2.6	Preparation of heavy cement mortars, grade 400	m^3	1			

3.3	PS: above zero elevation					
3.3.1	Dismantling of corrugated steel flooring for underfloor channels	m^2	14			
3.3.2	Cleaning of the structure's surfaces from moss by the hydrojet machine	m^2	5			
3.3.3	Coating of metal beams up to 250 mm wide with rust converter using a brush, cleaning of surfaces with brushes, priming with GF-021 primer in one layer and painting of metal primed surfaces with enamel PF-115 in 2 layers	m^2	10			
3.3.4	Installation of corrugated steel flooring for underfloor channels including cutting of corrugating steel sheets, thickness 6 mm	m^2	15			
3.3.5	Priming of concrete and plastered surfaces, applying of the renewed protective layer of horizontal concrete and reinforced concrete structures at thickness of layer of repaired material 10 mm (5-20 mm) $h_{aver.}$ = 12 mm	m^2	50			
3.3.6	Priming of walls (the first layer), plastering of concrete surfaces with polymer cement plaster (vertical surface, layer thickness 2 mm on top of the repair solution layer)	m^2	40			
3.3.7	Construction of 36 mm thick wooden board flooring	m^2	1			
3.3.8	Improved painting of the floor with oil paint on wood	m^2	8			
3.3.9	Priming of the base, applying of 20 mm thick cement screeds, construction of ceramic tile flooring on top of solution from dry glue mix, amount of tiles per 1 m^2 up to 7 pcs.	m^2	12			
3.3.10	Coating and stitching the seams of the ceiling panels with mortar from the bottom side	m	228			
3.3.11	Priming of concrete and plastered ceiling surfaces, applying of the renewed protective layer of concrete and reinforced concrete structures at thickness of layer of repaired material 10 mm	m^2	44			
3.3.12	Coating of metal underfloor cable channels up to 250 mm wide with rust converter using a brush, cleaning of surfaces with brushes, priming with GF-021 primer in one layer, painting of metal primed surfaces with enamel PF-115 in 2 layers	m^2	70			
3.3.13	Priming of the flooring, renovation of 20 mm thick cement screeds with excluding for every 5 mm thickness change of cement screeds up to 15 mm	m^2	30			
3.3.14	Manual cleaning of simple facades from moss	m^2	21			
3.3.15	Priming of walls (first layer – antiseptic)	m^2	40			
3.3.16	Priming of concrete and plastred stairs with varnish (first layer), applying of the renewed protective layer of stairs at thickness of layer of repaired material 10 mm	m^2	4			
3.4	PS: roofing and facade					
3.4.1	Disassembly of roofing of rolled materials and cement screed	m^2	221			
3.4.2	Loading of construction waste on dump trucks by excavators and transportation of construction waste by dump trucks at a distance of 30 km	t	12			
3.4.3	Applying the bituminous primer, construction of pitched roofs made of heat-weld materials in two layers	m^2	240			
3.4.4	Coating and stitching the seams of the ceiling panels with mortar from the bottom side	m	228			
3.4.5	Preparation of horizontal concrete surfaces of ceiling, applying of the renewed protective layer of horisontal concrete and reinforced concrete structures at thickness of layer of repaired material 10 mm (5-20 mm) $h_{aver.}$=12 mm	m^2	20			

3.4.6	Applying of 15 mm thick sand and cement leveling screeds	m^2	50			
3.4.7	Installation of parapets of galvanized steel sheets	m^2	18			
3.4.8	Restoration of roof framing (installation of purlin bars on top of trusts and fire protection of wooden constructions)	m^3	1			
3.4.9	Sealing of cracks and seams in concrete and reinforced concrete structures with polycement solution, cross section area up to 5 cm^2, seams on top of vertical surface	m	341			
3.4.10	Preparation of concrete surfaces subject to repair (vertical surfaces with exposed reinforced bars), plastering of concrete surfaces with polymer cement plaster	m^2	40			
3.4.11	Preparation of ramp surfaces, applying of the renewed protective layer of ramp surfaces at thickness of layer of repaired material 10 mm	m^2	60			
3.4.12	Cleaning of the structure's surfaces from moss by the hydrojet machine	m^2	45			
3.4.13	Sealing of cracks and seams in concrete and reinforced concrete structures with polycement solution, cross section area up to 5 cm^2, seams on top of vertical surface	m	456			
3.4.14	Coating of metal beams up to 250 mm wide	m^2	70			
3.4.15	Installation and dismantling of tubular scaffolding up to 16 m high for the exterior facade works	m^2	40			
3.4.16	Installation and dismantling of tubular scaffolding up to 20 m high for the interior facility works	m^2	221			
3.5	PS: below zero elevation (flooring, walls, stairs)					
3.5.1	Coating and stitching the seams of the ceiling panels with mortar from the bottom side	m	228			
3.5.2	Preparation of horizontal concrete surfaces subject to repair, applying of the renewed protective layer of horisontal concrete and reinforced concrete structures at thickness of layer of repaired material 10 mm (5-20 mm) $h_{aver.}$=12 mm	m^2	36			
3.5.3	Preparation of beams surfaces subject to repair (ceiling surfaces with exposure of reinfocing bars), plastering with polymer cement plaster (ceiling surface, layer thickness 2 mm)	m^2	10			
3.5.4	Coating of metal underfloor cable channels up to 250 mm wide with rust converter using a brush, priming with GF-021 primer in one layer, painting of metal primed surfaces with enamel PF-115 in 2 layers	m^2	60			
3.5.5	Priming of concrete and plastred flooring surfaces	m^2	15			
3.5.6	Applying of the renewed protective layer of flooring at thickness of layer of repaired material 10 mm	m^2	30			
3.5.7	Priming of walls (the first layer), plastering with polymer cement plaster (vertical surface, layer thickness 2 mm)	m^2	180			
3.5.8	Filling of exterior joints of wall panels with mastic	m	568			
3.5.9	Coating of metal beams up to 250 mm wide with rust converter using a brush, cleaning of surfaces with brushes, priming with GF-021 primer in one layer, painting of metal primed surfaces with enamel PF-115 in 2 layers	m^2	229			
3.5.10	Installation and dismantling of tubular scaffolding up to 20 m high for the interior facility works	m^2	36			
3.6	PS: service area					
3.6.1	Production and installation of steel N 20 H-beams (on top of reinforced concrete and stone supports)	t	1			

3.6.2	Production of elements for service platforms of the equipment and pipelines, installation of platforms with a flooring and a fencing from sheet, corrugated, plain and round steel	t	1			
3.6.3	Priming of metal surfaces with GF-021 primer in one layer, painting of metal primed surfaces with enamel PF-115 in 2 layers	m^2	67			
3.7	Pump station					
3.7.1	Filling of openings, nests and cracks up to 0.1 m^2 in reinforced concrete walls and partitions with concrete	m^3	1			
3.8	Air valve chamber + valve type ВК-4					
3.8.1	Laying of ПТ8-11.9 cover slabs with the area up to 1 m^2 (0.2 t, V = 0.079 m^3)	psc.	1			
3.8.2	Drilling of openings in reinforced concrete structures, opening's diameter 60 mm, depth of drilling 200 mm	psc.	16			
3.8.3	Construction and installation of ladder brackets using hot rolled reinforcing steel of periodic profile, class A-III, diameter 16 mm	kg	16			
3.8.4	Injection of polymer solutions in cracks, seams and openings in stone structures, cross-sectional area of the crack or seam up to 2.5 cm^2 (vertical surfaces of structures)	m	50			
3.8.5	Priming of concrete and plastered surfaces, applying of the renewed protective layer of concrete and reinforced concrete structures at thickness of layer of repaired material 10 mm (vertical surfaces), painting of interior walls with lime solutions on top of plaster layer including preparation of surfaces	m^2	26			
3.8.6	Drilling of horizontal openings in reinforced concrete structures with a depth of 200 mm and a diameter of 160 mm	psc.	1			
3.8.7	Construction and installation of a cap support with steel electrically weld pipes with a diameter of 159x4 mm	m	2			
3.8.8	Installation of protective caps made of steel sheets above round-shaped shafts DN 200 - for the chimney	cap	1			
3.8.9	Priming of metal surfaces with GF-021 primer in one layer, painting of metal primed surfaces with enamel PF-115 in 2 layers	m^2	1			
3.9	Air release valve chamber					
3.9.1	Laying of ПТ8-11.9 cover slabs with the area up to 1 m^2 (0.2 t, V = 0.079 m^3)	psc.	5			
3.9.2	Drilling of openings in reinforced concrete structures, opening's diameter 60 mm, depth of drilling 200 mm	psc.	80			
3.9.3	Construction and installation of ladder brackets	kg	81			
3.9.4	Injection of polymer solutions in cracks, seams and openings in stone structures, cross-sectional area of the crack or seam up to 2.5 cm^2 (vertical surfaces of structures)	m	150			
3.9.5	Priming of concrete and plastered surfaces, applying of the renewed protective layer of concrete and reinforced concrete structures at thickness of layer of repaired material 10 mm (vertical surfaces), painting of interior walls with lime solutions on top of plaster layer including preparation of surfaces	m^2	80			
3.9.6	Drilling of horizontal openings in reinforced concrete structures with a depth of 200 mm and a diameter of 160 mm	psc.	5			
3.9.7	Construction and installation of a cap support with steel electrically weld pipes with a diameter of 159x4 mm	m	11			
3.9.8	Installation of protective caps made of steel sheets above round-shaped shafts DN 200 - for the chimney	cap	5			

3.9.9	Priming of metal surfaces with GF-021 primer in one layer, painting of metal primed surfaces with enamel PF-115 in 2 layers	m^2	5			
3.10	Bischarge chamber type МК-1					
3.10.1	Installation of prefabricated round reinforced concrete wells in dry soils (bottom slabs 1 pcs.)	m^3	1			
3.10.2	Injection of polymer solutions in cracks, seams and openings in stone structures, cross-sectional area of the crack or seam up to 2.5 cm^2 (vertical surfaces of structures)	m	50			
3.10.3	Priming of concrete and plastered surfaces, applying of the renewed protective layer of concrete and reinforced concrete structures at thickness of layer of repaired material 10 mm (vertical surfaces), painting of interior walls with lime solutions on top of plaster layer including preparation of surfaces	m^2	22			
3.11	Water hammer suppressing chambers 1,2					
3.11.1	Waterproofing of walls, bituminous side foundation coating in 2 layers on top of leveled surface of rubble masonry, brick, concrete, coating with polyvinyl chloride membranes for underground construction	m^2	112			
3.11.2	Installation of manhole covers ЛЗБ4	psc.	4			
3.11.3	Waterproofing of seams in reinforced concrete walls by injection method, seam's cross section 20 mm x 100 mm, without water filtration when reducing the cross-section area of the seam over 20 cm^2 for every 5 cm^2 up to 5 cm^2	m of seam	136			
3.11.4	Priming of concrete and plastered surfaces with varnish (first layer), applying of the renewed protective layer of horizontal concrete and reinforced concrete structures at thickness of layer of repaired material 10 mm (5-20 mm) h = 10 mm	m^2	90			
3.11.5	Drilling of openings in reinforced concrete structures, opening's diameter 60 mm, depth of drilling 200 mm	psc.	96			
3.11.6	Construction and installation of ladders brackets	kg	64			
3.11.7	Oil painting of ladders	m^2	1			
3.11.8	Painting of interior walls with lime solutions on top of plaster layer including preparation of surfaces	m^2	100			
3.12	Water hammer suppressing chamber 3					
3.12.1	Waterproofing of walls, bituminous side foundation coating in 2 layers on top of leveled surface of rubble masonry, brick, concrete, coating with polyvinyl chloride membranes for underground construction	m^2	45			
3.12.2	Installation of manhole covers ЛЗБ4	psc.	2			
3.12.3	Waterproofing of seams in reinforced concrete walls by injection method, seam's cross section 20 mm x 100 mm, without water filtration when reducing the cross-section area of the seam over 20 cm^2 for every 5 cm^2 up to 5 cm^2	m of seam	68			
3.12.4	Priming of concrete and plastered surfaces with varnish (first layer), applying of the renewed protective layer of horizontal concrete and reinforced concrete structures at thickness of layer of repaired material 10 mm (5-20 mm) h = 10 mm	m^2	30			
3.12.5	Drilling of openings in reinforced concrete structures, opening's diameter 60 mm, depth of drilling 200 mm	psc.	24			
3.12.6	Construction and installation of ladders brackets using hot rolled reinforcing steel of periodic profile, class A-III, diameter 16 mm	kg	61			
3.12.7	Oil painting of ladders	m^2	1			

3.12.8	Painting of interior walls with lime solutions on top of plaster layer including preparation of surfaces	m^2	33			
3.13	Water supply chambers 1,3,5,6,7					
3.13.1	Installation of prefabricated round reinforced concrete wells in dry soils	m^3	6			
3.14	Water supply chambers 4					
3.14.1	Installation of prefabricated round reinforced concrete wells in dry soils	m^3	1			
3.15	Water hammer chamber 1: stage 1					
3.15.1	Disassembly of roofing from rolled materials and cement screed	m^2	71			
3.15.2	Loading of waste on dump trucks by excavators	t	4			
3.15.3	Dismantling of single crane beams at elevation up to 25 m and weighing up to 1 ton	t	2			
3.15.4	Dismantling of cover slabs with supports on both sides and area up to 10 m^2	psc.	9			
3.15.5	Transportation of prefabricated reinforced concrete elements with a length from 6.6 to 12 m by general purpose vehicles at a distance of 30 km	t	8			
3.15.6	Disassembly of brick walls	m^3	5			
3.15.7	Loading of waste on dump trucks by excavators and transportation of construction waste by dump trucks at a distance of 30 km	t	4			
3.15.8	Dismantling of platforms with flooring and fence	t	4			
3.15.9	Disassembly of wooden doorway openings	m^2	3			
3.15.10	Disassembly of wooden window openings including window sills boards	m^2	5			
3.15.11	Manual waste loading and transportation of construction waste by dump trucks at a distance of 30 km	kg	100			
3.15.12	Filling of window openings in stone walls with prefabricated metalplastic blocks 1760x1340	m^2	5			
3.15.13	Installation of metal double door blocks 2100x1320 with steel boxes	m^2	3			
3.15.14	Preparation of beams surfaces subject to repair (vertical surfaces with exposed reinforcing bars), priming of walls, the first layer - antiseptic (mold treatment), applying of the renewed protective layer at thickness of layer of repaired material 10 mm (ceiling surfaces)	m^2	64			
3.15.15	Priming of concrete and plastered surfaces with varnish (first layer), applying of the renewed protective layer at thickness of layer of repaired material 10 mm (vertical surfaces)	m^2	88			
3.15.16	Masonry works of simple exterior brick (ceramic) walls at a height of a floor over 4 m (dimention 250x120x65 mm, grade M200 - 788 pcs.)	m^3	2			
3.15.17	Stitching of seams of the previously applied masonry brickwork, priming of walls, the first layer - antiseptic (mold treatment), improved plastering of masonry walls manually with cement and lime mortar, improved painting of walls with polyvinyl acetate water-emulsion based mixes on top of plaster	m^2	114			
3.15.18	Priming of wall jambs (the first layer), installation of a metal grid base for plastering	m^2	4			
3.15.19	Plastering of flat stone jambs with cement and lime solution at width up to 200 mm a=40 mm	m	13			
3.15.20	Improved painting of walls with polyvinyl acetate water-emulsion based mixes on top of plaster	m^2	4			
3.15.21	Drying of the floor with fire	m^3	1			

3.15.22	Applying of self-leveling screeds from 5 mm thick solution with adding for every 1 mm of self-leveling screeds thickness, up to 10 mm	m^2	60			
3.16	Water hammer chamber 1: stage 2					
3.16.1	Installation of steel H-shape beams N 24 (on top of reinforced concrete and stone supports)	t	2			
3.16.2	Priming of metal surfaces of beams with GF-021 primer in one layer, painting of metal primed surfaces with enamel PF-115 in 2 layers	m^2	53			
3.16.3	Installation of a roofing cover from set of a sandwich panel TPK 160/200 (screws+sealant+adhesive sealant) - Installation of either painted or not painted structures supplied in packages	m^2	67			
3.16.4	Installation of parapets from galvanized steel sheets	m^2	5			
3.16.5	Construction of belts in framework	m^3	4			
3.16.6	Construction and installation of embedded parts weighing more than 10 kg to 20 kg	kg	141			
3.16.7	Priming of metal surfaces with GF-0119 primer in one layer	m^2	4			
3.16.8	Masonry works of simple exterior brick (ceramic) walls at a height of a floor over 4 m (dimention 250x120x65 mm, grade M200)	m^3	6			
3.17	Service areas of the water hammer suppressing chamber №1					
3.17.1	Installation of steel H-shape beams (on top of reinforced concrete and stone supports)	t	1			
3.17.2	Production of elements of platforms for servicing of the equipment and pipelines, installation of platforms with a flooring and a fencing from sheet, corrugated, plain and round steel	t	3			
3.17.3	Construction of the metal fence L=21 m	kg	263			
3.17.4	Priming of metal surfaces with GF-021 primer in one layer and painting of metal primed surfaces with enamel PF-115 in 2 layers	m^2	177			
3.18	Water hammer chamber 2: stage 1					
3.18.1	Disassembly of roofing from rolled materials and cement screed	m^2	71			
3.18.2	Loading of waste on dump trucks by excavators	t	4			
3.18.3	Dismantling of single crane beams at elevation up to 25 m and weighing up to 1 ton	t	2			
3.18.4	Dismantling of cover slabs with supports on both sides and area up to 10 m^2	psc.	9			
3.18.5	Transportation of prefabricated reinforced concrete elements with a length from 6.6 to 12 m by general purpose vehicles at a distance of 30 km	t	8			
3.18.6	Disassembly of brick walls	m^3	5			
3.18.7	Loading of waste on dump trucks by excavators and transportation of construction waste by dump trucks at a distance of 30 km	t	4			
3.18.8	Dismantling of platforms with flooring and fence	t	4			
3.18.9	Disassembly of wooden doorway openings	m^2	3			
3.18.10	Disassembly of wooden window openings including window sills boards	m^2	5			
3.18.11	Manual waste loading and transportation of construction waste by dump trucks at a distance of 30 km	kg	100			
3.18.12	Filling of window openings in stone walls with prefabricated metalplastic blocks 1760x1340	m^2	5			
3.18.13	Installation of metal double door blocks 2100x1320 with steel boxes	m^2	3			
3.18.14	Preparation of beams surfaces subject to repair (vertical surfaces with exposed reinforcing bars),	m^2	64			

	priming of walls, the first layer - antiseptic (mold treatment), applying of the renewed protective layer at thickness of layer of repaired material 10 mm (ceiling surfaces)					
3.18.15	Drying of the floor with fire	m^3	1			
3.18.16	Applying of self-leveling screeds from 5 mm thick solution with adding for every 1 mm of self-leveling screeds thickness, up to 10 mm	m^2	60			
3.18.17	Priming of wall surfaces (first layer), improved painting of walls on top of grid without construction of frame	m^2	88			
3.18.18	Masonry works of simple exterior brick (ceramic) walls at a height of a floor over 4 m (dimention 250x120x65 mm, grade M200 - 788 pcs.)	m^3	2			
3.18.19	Stitching of seams of the previously applied masonry brickwork, priming of walls, the first layer - antiseptic (mold treatment), improved plastering of masonry walls manually with cement and lime mortar, improved painting of walls with polyvinyl acetate water-emulsion based mixes on top of plaster	m^2	114			
3.18.20	Priming of wall jambs (the first layer), installation of a metal grid base for plastering	m^2	4			
3.18.21	Plastering of flat stone jambs with cement and lime solution at width up to 200 mm a=40 mm	m	13			
3.18.22	Improved painting of walls with polyvinyl acetate water-emulsion based mixes on top of plaster	m^2	4			
3.19	Water hammer chamber 2: stage 2					
3.19.1	Masonry works of simple exterior brick (ceramic) walls at a height of a floor over 4 m (dimention 250x120x65 mm, grade M200)	m^3	6			
3.19.2	Construction of belts in framework - БМ-1	m^3	4			
3.19.3	Construction and installation of embedded parts weighing more than 10 kg to 20 kg	kg	141			
3.19.4	Priming of metal surfaces with GF-0119 primer in one layer	m^2	4			
3.19.5	Installation of steel H-shape beams N 24 (on top of reinforced concrete and stone supports)	t	2			
3.19.6	Priming of metal surfaces of beams with GF-021 primer in one layer, painting of metal primed surfaces with enamel PF-115 in 2 layers	m^2	53			
3.19.7	Installation of a roofing cover from set of a sandwich panel TPK 160/200 (screws+sealant+adhesive sealant) - Installation of either painted or not painted structures supplied in packages	m^2	67			
3.19.8	Installation of parapets from galvanized steel sheets	m^2	5			
3.20	Service areas of the water hammer suppressing chamber №1					
3.20.1	Installation of steel H-shape beams (on top of reinforced concrete and stone supports)	t	1			
3.20.2	Production of elements of platforms for servicing of the equipment and pipelines, installation of platforms with a flooring and a fencing from sheet, corrugated, plain and round steel	t	3			
3.20.3	Construction of the metal fence L=21 m	t	263			
3.20.4	Priming of metal surfaces with GF-021 primer in one layer and painting of metal primed surfaces with enamel PF-115 in 2 layers	m^2	177			
4	Earthworks					
4.1	B1.1 Water Supply Networks					
4.1.1	Soil excavation with loading on dump trucks by excavators, group of soils 2, work on a dump, group of soils 2-3	m^3	231			

4.1.2	Manual finishing, cleaning the bottom and walls manually with moving of soil in the ditches and trenches developed in a mechanized way, loading of soil on dump trucks by excavators, group of soils 2, work on a dump, group of soils 2-3	m^3	27			
4.1.3	Manual leveling of the bottom and bevels of the trench excavations, group of soils 2	m^2	30			
4.1.4	Arrangement of a sand base under the pipelines	m^3	3			
4.1.5	Loading of soil on dump trucks by excavators, group of soils 2	m^3	284			
4.1.6	Transportation of soil up to 1 km	t	824			
4.1.7	Backfilling of trenches and ditches with bulldozers with displacement soil up to 5 m, soil group 2, compaction of soil by pneumatic rammers, soil group 1, 2	m^3	227			
4.1.8	Manual backfilling of trenches, sides of ditches and pits, group of soils 2 (K = 20%)	m^3	17			
4.2	B1.2 Water Supply Networks					
4.2.1	Soil excavation with loading on dump trucks by excavators, group of soils 2, work on a dump, group of soils 2-3	m^3	86			
4.2.2	Manual finishing, cleaning the bottom and walls manually with moving of soil in the ditches and trenches developed in a mechanized way, loading of soil on dump trucks by excavators, group of soils 2, work on a dump, group of soils 2-3	m^3	10			
4.2.3	Manual leveling of the bottom and bevels of the trench excavations, group of soils 2	m^2	12			
4.2.4	Arrangement of a sand base under the pipelines	m^3	1			
4.2.5	Loading of soil on dump trucks by excavators, group of soils 2	m^3	83			
4.2.6	Transportation of soil up to 1 km	t	298			
4.2.7	Backfilling of trenches and ditches with bulldozers with displacement soil up to 5 m, soil group 2, compaction of soil by pneumatic rammers, soil group 1, 2	m^3	66			
4.2.8	Manual backfilling of trenches, sides of ditches and pits, group of soils 2 (K = 20%)	m^3	17			
4.3	B1.3 Water Supply Networks					
4.3.1	Soil excavation with loading on dump trucks by excavators, group of soils 2, work on a dump, group of soils 2-3	m^3	168			
4.3.2	Manual finishing, cleaning the bottom and walls manually with moving of soil in the ditches and trenches developed in a mechanized way, loading of soil on dump trucks by excavators, group of soils 2, work on a dump, group of soils 2-3	m^3	19			
4.3.3	Manual leveling of the bottom and bevels of the trench excavations, group of soils 2	m^2	22			
4.3.4	Arrangement of a sand base under the pipelines	m^3	2			
4.3.5	Loading of soil on dump trucks by excavators, group of soils 2	m^3	185			
4.3.6	Transportation of soil up to 1 km	t	614			
4.3.7	Backfilling of trenches and ditches with bulldozers with displacement soil up to 5 m, soil group 2, compaction of soil by pneumatic rammers, soil group 1, 2	m^3	148			
4.3.8	Manual backfilling of trenches, sides of ditches and pits, group of soils 2 (K = 20%)	m^3	37			
4.4	B1.4 Water Supply Networks					
4.4.1	Soil excavation with loading on dump trucks by excavators, group of soils 2, work on a dump, group of soils 2-3	m^3	199			

4.4.2	Manual finishing, cleaning the bottom and walls manually with moving of soil in the ditches and trenches developed in a mechanized way, loading of soil on dump trucks by excavators, group of soils 2, work on a dump, group of soils 2-3	m^3	23			
4.4.3	Manual leveling of the bottom and bevels of the trench excavations, group of soils 2	m^2	25			
4.4.4	Arrangement of a sand base under the pipelines	m^3	3			
4.4.5	Loading of soil on dump trucks by excavators, group of soils 2	m^3	219			
4.4.6	Transportation of soil up to 1 km	t	721			
4.4.7	Backfilling of trenches and ditches with bulldozers with displacement soil up to 5 m, soil group 2, compaction of soil by pneumatic rammers, soil group 1, 2	m^3	175			
4.4.8	Manual backfilling of trenches, sides of ditches and pits, group of soils 2 (K = 20%)	m^3	44			
4.5	B1.5 Water Supply Networks					
4.5.1	Soil excavation with loading on dump trucks by excavators, group of soils 2, work on a dump, group of soils 2-3	m^3	136			
4.5.2	Manual finishing, cleaning the bottom and walls manually with moving of soil in the ditches and trenches developed in a mechanized way, loading of soil on dump trucks by excavators, group of soils 2, work on a dump, group of soils 2-3	m^3	16			
4.5.3	Manual leveling of the bottom and bevels of the trench excavations, group of soils 2	m^2	17			
4.5.4	Arrangement of a sand base under the pipelines	m^3	2			
4.5.5	Loading of soil on dump trucks by excavators, group of soils 2	m^3	150			
4.5.6	Transportation of soil up to 1 km	t	499			
4.5.7	Backfilling of trenches and ditches with bulldozers with displacement soil up to 5 m, soil group 2, compaction of soil by pneumatic rammers, soil group 1, 2	m^3	120			
4.5.8	Manual backfilling of trenches, sides of ditches and pits, group of soils 2 (K = 20%)	m^3	30			
4.6	B1.6 Water Supply Networks					
4.6.1	Soil excavation with loading on dump trucks by excavators, group of soils 2, work on a dump, group of soils 2-3	m^3	376			
4.6.2	Manual finishing, cleaning the bottom and walls manually with moving of soil in the ditches and trenches developed in a mechanized way, loading of soil on dump trucks by excavators, group of soils 2, work on a dump, group of soils 2-3	m^3	42			
4.6.3	Manual leveling of the bottom and bevels of the trench excavations, group of soils 2	m^2	17			
4.6.4	Arrangement of a sand base under the pipelines	m^3	4			
4.6.5	Loading of soil on dump trucks by excavators, group of soils 2	m^3	414			
4.6.6	Transportation of soil up to 1 km	t	1373			
4.6.7	Backfilling of trenches and ditches with bulldozers with displacement soil up to 5 m, soil group 2, compaction of soil by pneumatic rammers, soil group 1, 2	m^3	331			
4.6.8	Manual backfilling of trenches, sides of ditches and pits, group of soils 2 (K = 20%)	m^3	83			
4.7	B1.7 Water Supply Networks					
4.7.1	Soil excavation with loading on dump trucks by excavators, group of soils 2, work on a dump, group of soils 2-3	m^3	188			

4.7.2	Manual finishing, cleaning the bottom and walls manually with moving of soil in the ditches and trenches developed in a mechanized way, loading of soil on dump trucks by excavators, group of soils 2, work on a dump, group of soils 2-3	m^3	21			
4.7.3	Manual leveling of the bottom and bevels of the trench excavations, group of soils 2	m^2	21			
4.7.4	Arrangement of a sand base under the pipelines	m^3	2			
4.7.5	Loading of soil on dump trucks by excavators, group of soils 2	m^3	207			
4.7.6	Transportation of soil up to 1 km	t	687			
4.7.7	Backfilling of trenches and ditches with bulldozers with displacement soil up to 5 m, soil group 2, compaction of soil by pneumatic rammers, soil group 1, 2	m^3	166			
4.7.8	Manual backfilling of trenches, sides of ditches and pits, group of soils 2 (K = 20%)	m^3	41			
4.8	B1.8 Water Supply Networks					
4.8.1	Soil excavation with loading on dump trucks by excavators, group of soils 2, work on a dump, group of soils 2-3	m^3	1153			
4.8.2	Manual finishing, cleaning the bottom and walls manually with moving of soil in the ditches and trenches developed in a mechanized way, loading of soil on dump trucks by excavators, group of soils 2, work on a dump, group of soils 2-3	m^3	136			
4.8.3	Manual leveling of the bottom and bevels of the trench excavations, group of soils 2	m^2	204			
4.8.4	Arrangement of a sand base under the pipelines	m^3	20			
4.8.5	Loading of soil on dump trucks by excavators, group of soils 2	m^3	1268			
4.8.6	Transportation of soil up to 1 km	t	4409			
4.8.7	Backfilling of trenches and ditches with bulldozers with displacement soil up to 5 m, soil group 2, compaction of soil by pneumatic rammers, soil group 1, 2	m^3	1014			
4.8.8	Manual backfilling of trenches, sides of ditches and pits, group of soils 2 (K = 20%)	m^3	254			
4.9	B1.9 Water Supply Networks					
4.9.1	Soil excavation with loading on dump trucks by excavators, group of soils 2, work on a dump, group of soils 2-3	m^3	902			
4.9.2	Manual finishing, cleaning the bottom and walls manually with moving of soil in the ditches and trenches developed in a mechanized way, loading of soil on dump trucks by excavators, group of soils 2, work on a dump, group of soils 2-3	m^3	107			
4.9.3	Manual leveling of the bottom and bevels of the trench excavations, group of soils 2	m^2	160			
4.9.4	Arrangement of a sand base under the pipelines	m^3	16			
4.9.5	Loading of soil on dump trucks by excavators, group of soils 2	m^3	992			
4.9.6	Transportation of soil up to 1 km	t	3300			
4.9.7	Backfilling of trenches and ditches with bulldozers with displacement soil up to 5 m, soil group 2, compaction of soil by pneumatic rammers, soil group 1, 2	m^3	794			
4.9.8	Manual backfilling of trenches, sides of ditches and pits, group of soils 2 (K = 20%)	m^3	198			
4.10	B1.10 Water Supply Networks					
4.10.1	Soil excavation with loading on dump trucks by excavators, group of soils 2, work on a dump, group of soils 2-3	m^3	88			

4.10.2	Manual finishing, cleaning the bottom and walls manually with moving of soil in the ditches and trenches developed in a mechanized way, loading of soil on dump trucks by excavators, group of soils 2, work on a dump, group of soils 2-3	m^3	10			
4.10.3	Manual leveling of the bottom and bevels of the trench excavations, group of soils 2	m^2	12			
4.10.4	Arrangement of a sand base under the pipelines	m^3	1			
4.10.5	Loading of soil on dump trucks by excavators, group of soils 2	m^3	97			
4.10.6	Transportation of soil up to 1 km	t	322			
4.10.7	Backfilling of trenches and ditches with bulldozers with displacement soil up to 5 m, soil group 2, compaction of soil by pneumatic rammers, soil group 1, 2	m^3	78			
4.10.8	Manual backfilling of trenches, sides of ditches and pits, group of soils 2 (K = 20%)	m^3	19			
4.11	On-site networks: water hammer suppressing chamber 1					
4.11.1	Soil excavation with loading on dump trucks by excavators, group of soils 2	m^3	10			
4.11.2	Manual finishing, cleaning the bottom and walls manually with moving of soil in the ditches and trenches developed in a mechanized way, loading of soil on dump trucks by excavators, group of soils 2	m^3	7			
4.11.3	Work on a dump, group of soils 2-3, loading of soil on dump trucks by excavators, group of soils 2	m^3	17			
4.11.4	Installation of cover slabs with supports on both sides and area up to 5 m^2	psc.	4			
4.11.5	Transportation of soil up to 1 km	t	55			
4.11.6	Backfilling of trenches and ditches with bulldozers with displacement soil up to 5 m, soil group 2, compaction of soil by pneumatic rammers, soil group 1, 2	m^3	13			
4.11.7	Manual backfilling of trenches, sides of ditches and pits, group of soils 2 (K = 20%)	m^3	3			
4.12	On-site networks: water hammer suppressing chamber 2					
4.12.1	Soil excavation with loading on dump trucks by excavators, group of soils 2	m^3	10			
4.12.2	Manual finishing, cleaning the bottom and walls manually with moving of soil in the ditches and trenches developed in a mechanized way, loading of soil on dump trucks by excavators, group of soils 2	m^3	7			
4.12.3	Work on a dump, group of soils 2-3, loading of soil on dump trucks by excavators, group of soils 2	m^3	17			
4.12.4	Installation of cover slabs with supports on both sides and area up to 5 m^2	psc.	4			
4.12.5	Transportation of soil up to 1 km	t	55			
4.12.6	Backfilling of trenches and ditches with bulldozers with displacement soil up to 5 m, soil group 2, compaction of soil by pneumatic rammers, soil group 1, 2	m^3	13			
4.12.7	Manual backfilling of trenches, sides of ditches and pits, group of soils 2 (K = 20%)	m^3	3			
4.13	On-site networks: water hammer suppressing chamber 3					
4.13.1	Soil excavation with loading on dump trucks by excavators, group of soils 2	m^3	8			
4.13.2	Manual finishing, cleaning the bottom and walls manually with moving of soil in the ditches and trenches developed in a mechanized way, loading of soil on dump trucks by excavators, group of soils 2	m^3	5			
4.13.3	Work on a dump, group of soils 2-3, loading of soil on dump trucks by excavators, group of soils 2	m^3	13			
4.13.4	Installation of cover slabs with supports on both sides and area up to 5 m^2	psc.	2			

4.13.5	Transportation of soil up to 1 km	t	43			
4.13.6	Backfilling of trenches and ditches with bulldozers with displacement soil up to 5 m, soil group 2	m^3	10			
4.13.7	Compaction of soil by pneumatic rammers, soil group 1, 2	m^3	10			
4.13.8	Manual backfilling of trenches, sides of ditches and pits, group of soils 2 (K = 20%)	m^3	3			
4.14	Water supply chambers 1,3,5,6,7					
4.14.1	Cutting of dense shrubs and low forests in naturally occurring soils with bush cutters and gathering of cut or uprooted dense shrubs and low forests with a combine grubber and collecting device on a tractor base with relocation up to 20 m	m^2	500			
4.14.2	Shredding branches, bushes and treetops with a wood chipper for brunch thickness from 1 to 5 cm	m^3	8			
4.14.3	Excavation of the soil in the dump by "dragline" or "backhoe" excavators, group of soils 2	m^3	181			
4.14.4	Manual finishing, cleaning the bottom and walls manually with moving of soil in the ditches and trenches developed in a mechanized way	m^3	78			
4.14.5	Construction of banks by excavators, group of soils 2	m^3	181			
4.14.6	Manual backfilling of trenches, sides of ditches and pits, group of soils 2	m^3	78			
4.14.7	Compaction of soil by pneumatic rammers, soil group 1, 2	m^3	258			
4.15	Water supply chambers 4					
4.15.1	Cutting of dense shrubs and low forests in naturally occurring soils with bush cutters and gathering of cut or uprooted dense shrubs and low forests with a combine grubber and collecting device on a tractor base with relocation up to 20 m	m^2	100			
4.15.2	Shredding branches, bushes and treetops with a wood chipper for brunch thickness from 1 to 5 cm	m^3	2			
4.15.3	Excavation of the soil in the dump by "dragline" or "backhoe" excavators, group of soils 2	m^3	36			
4.15.4	Manual finishing, cleaning the bottom and walls manually with moving of soil in the ditches and trenches developed in a mechanized way	m^3	16			
4.15.5	Construction of banks by excavators, group of soils 2	m^3	36			
4.15.6	Manual backfilling of trenches, sides of ditches and pits, group of soils 2	m^3	16			
4.15.7	Leveling of areas in a mechanized way, group of soils 2	m^2	1			
4.15.8	Compaction of soil by pneumatic rammers, soil group 1,2	m^3	52			
4.16	6 kV Power supply line					
4.16.1	Soil excavation with loading on dump trucks b excavators, group of soils 2	m^3	2			
4.16.2	Transportation of soil up to 30 km	t	4			
4.16.3	Manual excavation of soil in trenches with a deprth up to 2 m with natural slopes without fastening, group of soils 1	m^3	4			
4.16.4	Manual backfilling of trenches, sides of ditches and pits, group of soils 2	m^3	4			
4.16.5	Installation of a bedding when there is one cable in trench	m	17			
4.17	0.4 kV Power supply line					
4.17.1	Soil excavation with loading on dump trucks by excavators, group of soils 2	m^3	27			

4.17.2	Manual excavation of soil in trenches with a deprth up to 2 m with natural slopes without fastening, group of soils 2	m^3	1			
4.17.3	Manual backfilling of trenches, sides of ditches and pits, group of soils 1	m^3	19			
4.17.4	Installation of a bedding when there is one cable in trench	m	9			
4.18	0.4 kV Power supply line: Grounding of the module box					
4.18.1	Manual excavation of soil in trenches with a deprth up to 2 m with natural slopes without fastening, group of soils 2	m^3	48			
4.18.2	Manual backfilling of trenches, sides of ditches and pits, group of soils 2	m^3	48			
4.19	Installation of automation equipment					
4.19.1	Soil excavation with loading on dump trucks by excavators, group of soils 2	m^3	27			
4.19.2	Manual excavation of soil in trenches with a deprth up to 2 m with natural slopes without fastening, group of soils 2	m^3	1			
4.19.3	Manual backfilling of trenches, sides of ditches and pits, group of soils 1	m^3	19			
4.19.4	Installation of a bedding when there is one cable in trench	m	9			
5	Construction and installation works					
5.1	Installation of flanged blindings in water receiving chamber					
5.1.1	Inspection of underwater structures: parts of hydraulic structures, diving boat station, gravity structures with underwater part up to 6 m, without detailed examination	m^2	10			
5.1.2	Installation of a steel flat welded flange DN 1000 PN 10 at water intake openings	psc.	1			
5.1.3	Electric ark welding of one-sided overlapping and T joints (seam types H1 and T1) at the bottom position of the seam, seam leg length up to 12 mm (works in artificial lighting)	m of seam	3			
5.1.4	Installation of a steel flat welded flange DN 1400 PN 10 at water intake openings	psc.	2			
5.1.5	Electric ark welding of one-sided overlapping and T joints (seam types H1 and T1) at the bottom position of the seam, seam leg length up to 18 mm (works in artificial lighting)	m of seam	9			
5.1.6	Electro-oxygen cutting of steel sheets at the bottom position of the cut, thickness of sheet up to 18 mm (dismantling of the blingings)	m of cut	9			
5.1.7	Electro-oxygen cutting of steel sheets at the bottom position of the cut, thickness of sheet up to 12 mm (dismantling of the blingings)	m of cut	3			
5.1.8	Lifting of various objects from the water by a manual winch crane or a hoist device with loading of objects on a vessel, metal structures weighing up to 1 t (works in artificial lightin)	psc.	3			
5.1.9	Drainage from ditches	m^3	100			
5.2	PS: Installation works					
5.2.1	Installation and preparation of the pump unit Q=2450 m^3/h, H=90 m n=750 rpm, U=3x6000B; P2=900 kW for testing, commissioning, connection to power network	psc.	2			
5.2.2	Installation of a Double Eccentric Valve DN 1400 mm, PN 10 with telescopic sterm H_{actual} = 17.80 m and connected to it e-drive with a support stand H_{actual} = 1.5 m	psc.	2			

5.2.3	Installation of a flanged shor type ductile iron valve F4 (GR14) DN 1000 PN 10 with reducer and electric drive IP68, 50Hz, 400V	psc.	2			
5.2.4	Installation of a flanged short type ductile iron valve F4 (GR14) DN 800 PN 16 with reducer and electric drive IP68, 50Hz, 400V	psc.	2			
5.2.5	Installation of a ductile iron short type Valve F4 (GR14) with rubber wedge DN 150 PN 10 and a hand wheel	psc.	2			
5.2.6	Installation of a ductile iron dismantling joint type F3 DN 1000 PN 10 with galvanized metal elements	psc.	2			
5.2.7	Installation of a rubber expansion joint type 50 cord "red" with steel galvanized flanges DN 400 PN 16 without control rod	psc.	1			
5.2.8	Installation of a rubber expansion joint type 58 cord "red" with steel galvanized flanges DN 500 PN 16 without control rod	psc.	1			
5.2.9	Installation of a rubber expansion joint type 50 cord "red" with steel galvanized flanges DN 300 PN 16 without control rod	psc.	1			
5.2.10	Installation of a threaded ductile iron full-pass combination air (air release) valve DN 1" PN 16	psc.	1			
5.2.11	Installation of a flanged ductile iron full-pass combination air (air release) valve DN 150 PN 16. Are of the kinetic opening $S_{kin.open.=}$17671 mm^2	psc.	2			
5.2.12	Installation of a threaded ductile iron full-pass combination air (air release) valve DN 1" PN 16 with a threaded insert 1"x1/2	psc.	1			
5.2.13	Installation of a flanged double eccentric ductile iron butterfly valve F4 (GR14) DN 1000 PN 10 with reducer and electric drive IP68, 50Hz, 400V and a support stand H_{actual} = 1.5 m	psc.	1			
5.2.14	Installation of a pressure gauge	psc.	2			
5.2.15	Installation of a pressure and vacuum gauge	psc.	2			
5.3	PS: Pipelines					
5.3.1	Laying of steel water supply pipelines with a hydraulic test, diameter 159/4 mm, washing and disinfecting of pipelines	m	20			
5.3.2	Connection of steel pipe branches with a diameter of 325/9 mm to the existing networks, washing and disinfecting of pipelines	m	1			
5.3.3	Laying of steel water supply pipelines with a hydraulic test, diameter 426/12 mm	m	1			
5.3.4	Washing and disinfecting of pipelines with a diameter of 426/12 mm	m	1			
5.3.5	Laying of steel water supply pipelines with a hydraulic test, diameter 820/12 mm	m	40			
5.3.6	Washing and disinfecting of pipelines with a diameter of 820/12 mm	m	32			
5.3.7	Laying of steel water supply pipelines with a hydraulic test, diameter 1020/12 mm	m	7			
5.3.8	Washing and disinfecting of pipelines with a diameter of 1020/12 mm	m	9			
5.3.9	Welding of flat steel weld flange DN 1400 PN 16 to steel pipelines DN 1400	psc.	2			
5.3.10	Welding of flat steel weld flange DN 1000 PN 16 to steel pipelines DN 1000	psc.	5			
5.3.11	Welding of flat steel weld flange DN 800 PN 16 to steel pipelines DN 800	psc.	5			
5.3.12	Welding of flat steel weld flange DN 600 PN 16 to steel pipelines DN 600	psc.	1			

5.3.13	Welding of flat steel weld flange DN 500 PN 16 to steel pipelines DN 500	psc.	1			
5.3.14	Welding of flat steel weld flange DN 400 PN 16 to steel pipelines DN 400	psc.	1			
5.3.15	Welding of flat steel weld flange DN 300 PN 16 to steel pipelines DN 300	psc.	1			
5.3.16	Welding of flat steel weld flange DN 150 PN 16 to steel pipelines DN 150	psc.	2			
5.3.17	Installation of a transition Э1020/18-630/12, L=1030	psc.	1			
5.3.18	Installation of a transition Э1020/18-530/10, L=1250	psc.	1			
5.3.19	Installation of a transition К820/16-530/12, L=800	psc.	1			
5.3.20	Installation of a transition К820/16-426/11, L=1030	psc.	1			
5.3.21	Installation of a bend 90-820/12	psc.	4			
5.3.22	Installation of a bend 90-820/12	psc.	4			
5.3.23	Installation of a transition Э530/12-426/10, L=300	psc.	1			
5.3.24	Installation of a transition К426/14-325/12, L=220	psc.	1			
5.3.25	Installation of a bend 60-530/12	psc.	1			
5.3.26	Installation of a bend 90-426/12	psc.	2			
5.3.27	Installation of a bend 6-325/12	psc.	1			
5.3.28	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter 1020 mm	psc.	6			
5.3.29	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter 820 mm, wall thickness up to 15-24 mm	psc.	6			
5.3.30	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter 820 mm, wall thickness up to 9-14 mm	psc.	8			
5.3.31	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter 630 mm, wall thickness up to 9-14 mm	psc.	2			
5.3.32	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 530 mm, wall thickness up to 9-14 mm	psc.	5			
5.3.33	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 465 mm, wall thickness up to 9-14 mm	psc.	7			
5.3.34	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 377 mm, wall thickness up to 12 mm	psc.	4			
5.3.35	Cleaning of surfaces of devices and pipelines with brushes, degreasing of surfaces of devices and pipelines DN more than 500 with white spirit, priming with enamel PF-0119 in 2 layers at once	m^2	151			
5.3.36	Painting of metal primed surfaces with enamel PF-115 in 2 layers	m^2	61			
5.4	B1 Water Supply Networks					
5.4.1	B1.1					

5.4.1.1	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter 820/12 mm	psc.	5			
5.4.1.2	Laying of steel water supply pipelines with a hydraulic test, pipe diameter 820/12 mm, washing and disinfecting, applying of highly reinforced bitumen and rubber based anti-corrosion insulation	m	20			
5.4.2	B1.2					
5.4.2.1	Laying of steel water supply pipelines with a hydraulic test, pipe diameter 1020/12 mm, washing and disinfecting, applying of highly reinforced bitumen and rubber based anti-corrosion insulation	m	10			
5.4.3	B1.3					
5.4.3.1	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter 820/12 mm	psc.	4			
5.4.3.2	Laying of steel water supply pipelines with a hydraulic test, pipe diameter 820/12 mm, washing and disinfecting, applying of highly reinforced bitumen and rubber based anti-corrosion insulation	m	16			
5.4.4	B1.4					
5.4.4.1	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter 820/12 mm	psc.	4			
5.4.4.2	Laying of steel water supply pipelines with a hydraulic test, pipe diameter 820/12 mm, washing and disinfecting, applying of highly reinforced bitumen and rubber based anti-corrosion insulation	m	17			
5.4.5	B1.5					
5.4.5.1	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter 820/12 mm	psc.	4			
5.4.5.2	Laying of steel water supply pipelines with a hydraulic test, pipe diameter 820/12 mm, washing and disinfecting, applying of highly reinforced bitumen and rubber based anti-corrosion insulation	m	13			
5.4.6	B1.6					
5.4.6.1	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter 530/12 mm	psc.	6			
5.4.6.2	Laying of steel water supply pipelines with a hydraulic test, pipe diameter 530/12 mm, washing and disinfecting, applying of highly reinforced bitumen and rubber based anti-corrosion insulation	m	28			
5.4.7	B1.7					
5.4.7.1	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter 530/12 mm	psc.	4			
5.4.7.2	Laying of steel water supply pipelines with a hydraulic test, pipe diameter 530/12 mm, washing and disinfecting, applying of highly reinforced bitumen and rubber based anti-corrosion insulation	m	14			
5.4.8	B1.8					
5.4.8.1	Laying of steel water supply pipelines with a hydraulic test, pipe diameter 1020/12 mm, washing and	m	112			

	disinfecting, applying of highly reinforced bitumen and rubber based anti-corrosion insulation					
5.4.8.2	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter 1020/12 mm	psc.	20			
5.4.9	B1.9					
5.4.9.1	Laying of steel water supply pipelines with a hydraulic test, pipe diameter 1020/12 mm, washing and disinfecting, applying of highly reinforced bitumen and rubber based anti-corrosion insulation	m	90			
5.4.9.2	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter 1020/12 mm	psc.	16			
5.4.10	B1.10					
5.4.10.1	Laying of steel water supply pipelines with a hydraulic test, pipe diameter 1020/12 mm, washing and disinfecting, applying of highly reinforced bitumen and rubber based anti-corrosion insulation	m	15			
5.4.10.2	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter 1020/12 mm	psc.	4			
5.5	On-site networks - Pipeline					
5.5.1	Arrangement of a sand base under the pipelines	m^3	30			
5.5.2	Laying of steel water supply pipelines with a hydraulic test, pipe diameter 1020/12 mm, applying of highly reinforced bitumen and rubber based anti-corrosion insulation	m	217			
5.5.3	Installation of a tee for pipelines with a diameter of 1020/12 mm	psc.	1			
5.5.4	Installation of a tee for pipelines with a diameter of 1020/14-820/12 mm	psc.	2			
5.5.5	Installation of a steel elbow bend 30* for pipelines with a diameter of 1020/12 mm	psc.	1			
5.5.6	Installation of a steel elbow bend 15* for pipelines with a diameter of 1020/12 mm	psc.	1			
5.5.7	Installation of a transition for pipelines with a diameter of K1020/14-820/12 mm, L=580	psc.	2			
5.5.8	Installation of a transition for pipelines with a diameter of K1020/20-530/12 mm, L=1250	psc.	1			
5.5.9	Applying of highly reinforced bitumen and rubber based anti-corrosion insulation on seams and fittings of steel pipelines with a diameter of 1020/12 mm	m	15			
5.5.10	Washing and disinfecting of pipelines with a diameter of 1020/12 mm	m	289			
5.5.11	Laying of steel water supply pipelines with a hydraulic test, with a diameter of 820/12 mm, applying of highly reinforced bitumen and rubber based anti-corrosion insulation	m	74			
5.5.12	Installation of a steel elbow 90* for pipelines with a diameter of 820/12 mm	psc.	2			
5.5.13	Installation of a steel elbow 45* for insulated pipes with a diameter of 820/12 mm	psc.	4			
5.5.14	Installation of a tee for pipelines with a diameter of 820/12-820/12 mm	psc.	2			
5.5.15	Installation of a transition for pipes with a diameter of Э820/16-820/12 mm, L=800	psc.	1			

5.5.16	Applying of highly reinforced bitumen and rubber based anti-corrosion insulation on seams and fittings of steel pipelines with a diameter of 820/12 mm	m	17			
5.5.17	Washing and disinfecting of pipelines with a diameter of 820/12 mm	m	91			
5.5.18	Laying of steel water supply pipelines with a hydraulic test, pipe diameter 530/12 mm, applying of highly reinforced bitumen and rubber based anti-corrosion insulation	m	12			
5.5.19	Installation of a steel elbow 45* for insulated pipes with a diameter of 540/12 mm	psc.	3			
5.5.20	Applying of highly reinforced bitumen and rubber based anti-corrosion insulation on seams and fittings of steel pipelines with a diameter of 530/12 mm	m	5			
5.5.21	Washing and disinfecting of pipelines with a diameter of 530/12 mm	m	17			
5.5.22	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, with a diameter of 530/12 mm	psc.	7			
5.5.23	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, with a diameter of 820/12 mm	psc.	38			
5.5.24	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, with a diameter of 1020/12 mm	psc.	48			
5.5.25	Washing and disinfecting of pipelines DN 900	m	28252			
5.6	On-site networks: water hammer suppressing chamber 1					
5.6.1	Installation of flanged ductile iron return valve with double eccentric and counter weight DN 800 PN 16 including hydraulic brake	psc.	2			
5.6.2	Installation of ductile iron short type Valve F4 (GR14) with rubber wedge DN 200 PN 16 and a hand wheel	psc.	2			
5.6.3	Installation of combination flanged ductile iron full-pass air (air release) valve DN 200 PN 16 with built-in hydraulic shock protection. Kinetik opening area $S_{kin.open.}$=31416 mm^2	psc.	2			
5.6.4	Installation of dismantling joint DN 800, PN 16	psc.	2			
5.6.5	Welding of flanges 1-200-16 to steel pipelines DN 200	psc.	2			
5.6.6	Welding of flanges 1-800-16 to steel pipelines DN 800	psc.	4			
5.6.7	Installation of a transition K530/14-377/12 L=300	psc.	2			
5.6.8	Installation of a transition K377/16-219/10 L=220	psc.	2			
5.6.9	Connection of steel pipe branches DN 800 to the existing networks	pcs.	2			
5.6.10	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 219 mm, wall thickness up to 6-8 mm	psc.	4			
5.6.11	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 377 mm, wall thickness up to 9-14 mm	psc.	4			
5.6.12	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 530 mm, wall thickness up to 9-14 mm	psc.	3			

5.6.13	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 820 mm, wall thickness up to 9-14 mm	psc.	4			
5.6.14	Cleaning of surfaces of devices and pipelines with brushes (+pipeline with a diameter of 820 mm), degreasing of surfaces of devices and pipelines DN more than 500 mm with white spirit, priming with enamel PF-0119 in 2 layers at once, painting of metal primed surfaces with enamel PF-115 in 2 layers	m^2	6			
5.7	On-site networks: water hammer suppressing chamber 2					
5.7.1	Installation of flanged ductile iron return valve with double eccentric and counter weight DN 800 PN 16 including hydraulic brake	psc.	2			
5.7.2	Installation of ductile iron short type Valve F4 (GR14) with rubber wedge DN 200 PN 16 and a hand wheel	psc.	2			
5.7.3	Installation of combination flanged ductile iron full-pass air (air release) valve DN 200 PN 16 with built-in hydraulic shock protection. Kinetik opening area $S_{kin.open.}$=31416 mm^2	psc.	2			
5.7.4	Installation of dismantling joint DN 800, PN 16	psc.	2			
5.7.5	Welding of flanges 1-200-16 to steel pipelines DN 200	psc.	2			
5.7.6	Welding of flanges 1-800-16 to steel pipelines DN 800	psc.	4			
5.7.7	Installation of a transition К530/14-377/12 L=300	psc.	2			
5.7.8	Installation of a transition К377/16-219/10 L=220	psc.	2			
5.7.9	Connection of steel pipe branches DN 800 to the existing networks	pcs.	2			
5.7.10	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 219 mm, wall thickness up to 6-8 mm	pcs.	4			
5.7.11	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 377 mm, wall thickness up to 9-14 mm	pcs.	4			
5.7.12	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 530 mm, wall thickness up to 9-14 mm	pcs.	3			
5.7.13	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 820 mm, wall thickness up to 9-14 mm	pcs.	4			
5.7.14	Cleaning of surfaces of devices and pipelines with brushes (+pipeline with a diameter of 820 mm), degreasing of surfaces of devices and pipelines DN more than 500 with white spirit, priming with enamel PF-0119 in 2 layers at once, painting of metal primed surfaces with enamel PF-115 in 2 layers	m^2	6			
5.8	On-site networks: water hammer suppressing chamber 3					
5.8.1	Installation of flanged ductile iron return valve with double eccentric and counter weight DN 800, PN 16 including hydraulic brake	psc.	1			
5.8.2	Installation of ductile iron short type Valve F4 (GR14) with rubber wedge DN 200, PN 16 and a hand wheel	psc.	2			

5.8.3	Installation of combination flanged ductile iron full-pass air (air release) valve DN 200, PN 16 with built-in hydraulic shock protection. Kinetik opening area $S_{kin.open.}$=31416 mm^2	psc.	1			
5.8.4	Installation of dismantling joint DN 800, PN 16	psc.	1			
5.8.5	Welding of flanges 1-200-16 to steel pipelines DN 200	psc.	1			
5.8.6	Welding of flanges 1-800-16 to steel pipelines DN 800	psc.	2			
5.8.7	Installation of a transition K530/14-377/12 L=300	psc.	1			
5.8.8	Installation of a transition K377/16-219/10 L=220	psc.	1			
5.8.9	Connection of steel pipe branches DN 800 to the existing networks	pcs.	1			
5.8.10	Quality control of welded joints of pipelines by external inspection and measurement, performed during installation, pipe diameter up to 219 mm	pcs.	4			
5.8.11	Quality control of welded joints of pipelines by external inspection and measurement, performed during installation, pipe diameter up to 377 mm	pcs.	4			
5.8.12	Quality control of welded joints of pipelines by external inspection and measurement, performed during installation, pipe diameter up to 530 mm	pcs.	3			
5.8.13	Quality control of welded joints of pipelines by external inspection and measurement, performed during installation, pipe diameter up to 820 mm	pcs.	4			
5.8.14	Quality control of welded joints of pipelines by ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 219 mm, wall thickness up to 6-8 mm	pcs.	2			
5.8.15	Quality control of welded joints of pipelines by ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 377 mm, wall thickness up to 9-14 mm	pcs.	2			
5.8.16	Quality control of welded joints of pipelines by ultrasonic flaw detection with transverse sounding, performed during installation, DN up to 550, wall thickness up to 9-14 mm	pcs.	2			
5.8.17	Quality control of welded joints of pipelines by ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter 820 mm, wall thickness up to 9-14 mm	pcs.	2			
5.8.18	Cleaning of surfaces of devices and pipelines with brushes (+pipeline with a diameter of 820 mm), degreasing of surfaces of devices and pipelines DN more than 500 with white spirit, priming with enamel PF-0119 in 2 layers at once, painting of metal primed surfaces with enamel PF-115 in 2 layers	m^2	6			
5.9	Water supply chambers 1,3,4,5,6,7					
5.9.1	Installation of flanged double eccentric ductile iron butterfly valve F4 (GR14) DN 1400 D47 PN 10 with reducer, an telescopic stem H=17.80 m and its connection, e-drive IP68, 50Hz, 400V with a support stand H_{actual} = 1.5 m for installation under water	psc.	1			
5.9.2	Welding of steel flat weld flange DN 1400 PN 10 to steel pipelines DN 1400	psc.	2			
5.9.3	Installation of flanged short type ductile iron valve F4 (GR14) with a rubber wedge DN 100 PN 10 and a hand wheel	psc.	1			
5.9.4	Welding of steel flat weld flange DN 100 PN 10 to steel pipelines DN 100	psc.	2			
5.9.5	Installation of combination flanged ductile iron full-pass air (air release) valve DN 200 PN 16 with built-in	psc.	5			

	hydraulic shock protection. Kinetik opening area $S_{kin.open.}$=31416 mm^2					
5.9.6	Connection of steel pipes DN 800 to the existing networks - weld pipe union l=150 DN 800	psc.	5			
5.9.7	Welding of coupling flange 800x200 PN 16 to steel pipelines DN 800	psc.	5			
5.9.8	installation of flanged short type ductile iron valve F4 (GR14) with a rubber wedge DN 200 PN 16 and a hand wheel	psc.	5			
5.9.9	Cleaning of surfaces of devices and pipelines with brushes, degreasing of surfaces of devices and pipelines DN more than 500 mm with white spirit, priming with enamel PF-0119 in 2 layers at once, painting of metal primed surfaces with enamel PF-115 in 2 layers	m^2	2			
5.9.10	Washing and disinfecting of pipelines DN 900	m	4811			
5.10	Water hammer chamber 1					
5.10.1	Installation of automatic flanged ductile iron hydraulic shock suppressing valve DN 300 PN 16	psc.	2			
5.10.2	Installation of ductile iron short type Valve F4 (GR14) with rubber wedge DN 200 PN 16 and a hand wheel	psc.	1			
5.10.3	Installation of combination flanged ductile iron full-pass air (air release) valve DN 200 PN 16 with built-in hydraulic shock protection. Kinetik opening area $S_{kin.open.}$=31416 mm^2	psc.	1			
5.10.4	Installation of ductile iron short type Valve F4 (GR14) DN 1000 PN 16 with reducer and electric drive IP68, 50Hz, 400V	psc.	1			
5.10.5	Installation of flanged ductile iron return valve with double eccentric and counter weight DN 1000 PN 16 including hydraulic brake	psc.	1			
5.10.6	Installation of ductile iron short type Valve F4 (GR14) with rubber wedge DN 300 PN 16 and a hand wheel	psc.	2			
5.10.7	Installation of flanged double eccentric ductile iron butterfly valve F4 (GR14) DN 1000 D47 PN 16 with reducer and e-drive IP68, 50Hz, 400V	psc.	1			
5.10.8	Installation of ductile iron dismantling joint type F3 DN 1000 PN 10 with galvanized metal elements	psc.	1			
5.11	Water hammer chamber 1: pipelines					
5.11.1	Laying of steel water supply pipelines with a hydraulic test, pipe diameter 630/10 mm	m	2			
5.11.2	Washing and disinfecting of pipelines with a diameter of 630/10 mm	m	5			
5.11.3	Welding of flat steel weld flange DN 1000 PN 16 to steel pipelines DN 1000	psc.	4			
5.11.4	Welding of flat steel weld flange DN 300 PN 16 to steel pipelines DN 300	psc.	8			
5.11.5	Welding of flat steel weld flange DN 200 PN 16 to steel pipelines DN 200	psc.	1			
5.11.6	Installation of a tee 1020/14-630/9	psc.	1			
5.11.7	Installation of a transition К630/14-426/10 L=580	psc.	3			
5.11.8	Installation of a transition К426/10-219/8 L=220	psc.	1			
5.11.9	Installation of a transition К426/10-325/8 L=220	psc.	2			
5.11.10	Quality control of welded joints of pipelines by external inspection and measurement, performed during installation, pipe diameter up to 219 mm	pcs.	2			
5.11.11	Quality control of welded joints of pipelines by ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 219 mm, wall thickness up to 6-8 mm	pcs.	1			

5.11.12	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 377 mm, wall thickness up to 9-14 mm	pcs.	20			
5.11.13	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter 426 mm, wall thickness up to 9-14 mm	pcs.	6			
5.11.14	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter 630 mm, wall thickness up to 9-14 mm	pcs.	4			
5.11.15	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 1020 mm, wall thickness up to 9-14 mm	pcs.	2			
5.11.16	Cleaning of surfaces of devices and pipelines with brushes, degreasing of surfaces of devices and pipelines DN more than 500 with white spirit, priming with enamel PF-0119 in 2 layers at once, painting of metal primed surfaces with enamel PF-115 in 2 layers	m^2	16			
5.12	Water hammer chamber 2					
5.12.1	Installation of automatic flanged ductile iron hydraulic shock suppressing valve DN 300 PN 16	psc.	2			
5.12.2	Installation of ductile iron short type valve F4 (GR14) with rubber wedge DN 200 PN 16 and a hand wheel	psc.	1			
5.12.3	Installation of combination flanged ductile iron full-pass air (air release) valve DN 200 PN 16 with built-in hydraulic shock protection. Kinetik opening area $S_{kin.open.}$=31416 mm^2	psc.	1			
5.12.4	Installation of flanged ductile iron return valve with double eccentric and counter weight DN 1000 PN 16 icluding hydraulic brake	psc.	1			
5.12.5	Installation of flanged ductile iron short type valve F4 (GR14) DN 1000 PN 16 with reducer and electric drive IP68, 50Hz, 400V	psc.	1			
5.12.6	Installation of ductile iron short type valve F4 (GR14) with rubber wedge DN 300 PN 16 and a hand wheel	psc.	2			
5.12.7	Installation of flanged double eccentric ductile iron butterfly valve F4 (GR14) DN 1000 D47 PN 16 with reducer and e-drive IP68, 50Hz, 400V	psc.	1			
5.12.8	Installation of ductile iron dismantling joint type F3 DN 1000 PN 10 with galvanized metal elements	psc.	1			
5.13	Water hammer chamber 2: pipelines					
5.13.1	Laying of steel water supply pipelines with a hydraulic test, pipe diameter 630/10 mm	m	2			
5.13.2	Washing and disinfecting of pipelines with a diameter of 630/10 mm	m	5			
5.13.3	Welding of flat steel weld flange DN 1000 PN 16 to steel pipelines DN 1000	psc.	4			
5.13.4	Welding of flat steel weld flange DN 300 PN 16 to steel pipelines DN 300	psc.	10			
5.13.5	Welding of flat steel weld flange DN 200 PN 16 to steel pipelines DN 200	psc.	1			
5.13.6	Installation of a tee 1020/14-630/9	psc.	1			
5.13.7	Installation of a transition K630/14-426/10, L=580	psc.	3			
5.13.8	Installation of a transition K377/10-325/8, L=220	psc.	2			

5.13.9	Installation of a transition К426/10-325/8, L=220	psc.	2			
5.13.10	Installation of a transition К426/10-219/8, L=220	psc.	1			
5.13.11	Quality control of welded joints of pipelines by external inspection and measurement, performed during installation, pipe diameter up to 219 mm	pcs.	2			
5.13.12	Quality control of welded joints of pipelines by ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter 219 mm, wall thickness up to 6-8 mm	pcs.	1			
5.13.13	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 377 mm, wall thickness up to 9-14 mm	pcs.	20			
5.13.14	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter 426 mm, wall thickness up to 9-14 mm	pcs.	6			
5.13.15	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter 630 mm, wall thickness up to 9-14 mm	pcs.	4			
5.13.16	Quality control of welded joints of pipelines by external inspection and measurement and ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 1020 mm, wall thickness up to 9-14 mm	pcs.	2			
5.13.17	Cleaning of surfaces of devices and pipelines with brushes, degreasing of surfaces of devices and pipelines DN more than 500 with white spirit, priming with enamel PF-0119 in 2 layers at once, painting of metal primed surfaces with enamel PF-115 in 2 layers	m^2	16			
6	Electrical installation works					
6.1	6 kV Power supply line					
6.1.1	Installation of a vacuum circuit breaker with the switching module	psc.	3			
6.1.2	Installation of a control module	psc.	3			
6.1.3	Installation of an overvoltage limiter	psc.	9			
6.1.4	Installation of a power transformer ТПЛУ-10-200/5А, 05/10Р	psc.	9			
6.1.5	Installation of a zero sequence transformer ТЗЛУ-70-1	psc.	3			
6.1.6	Installation of a microprocessor relay protection and automation device	psc.	3			
6.1.7	Fastening of a console for a perforated ladder tray 41x410x2 mm	psc.	48			
6.1.8	Fastening of a console L=300 mm	psc.	660			
6.1.9	Installation of a perforated tray 75x300 on top of installed structures	m	72			
6.1.10	Installation of a perforated ladder tray 70x300x1.5 on top of installed structures	m	24			
6.1.11	Installation of a cable Пв Э Внг-6, 3*70, installed on top of the constructed structures and in trays with fastening throughout the entire length	m	313			
6.1.12	Installation of steel pipes d=50, wall thickness 3 mm attached to walls with overlaying fastening brackets	m	18			
6.1.13	Installation of cable Пв Э Внг-6, 3*70 installed in laid pipes	m	18			
6.1.14	Installation of a cable Пв Э Внг-6, 3*70 installed in two-layered corrugated pipe d=110	m	51			

6.1.15	Covering of 1-2 cables laid in trenches with a signal tape «Attention! Cable» (300 mm)	m	17			
6.1.16	Installation (by Heating) of the ending cable coupling 10ПКВТпН-8 (3/70-120) for the 3-core cable (one connection - 3 couplings) with a voltage up to 35 kV in climatic performance У-2.5 and УХЛ-2.5, cross section of one core up to 95 mm^2 = 10 pc.	pcs.	3			
6.1.17	Installation of a facade sheet for the cart cabinet	psc.	1			
6.1.18	Installation of a module block-box of the 6 kV frequency converter	psc.	2			
6.1.19	Additional equipment					
6.1.19.1	Installation of a set of the switchgear with a vacuum circuit breaker and a microprocessor relay protection and automation device	psc.	1			
6.1.19.2	Installation of a vacuum circuit breaker with the switching module	psc.	1			
6.1.19.3	Installation of a control module	psc.	1			
6.1.19.4	Installation of a overvoltage limiter	psc.	3			
6.1.19.5	Installation of a power transformer ТПЛУ-10-200/5А, 05/10Р	psc.	3			
6.1.19.6	Installation of microprocessor relay protection and automation device	psc.	1			
6.1.19.7	Installation of facade sheet for the cart cabinet	psc.	3			
6.1.19.8	Installation of the cell retrofit equipment 6 kV	lump sum	1			
6.2	0.4 kV Power supply line					
6.2.1	Installation of a automatic circuit breaker 6kA, 3P, C, 50A	psc.	1			
6.2.2	Installation of a automatic circuit breaker 6kA, 3P, C, 40	psc.	3			
6.2.3	Installation of a automatic circuit breaker 6kA, 3P, C, 32A	psc.	2			
6.2.4	Installation of a automatic circuit breaker 6kA, 3P, C, 20A	psc.	1			
6.2.5	Installation of the supply and control cabinet ЩКЗА, voltage ~380/220W, 50HZ, 32A, IP54, floor installation 200x1800x600 (WxHxD)	psc.	1			
6.2.6	Installation of a local control panel for valves	psc.	5			
6.2.7	Installation of a local control panel for pumps	psc.	5			
6.2.8	Installation of a distribution box with a voltage of 500 V frequency 50 Hz 600x350x180 mm YARP-100R;	psc.	2			
6.2.9	Installation of a flexible hermetic PVC sleeve in a case with sealing d=20 mm	m	138			
6.2.10	Installation of a cable ВВГнг 4x1.5-0.66 in laid pipes or metal sleeves	m	54			
6.2.11	Installation of a cable, cross-section 18*0.75 mm^2 in laid pipes or metal sleeves	m	84			
6.2.12	Fastening of a wall bracket 100	psc.	120			
6.2.13	Fastening of a monolithic bracket 200	psc.	40			
6.2.14	Installation of a ladder type tray, metal 200x100, L=3000 mm on top of installed structures	psc.	7			
6.2.15	Installation of a perforated tray 100x100, L=3000 mm, t=0.7 mm on top of installed structures	psc.	40			
6.2.16	Installation of a perforated tray 200x100, L=3000 mm, t=0.8 mm on top of installed structures	psc.	14			
6.2.17	Installation of a cable ВВГнг 5x10-0.66, installed on top of the constructed structures and in trays with fastening throughout the entire length	m	50			
6.2.18	Installation of a cable ВВГнг 5x6-0.66, installed on top of the constructed structures and in trays with fastening throughout the entire length	m	147			

6.2.19	Installation of a cable ВВГнг 4х1.5-0.66, installed on top of the constructed structures and in trays with fastening throughout the entire length	m	561			
6.2.20	Installation of a flexible cable КГ-0.66, 4х10, installed on top of the constructed structures and in trays with fastening throughout the entire length	m	65			
6.2.21	Installation of a flexible cable КГ-0.66, 4х6, installed on top of the constructed structures and in trays with fastening throughout the entire length	m	50			
6.2.22	Installation of a cable, cross-section 18*0.75 mm^2, installed on top of the constructed structures and in trays with fastening throughout the entire length	m	1076			
6.2.23	Installation of a cable, cross-section 10*0.75 mm^2, installed on top of the constructed structures and in trays with fastening throughout the entire length	m	100			
6.2.24	Installation of pipelines from two-layered flexible corrugated PE pipe d=40	m	413			
6.2.25	Installation of a cable ВВГнг 5х6-0.66 in laid pipes	m	8			
6.2.26	Installation of a cable ВВГнг 4х1.5-0.66 in laid pipes	m	135			
6.2.27	Installation of a cable, cross-section 18*0.75 mm^2 in laid pipes	m	270			
6.2.28	Crossing of cables with pipelines	pcs.	2			
6.2.29	Installation of cable entry into the building	pcs.	3			
6.2.30	Covering of 1-2 cables laid in trenches with a signal tape «Attention! Cable» (150 mm)	m	104			
6.3	0.4 kV Power supply line: Grounding of the module box					
6.3.1	Installation of an open grounding conductor on top of construction base, made of flexible grounding wire with a cross-section 16 mm^2	m	5			
6.3.2	Installation of a horizontal grounding conductor in trench made of galvanized stell stripe, cross-section 160 mm^2	m	50			
6.3.3	Installation of a vertical grounding conductor made of vertical coupling-free grounding core with a diameter of 16 mm	psc.	4			
6.4	Installation of automation equipment					
6.4.1	Installation of the PLC cabinet in the set, 800x1800x500	psc.	1			
6.4.2	Installation of a local control panel for pumps	psc.	2			
6.4.3	Installation of a flexible hermetic PVC sleeve in a case with sealing d=20 mm	m	57			
6.4.4	Installation of the first wire in the laid metal sleeves, total cross section up to 16 mm^2	m	54			
6.4.5	The console fastening - wall bracket 100	psc.	186			
6.4.6	Installation of a perforated tray and tray cover 100x100, L=3000 mm, t=0.7 mm on top of installed structures	psc.	70			
6.4.7	Installation of a cable up to 35 kV, installed on top of the constructed structures and in trays with fastening throughout the entire length	m	1479			
6.4.8	Installation of pipelines from two-layered flexible corrugated PE pipe d=63	m	10			
6.4.9	Installation of pipelines from two-layered flexible corrugated PE pipe d=40	m	87			
6.4.10	Installation of a cable up to 35 kV installed in laid pipes	m	157			
6.4.11	Installation of a hydrostatic level sensor	psc.	2			
6.4.12	Installation of a dry running control	psc.	2			
6.4.13	Installation of a pressure measuring sensor	psc.	4			
6.4.14	Installation of a pressure gauge 0-16 d=100, G1/2B	psc.	2			
7	Road surfaces restoration and paving					
7.1	Blinding areas of the PS					

7.1.1	Disassembly of road asphalt concrete pavements and its foundations	m^3	1			
7.1.2	Transportation of construction waste by dump trucks at a distance of 30 km	t	10			
7.1.3	Disassembly of pavements and crushed stone foundations	m^3	5			
7.1.4	Construction of sidewalk's crushed stone bases, layer thickness 12 cm, construction of concrete 30 mm thick cover	m^2	40			
7.2	Water hammer suppressing chambers					
7.2.1	Construction of a single-layer crushed stone base 15 cm thick	m^2	1602			
7.2.2	Construction of a leveling pavement layer from asphalt concrete mix by a motor grader	t	247			
7.2.3	Restoration of the soil vegetation layer by a bulldozer with soil relocation up to 10 m, soil group 1	m^3	160			
7.3	Water hammer chamber 1					
7.3.1	Disassembly of road asphalt concrete pavements and its foundations	m^3	1			
7.3.2	Loading of construction waste by excavators on dump trucks and transportation of construction waste by dump trucks at a distance of 30 km	t	6			
7.3.3	Disassembly of pavements and crushed stone foundations	m^3	3			
7.3.4	Construction of sidewalk's crushed stone bases, layer thickness 12 cm, construction of concrete 30 mm thick cover	m^2	35			
7.4	Water hammer chamber 2					
7.4.1	Disassembly of road asphalt concrete pavements and its foundations	m^3	1			
7.4.2	Loading of construction waste by excavators on dump trucks and transportation of construction waste by dump trucks at a distance of 30 km	t	6			
7.4.3	Disassembly of pavements and crushed stone foundations	m^3	3			
7.4.4	Construction of sidewalk's crushed stone bases, layer thickness 12 cm, construction of concrete 30 mm thick	m^2	35			
8	Commissioning works					
8.1	Commissioning works of the Mytkiv 1st Lift PS	set	1			
9	Other works					
9.1	Installation of flanged blindings in water receiving chamber					
9.1.1	Installation of a tripod up to 3 m high with a hoist suspension, hoist loading capacity up to 10 t	psc.	2			
9.1.2	Installation of electrical part of the electrical hoist device with power supply by a flexible cable, moving within the beam up to 5 m	psc.	2			
9.1.3	Dismantling of a tripod up to 3 m high with a hoist suspension, hoist loading capacity up to 10 t	psc.	2			
9.1.4	Dismantling of electrical part of the electrical hoist device with power supply by a flexible cable, moving within the beam up to 5 m	psc.	2			
9.2	Installation works					
9.2.1	Installation of electric hoist device 8 t	psc.	1			
9.2.2	Installation of electric hoist device 10 t	psc.	1			
9.2.3	Installation of electrical part of the electrical hoist device with power supply by a flexible cable, moving within the beam up to 15 m	psc.	2			
9.3	Installation of the load-lifting equipment					
9.3.1	Dismantling of an electric rope hoist device, load lifting capacity 10 t, lifting hight 18 m	psc.	2			

9.3.2	Installation of electrical part of the electrical hoist device with power supply by a flexible cable, moving within the beam up to 5 m	psc.	2			
9.3.3	Installation of electrical part of the electrical hoist device with power supply by a flexible cable, moving within the beam up to 15 m	psc.	2			
9.3.4	Installation of a tripod up to 6 m high with a hoist suspension, hoist loading capacity up to 10 t	psc.	1			
9.4	Water hammer chamber 1					
9.4.1	Installation of manual gear and chain based hoist device 2 t	psc.	1			
9.5	Water hammer chamber 2					
9.5.1	Installation of manual gear and chain based hoist device 2 t	psc.	1			
10	Check Valve Chamber construction outside of PS fully equipped on the outlet pipe	Lump sum	1			
11	Installation of the submersible pumps and piping system inside the PS to avoid water flooding	Lump Sum	1			
	TOTAL CARRIED FORWARD TO GRAND SUMMARY					

Note:

1. In the event of discrepancies between the unit price and the subtotal price, prices will be adjusted under clause 30.1(b) of the Instructions to Tenderers.
2. Mandatory spare parts are determined by the Tenderer, based on his experience, to ensure the smooth operation of the proposed equipment for the first at least two years.

Name:

In capacity of

Signed

Duly authorized to sign the bidder for and on behalf of (bidder name)

_____

Dated on____day of _____

Rehabilitation and Modernisation of Raw Water Intake Mytkiv and Water Treatment Plant Vikno
Line 3

PRICE SCHEDULE NO 3

Works Launch Complex (LC) 2- Vikno Water Treatment Plant

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
		1	2	3	4	5
1	**Preparatory works**					
1.1	Disassembly of road asphalt concrete pavements and its foundations, transportation of construction waste by dump trucks at a distance of 30 km	m^3	1260			
1.2	Disassembly of pavements and crushed stone foundations, transportation of construction waste by dump trucks at a distance of 30 km	m^3	2700			
2	**Dismantling works**					
2.1	**Dismantling of equipment (TX.3, BP. Sheet 1)**					
2.1.1	Dismantling cast-iron flange valves for conventional pressure 1, the diameter of the conventional passage is 1000 mm	pcs	5			
2.1.2	Dismantling cast-iron flange valves for conventional pressure 1 MPa, the diameter of the conventional passage is 800 mm	pcs	6			
2.1.3	Dismantling cast-iron flange valves for conventional pressure 1 MPa, the diameter of the conventional passage is 600 mm	pcs	13			
2.1.4	Dismantling cast-iron flange valves for conventional pressure 1 MPa, the diameter of the conventional passage is 400 mm	pcs	8			
2.1.5	Dismantling cast-iron flange valves for conventional pressure 1 MPa, the diameter of the conditional passage is 125-150 mm	pcs	34			
2.1.6	Dismantling of steel water pipes DN 1000 from the outlet from the NS 4PK0+00 to the inlet 4PC camera	m	12			
2.1.7	Dismantling ring of round wells made of prefabricated reinforced concrete	m^3	22			
2.1.8	Dismantling prefabricated round reinforced concrete manholes in dry soils	m^3	17			
2.2	**Dniester-Chernivtsi transmission main PS-II - PS-III section +09.07 - BOP.2 launch**					
2.2.1	Dismantling cast iron gate valves or check valves DN 100 mm	pcs	13			
2.2.2	Dismantling cast iron gate valves DN 50	pcs	3			
2.2.3	Dismantling weld branch DN100	pcs	13			
2.2.4	Dismantling weld branch DN 50	pcs	3			
2.2.5	Dismantling double air release valve	pcs	3			
2.2.6	Dismantling single air release valve	pcs	10			
2.2.7	Dismantling roller support	kg	14			
2.2.8	Dismantling of steel insert DN 800	kg	2480			
2.2.9	Dismantling of steel water pipes DN 900 mm	m	4			
2.2.10	Dismantling flanged ductile iron valves for nominal pressure 1 MPa, DN1200	pcs	3			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
2.2.11	Dismantling flanged ductile iron valves for nominal pressure 1 MPa, DN800	pcs	10			
2.2.12	Dismantling of corresponding steel flanges pipelines DN50	pcs	6			
2.2.13	Dismantling short type ductile iron valves DN100	pcs	13			
2.2.14	Dismantling corresponding flanges to the steel pipelines DN100	pcs	26			
2.3	**Water hammer suppressing chamber №1**					
2.3.1	Dismantling flanged ductile iron gate valves for nominal pressure 1 MPa, DN1000	pcs	1			
2.3.2	Dismantling ductile iron gate valves or check valves DN300	pcs	2			
2.3.3	Dismantling ductile iron valves DN200	pcs	1			
2.3.4	Dismantling valve DN1000	pcs	1			
2.3.5	Dismantling water hammer valve DN 300	pcs	2			
2.3.6	Dismantling of flanges (steel pipeline DN1000)	pcs	4			
2.3.7	Dismantling of flanges (steel pipeline DN300)	pcs	4			
3	**Civil works**					
3.1	**Foundation of pump unit №3**					
3.1.1	Dismantling of concrete foundations	m^3	5			
3.1.2	Loading garbage with excavators on cars-dump trucks, transportation of construction waste on the distance is 30 km	t	10			
3.1.3	Surface treatment with a sandblasting device in capacious structures - surface cleaning	m^2	6			
3.1.4	Construction of reinforced concrete foundations for equipment with a volume in one place of up to 10 m3	m^3	3			
3.1.5	Installation of foundation anchor bolt 1 (85 kg) - M24x300	psc	10			
3.1.6	Installation of cement coatings with a thickness of 20 mm, add for every 5 mm change in cement thickness coatings up to 50 mm	m^2	6			
3.1.7	Preparation of heavy cement mortars 200 marks	m^3	1			
3.2	**Foundation of pump unit №4**					
3.2.1	Dismantling of concrete foundations	m^3	10			
3.2.2	Loading garbage with excavators on cars-dump trucks, transportation of construction waste on the distance is 25 km	t	21			
3.2.3	Surface treatment with a sandblasting device in capacious structures - surface cleaning	m^2	14			
3.2.4	Construction of reinforced concrete foundations for equipment with a volume in one place of up to 10 m3	m^3	3			
3.2.5	Installation of foundation anchor bolt 1 (85 kg) - M24x300	psc	12			
3.2.6	Installation of cement coatings with a thickness of 20 mm, add for every 5 mm change in cement thickness coatings up to 50 mm	m^2	14			
3.2.7	Preparation of heavy cement mortars 200 marks	m^3	1			
3.3	**II Lift PS - Facade**					
3.3.1	Sealing of cracks and seams in concrete and reinforced concrete structures with polycement solution. cross section area up to 5 cm2, seams on top of vertical surface	m	735			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
3.3.2	Preparation of concrete surfaces with further applying of the renewed protective layer of concrete and reinforced concrete structures at thickness of layer of repaired material 10 mm	m^2	83			
3.3.3	Stitching of seams of the previously applied masonry brickwork	m^2	216			
3.3.4	Masonry works for separate brick wallsections at volume of masonry in one place up to 5m3	m^3	1			
3.3.5	Priming of walls, the first layer, impoved plastering of masonry walls manually with cement and lime mortar	m^2	30			
3.3.6	Priming and plastering of concrete and plastered surfaces	m^2	1664			
3.3.7	Dismantling window blocks with single and double frame in stone walls of industrial buildings at opening are up to 5 m2	m^2	446			
3.3.8	Filling of window openings in stone walls of residential and public buildings with prefabricated metalplastic blocks with an area up to 2 m2	m^2	446			
3.3.9	Dismantling of metal doors with steel boxes, installation of metal door boxes including hanging of door canvas	m^2	18			
3.3.10	Dismantling of metal gates with steel door boxes 3600*3600, installation of metal gates with steel door boxes 3600*3600	m^2	13			
3.3.11	Replacement of belts, hood mold, exterior sills, eaves up to 0.4 m wide from sheet steel	m	20			
3.3.12	Installation and dismantling of tubular scaffolding up to 16 m high for the exterior facade works	m^2	2205			
3.4	**II Lift PS - interior works**					
3.4.1	Applying of the renewed protective layer of concrete and reinforced concrete structures at thickness of layer of repaired material 10 mm: ceiling surfaces	m^2	600			
3.4.2	Coating of metal structures (- metal beams) up to 250 mm wide	m^2	150			
3.4.3	Coating and stitching the seams of the ceiling panels with mortar from the bottom side	m	227			
3.4.4	Priming of ceilings surfaces, the first layer	m^2	680			
3.4.5	Improved plastering of ceilings with cement solution manually on top of concrete	m^2	1220			
3.4.6	Disassembly of roofing from rolled materials, dismantling of leveling sand and cement screeds 15 mm thick, dismantling of leveling sand and cement screeds for every 1 mm of thickness change	m^2	460			
3.4.7	Loading of waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	t	25			
3.4.8	Applying bituminous primer	m^2	460			
3.4.9	Construction of pitched roofs made of heat-weld materials in two layers	m^2	570			
3.4.10	Applying of 15 mm thick sand and cement leveling screeds, applying of sand and cement leveling screeds for every 1 mm change of thickness up to 50 mm	m^2	460			
3.4.11	Priming of concrete and plastered surfaces	m^2	153			
3.4.12	Instalattion of small covers [parapets] from galvanized steel sheets	m^2	153			
3.4.13	Priming of concrete and plastered surfaces	m^2	120			
3.4.14	Disassembly of wall finishsing of ceramic glazed tiles	m^2	180			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
3.4.15	Loading of waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	t	35			
3.4.16	Finishing of wall surfaces with ceramic tiles on a solution from dry gluing mix, number of tiles per 1 m2 up to 7 pieces	m^2	255			
3.4.17	Priming of concrete and plastered surfaces	m^2	800			
3.4.18	Finishing of wall surfaces with ceramic tiles on a solution from dry gluing mix, number of tiles per 1 m2 up to 7 pieces	m^2	60			
3.4.19	Disassembly of flooring from ceramic tiles	m^2	145			
3.4.20	Loading of waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	t	6			
3.4.21	Finishing of flooring with ceramic tiles on a solution from dry gluing mix, number of tiles per 1 m2 up to 7 pieces	m^2	195			
3.4.22	Installation of protective caps made of steel sheets above round-shaped shafts DN 400 mm	cap	10			
3.4.23	Installation and dismantling of tubular inventory scaffolding for the interior works at the room height up to 6 m, add for every following 4 m of the roof height	m^2	1188			
3.5	**Service platforms №1, №2, №3**					
3.5.1	Production of elements of platforms for servicing of the equipment and pipelines, installation of platforms with a flooring and a fencing from sheet, corrugated, plain and round steel	kg	895			
3.5.2	Cleaning surfaces with brushes, priming of metal surfaces	m^2	61			
3.6	**Filter building. Facade.**					
3.6.1	Sealing of cracks and seams in concrete and reinforced concrete structures with polycement solution, cross section area up to 5 cm2, seams on top of vertical surface	m	390			
3.6.2	Applying of the renewed protective layer of concrete and reinforced concrete structures	m^2	54			
3.6.3	Stitching of seams of the previously applied masonry brickwork	m^2	75			
3.6.4	Masonry works for separate brick wallsections at volume of masonry in one place up to 5m3	m^3	1			
3.6.5	Impoved plastering of masonry walls manually with mortar	m^3	30			
3.6.6	Priming and applying of the renewed protective layer of concrete with further polyvinyl acetate painting of facades from scaffolding with surface priming	m^2	280			
3.6.7	Dismantling window blocks with single and double frame in stone walls of industrial buildings at opening	m^2	230			
3.6.8	Filling of window openings in stone walls of residential and public buildings with prefabricated metalplastic blocks with an area up to 2 m2	m^2	230			
3.6.9	Dismantling of metal door boxes including hanging of door canvas	m^2	2			
3.6.10	Installation of metal door boxes including hanging of door canvas	m^2	2			
3.6.11	Dismantling metal gates with steel door boxes 3600*3600, installation of metal gates with steel door boxes 3600*3600	m^2	13			
3.6.12	Installation and dismantling of tubular scaffolding up to 16 m high for the exterior façade works	m^2	2087			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
3.7	**Filter building. Roofing.**					
3.7.1	Disassembly of roofing of rolled materials, dismantling of 15 mm thick sand and cement leveling screeds, dismantling of sand and cement leveling screeds for every 1 mm change of thickness	m^2	2160			
3.7.2	Loading of construction waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	t	117			
3.7.3	Applying the bituminous primer, construction of pitched roofs made of heat-weld materials in two layers, applying of 15 mm thick sand and cement leveling screeds	m^2	2160			
3.8	**Filter building. Columns, walls, joints.**					
3.8.1	Disassembly of wall finishing from glazed ceramic tiles	m^2	85			
3.8.2	Loading of construction waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	t	4			
3.8.3	Priming and applying of the renewed protective layer of concrete and plastered surfaces	m^2	900			
3.8.4	Simple painting of walls with polyvinyl acetate water emulsion mixtures on top of plaster and prefabricated constructions primed for painting	m^2	130			
3.8.5	Preparation of concrete surfaces subject to repair with further applying of the renewed protective layer of concrete and reinforced concrete structures	m^2	110			
3.8.6	Coating of metal structures (- embedded parts) up to 250 mm	m^2	260			
3.8.7	Disassembly of wall finishing from glazed ceramic tiles	m^2	135			
3.8.8	Loading of construction waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	t	6			
3.8.9	Priming of concrete and plastered surfaces	m^2	1330			
3.8.10	Applying of the renewed protective layer of concrete and reinforced concrete structures	m^2	1330			
3.8.11	Simple painting of walls with polyvinyl acetate water emulsion mixtures on top of plaster and prefabricated constructions primed for painting	m^2	340			
3.8.12	Dismantling of a straight staircase with a fence	kg	728			
3.9	**Filter building. Roof beams, roof slabs, crane beams.**					
3.9.1	Priming of concrete and plastered surfaces with further applying of the renewed protective layer of concrete and reinforced concrete structures	m^2	500			
3.9.2	Applying of the renewed protective layer of concrete and reinforced concrete structures	m^2	100			
3.9.3	Coating of metal structures (- embedded parts) up to 250 mm wide	m^2	229			
3.9.4	Priming of concrete and plastered surfaces with further applying of the renewed protective layer of concrete and reinforced concrete structures	m^2	1500			
3.9.5	Preparation of concrete surfaces subject to repair with further applying of the renewed protective layer of concrete and reinforced concrete structures	m^2	950			
3.9.6	Sealing of joints in concrete and reinforced concrete structures with polymer-cement mortar, cross-sectional area up to 5 cm2, joints on the vertical surface	m	456			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
3.9.7	Installation and dismantling of tubular inventory scaffolding for the interior works at the room, add for every following 4 m of the roof height	m^2	2160			
3.10	**Floors of the filter buildings and chamber**					
3.10.1	Preparation of concrete surfaces subject to repair	m^2	400			
3.10.2	Applying of the renewed protective layer of horizontal concrete and reinforced concrete structures	m^2	570			
3.10.3	Disassembly of flooring from ceramic tiles	m^2	150			
3.10.4	Loading of waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	t	6			
3.10.5	Finishing of flooring with ceramic tiles on a solution from dry gluing mix, number of tiles per 1 m2 up to 7 pieces, priming of concrete and plastered surfaces, applying of the renewed protective layer of horizontal concrete and reinforced concrete structures	m^2	200			
3.10.6	Disassembly of wall finishing of ceramic glazed tiles	m^2	650			
3.10.7	Mortar rebound, rebound area in one place more than 5 m2 = K=0.7	m^2	325			
3.10.8	Loading of waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	t	51			
3.10.9	Treatment of cement plaster with a neutralizing solution finishing of wall surfaces with ceramic tiles on a solution from dry gluing mix, number of tiles per 1 m2 up to 7 pieces	m^2	650			
3.10.10	Disassembly of wall finishing of ceramic glazed tiles	m^2	3330			
3.10.11	Mortar rebound, rebound area in one place more than 5 m2 = K=0.7	m^2	1665			
3.10.12	Loading of waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	t	260			
3.10.13	Priming of wall surfaces, first layer, solid leveling of concrete wall surfaces	m^2	3330			
3.10.14	Priming of concrete and plastered surfaces, applying of the renewed protective layer of horizontal concrete and reinforced concrete structures	m^2	87			
3.10.15	Disassembly of wall finishing of ceramic glazed tiles	m^2	250			
3.10.16	Mortar rebound, rebound area in one place more than 5 m2	m^2	125			
3.10.17	Loading of waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	t	20			
3.10.18	Finishing of wall surfaces with ceramic tiles on a solution from dry gluing mix, number of tiles per 1 m2 up to 7 pieces	m^2	250			
3.11	**Filter building. Porch.**					
3.11.1	Preparation of concrete surfaces subject to repair with further applying of the renewed protective layer of concrete and reinforced concrete structures	m^2	20			
3.11.2	Sealing of joints in concrete and reinforced concrete structures with polymer-cement mortar, cross-sectional area up to 5 cm2, joints on the vertical surface	m	91			
3.11.3	Disassembly of roofing from rolled materials, dismantling of leveling sand and cement screeds 15 mm thick	m^2	20			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
3.11.4	Loading of waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	t	1			
3.11.5	Construction of 15 mm thick cement-sand levelling screeds, application of bituminous primer, construction of pitched roofs made of heat-weld materials in two layers, priming of surfaces, the first layer with further plastering of walls with cement solution manually on top of concrete, improved painting of walls with polivinyla cetatene wateremulsion mixes on top of plaster	m^2	25			
3.11.6	Plastering of wall surfaces, first layer, improved painting of walls with polivinyla cetatene wateremulsion mixes on top of plaster	m^2	40			
3.12	**Filter building. Cover slabs of the built-in floors.**					
3.12.1	Priming of concrete and plastered surfaces, applying of the renewed protective layer of concrete and reinforced concrete structures	m^2	240			
3.12.2	Preparation of concrete surfaces subject to repair with further applying of the renewed protective layer of concrete and reinforced concrete structures	m^2	90			
3.12.3	Sealing of joints in concrete and reinforced concrete structures with polymer-cement mortar, cross-sectional area up to 5 cm2, joints on the vertical surface	m	263			
3.13	**Filter building. Service platform Or 1.**					
3.13.1	Production of elements of platforms for servicing of the equipment and pipelines, installation of platforms with a flooring and a fencing from sheet, corrugated, plain and round steel	t	14			
3.13.2	Degreasing surfaces of equipment and pipelines with diameter over 500 mm with white spirit, priming of metal surfaces	m^2	67			
3.14	**Sedimentation basins, reaction chamber КБ-3. Roof and parapet.**					
3.14.1	Disassembly of roofing of rolled materials, disassembly of roofing of rolled materials in 1-3 layers, dismantling of 15 mm thick sand and cement leveling screeds	m^2	4274			
3.14.2	Loading of construction waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	t	231			
3.14.3	Applying the bituminous primer, construction of pitched roofs made of heat-weld materials in two layers, priming of wall surfaces, first layer, construction of 15 mm thick cement-sand levelling screeds	m^2	4403			
3.14.4	Priming of concrete and plastered surfaces and applying of the renewed protective layer of concrete and reinforced concrete structures with further polyvinyl acetate painting of facades from scaffolding with surface priming	m^2	133			
3.14.5	Preparation of concrete surfaces subject to repair with further polyvinyl acetate painting of facades from scaffolding with surface priming	m^2	20			
3.14.6	Sealing and grouting of floor panel joints with mortar from below - Joints	m of seam	300			
3.14.7	Installation of the small covers [parapets] with galvanized steel sheet	m^2	41			
3.15	**The contact reaction chamber КБ-3. Roofing.**					
3.15.1	Disassembly of roofing of rolled materials, disassembly of cement creed	m^2	1830			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
3.15.2	Loading of construction waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	t	99			
3.15.3	Applying the bituminous primer, construction of pitched roofs made of heat-weld materials in two layers	m^2	1952			
3.16	**The contact reaction chamber КБ-3. Roof beams, roof slabs, crane beams.**					
3.16.1	Priming of concrete and plastered surfaces, applying of the renewed protective layer of concrete and reinforced concrete structures	m^2	720			
3.16.2	Preparation of concrete surfaces subject to repair: ceiling surfaces with exposed reinforcing bars	m^2	144			
3.16.3	Applying of the renewed protective layer of concrete and reinforced concrete structures	m^2	1800			
3.16.4	Coating of metal structures (- embedded parts) up to 250 mm wide	m^2	90			
3.16.5	Priming of concrete and plastered surfaces with further applying of the renewed protective layer of concrete and reinforced concrete structures	m^2	1800			
3.16.5	Preparation of concrete surfaces subject to repair with further applying of the renewed protective layer of concrete and reinforced concrete structures and plastering of concrete surfaces with polymer cement plaster	m^2	1200			
3.16.7	Sealing of joints in concrete and reinforced concrete structures with polymer-cement mortar, cross-sectional area up to 5 cm2, joints on the vertical surface	m	682			
3.16.8	Disassembly of flooring from ceramic tiles	m^2	150			
3.16.9	Loading of construction waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	t	6			
3.16.10	Finishing of flooring with ceramic tiles on a solution from dry gluing mix, number of tiles per 1 m2 up to 7 pieces	m^2	200			
3.16.11	Priming of concrete and plastered surfaces, applying of the renewed protective layer of horizontal concrete and reinforced concrete structures	m^2	33			
3.16.12	Applying of the renewed protective layer of concrete and reinforced concrete structures with further improved painting of walls with polivinylacetatene wateremulsion mixes on top of plaster	m^2	94			
3.16.13	Preparation of concrete surfaces subject to repair with further applying of the renewed protective layer of concrete and reinforced concrete structures and plastering of concrete surfaces with polymer cement plaster	m^2	40			
3.16.14	Coating of metal structures (- embedded parts) up to 250 mm wide	m^2	50			
3.16.15	Sealing of joints in concrete and reinforced concrete structures with polymer-cement mortar, cross-sectional area up to 5 cm2, joints on the vertical surface	m	390			
3.16.16	Sealing of joints in concrete and reinforced concrete structures with polymer-cement mortar, cross-sectional area up to 5 cm2, joints on the vertical surface	m	390			
3.16.17	Preparation of concrete surfaces subject to repair with further applying of the renewed protective layer of concrete and reinforced concrete structures	m^2	135			
3.16.18	Stitching of seams of the previously applied masonry brickwork	m^2	200			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
3.16.19	Masonry works for separate brick wallsections at volume of masonry in one place up to 5m3	m^3	1			
3.16.20	Priming of walls, the first layer	m^2	280			
3.16.21	Applying of the renewed protective layer of concrete and reinforced concrete structures and polyvinylacetate painting of facades from scaffolding with surface priming	m^2	200			
3.16.22	Dismantling window blocks with single and double frame in stone walls of industrial buildings at opening are up to 5 m2	m^2	152			
3.16.23	Filling of window openings in stone walls of residential and public buildings with prefabricated metalplastic blocks with an area up to 2 m2	m^2	152			
3.16.24	Dismantling of metal door boxes including hanging of door canvas, installation of metal door boxes including hanging of door canvas	m^2	4			
3.16.25	Dismantling metal gates with steel door boxes 3600*3600, installation of metal gates with steel door boxes 3600*3600	m^2	26			
3.16.26	Disassembly of flooring from ceramic tiles	m^2	140			
3.16.27	Loading of construction waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	t	6			
3.16.28	Applying of the renewed protective layer of concrete and reinforced concrete structures and improved painting of walls with polivinylacetatene wateremulsion mixes on top of plaster	m^2	1250			
3.16.29	Disassembly of wall finishing of ceramic glazed tiles	m^2	2180			
3.16.30	Rebound of mortar from masonry and concrete walls and ceiling, rebound area in one place more than 5 m2	m^2	1090			
3.16.31	Loading of construction waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	t	171			
3.16.32	Priming of walls, first layer, solid leveling of concrete wall surfaces	m^2	2180			
3.16.33	Disassembly of wall finishing of ceramic glazed tiles	m^2	574			
3.16.34	Rebound of mortar from masonry and concrete walls and ceiling, rebound area in one place more than 5 m2	m^2	287			
3.16.35	Loading of construction waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	t	44			
3.16.36	Finishing of walls with antiseptic, first layer, finishing of wall surfaces with ceramic tiles on a solution from dry gluing mix, number of tiles per 1 m2 up to 7 pieces	m^2	574			
3.16.37	Disassembly of wall finishing of ceramic glazed tiles	m^2	950			
3.16.38	Rebound of mortar from masonry and concrete walls and ceiling, rebound area in one place more than 5 m2	m^2	475			
3.16.39	Loading of construction waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	t	74			
3.16.40	Priming of walls, first layer, solid leveling of concrete wall surfaces	m^2	950			
3.16.41	Disassembly of wall finishing of ceramic glazed tiles	m^2	455			
3.16.42	Rebound of mortar from masonry and concrete walls and ceiling, rebound area in one place more than 5 m2	m^2	228			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
3.16.43	Loading of construction waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	t	36			
3.16.44	Finishing of walls with antiseptic, first layer, finishing of wall surfaces with ceramic tiles on a solution from dry gluing mix, number of tiles per 1 m2 up to 7 pieces	m^2	455			
3.16.45	Installation and dismantling of tubular inventory scaffolding for the interior works at the room height up to 6 m, add for every following 4 m of the roof height	m^2	2160			
3.17	**Reagent facility block: flooring, walls, columns**					
3.17.1	Priming of concrete and plastered surfaces, applying of the renewed protective layer of concrete and reinforced concrete structures	m^2	28			
3.17.2	Dismantling metal gates with steel door boxes 3600*3600, installation of metal gates with steel door boxes 3600*3600	m^2	65			
3.17.3	Dismantling of metal doors with steel boxes, installation of insulated metal doors	m^2	6			
3.17.4	Disassembly of flooring from ceramic tiles	m^2	95			
3.17.5	Disassembly of cement floor cover	m^2	67			
3.17.6	Loading of construction waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	t	7			
3.17.7	Priming of walls, first layer, construction of cement screeds with a thickness of 20 mm, finishing of wall surfaces with ceramic tiles on a solution from dry gluing mix, number of tiles per 1 m2 up to 7 pieces	m^2	95			
3.17.8	Dismantling of metal doors with steel boxes, installation of insulated metal doors	m^2	4			
3.17.9	Dismantling window blocks with single and double frame in stone walls of industrial buildings at opening are up to 5 m2	m^2	120			
3.17.10	Filling of window openings in stone walls of residential and public buildings with prefabricated metalplastic blocks with an area up to 2 m2	m^2	120			
3.17.11	Priming of concrete and plastered surfaces	m^2	80			
3.17.12	Applying of the renewed protective layer of horizontal concrete and reinforced concrete structures at thickness of layer of repaired material 10 mm	m^2	146			
3.17.13	Sealing of cracks and seams in concrete and reinforced concrete structures with polycement solution, cross section area up to 5 cm2, seams on top of vertical surface (2m3)	m	390			
3.17.14	Preparation of concrete surfaces subject to repair with further applying of the renewed protective layer of concrete and reinforced concrete structures	m^2	253			
3.17.15	Stitching of seams of the previously applied masonry brickwork	m^2	125			
3.17.16	Priming of concrete and plastered surfaces	m^2	30			
3.17.17	Priming of concrete and plastered surfaces	m^2	140			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
3.17.18	Priming of concrete and plastered surfaces with further applying of the renewed protective layer of concrete and reinforced concrete structures and improved painting of walls with polyvinyl acetate water emulsion mixtures on top of plaster	m^2	120			
3.17.19	Priming of concrete and plastered surfaces with further applying of the renewed protective layer of concrete and reinforced concrete structures	m^2	50			
3.17.20	Priming of concrete and plastered surfaces with further applying of the renewed protective layer of concrete and reinforced concrete structures	m^2	25			
3.17.21	Preparation of concrete surfaces subject to repair with further applying of the renewed protective layer of concrete and reinforced concrete structures	m^2	10			
3.17.22	Sealing of joints in concrete and reinforced concrete structures with polymer-cement mortar, cross-sectional area up to 5 cm2, joints on the vertical surface	m	200			
3.17.23	Disassembly of roofing of rolled materials, disassembly of cement screed	m^2	840			
3.17.24	Loading of construction waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	t	45			
3.17.25	Priming of walls, first layer, applying of 15 mm thick sand and cement leveling screeds	m^2	840			
3.17.26	Applying the bituminous primer, construction of pitched roofs made of heat-weld materials in two layers	m^2	950			
3.17.27	Installation of the small covers [parapets] with galvanized steel sheet	m^2	72			
3.17.28	Coating of metal structures (- embedded parts) up to 250 mm wide	m^2	20			
3.17.29	Installation and dismantling of tubular inventory scaffolding for the interior works at the room height up to 6 m	m2	840			
3.18	**Reagent facility block: metal structures**					
3.18.1	Dismantling platforms with decking and fencing of sheet, corrugated, slotted and round steel, production of lattice fence structures, installation of fence	kg	653			
3.18.2	Priming of metal surfaces with GF-021 primer in one layer, painting of metal primed surfaces with enamel PF-115 in 2 layers	m^2	41			
3.18.3	Coating of metal structures (- embedded parts) up to 250 mm wide	m^2	30			
3.18.4	Priming of concrete and plastered surfaces with antiseptic, first layer, applying of the renewed protective layer of horizontal concrete and reinforced concrete structures, waterproofing of concrete and plastered surfaces, first layer and next layer	m^2	50			
3.19	**Rehabilitation of chamber ф=2mm**					
3.19.1	Installation of floor slabs ПТ8-11-19	psc	7			
3.19.2	Construction of ladders, joints and brackets - ladder brackets	kg	113			
3.19.3	Drilling of openings in reinforced concrete structures, opening's diameter 60 mm, depth of drilling 200 mm	psc	112			
3.19.4	Installation of small metal structures weighing up to 0.1 t - ladder brackets	kg	113			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
3.19.5	Waterproofing of seams in reinforced concrete walls by injection method, seam cross-section 20 mm x 100 mm, without water filtration	m seam	210			
3.19.6	Priming of walls, installation of metal mesh base for plastering on top of brick and concrete surfaces with further applying of the renewed protective layer of concrete and reinforced concrete structures, painting of plastered interior walls	m^2	112			
3.19.7	Drilling of horizontal openings in reinforced concrete structures with the use of a coolant /water/, depth of 200 mm and a diameter of 160 mm	psc	7			
3.19.8	Construction of a chimney ф=152, installing the ventilation elements	kg	266			
3.19.9	Application of reinforced anti-corrosion bitumen-rubber insulation for steel pipelines DN 150	m	15			
3.19.10	Sealing of stuffing boxes when pipes pass through foundations or basement walls, DN up to 200 mm	stuff. Box	7			
3.19.11	Installation of protective caps made of steel sheets above round-shaped shafts DN 150 mm	cap	7			
3.19.12	Painting of primed metal surfaces	m^2	7			
3.20	**Rehabilitation of chamber ф=1,5 m**					
3.20.1	Installation of floor slabs ПТ8-11-19	psc	24			
3.20.2	Construction of ladders, joints and brackets - ladder brackets Installation of small metal structures weighing up to 0.1 tons - ladder brackets	kg	386			
3.20.3	Drilling of openings in reinforced concrete structures, opening's diameter 60 mm, depth of drilling 200 mm	psc	384			
3.10.4	Waterproofing of seams in reinforced concrete walls by injection method, seam cross-section 20 mm x 100 mm, without water filtration	m seam	720			
3.20.5	Priming of walls, first layer	m^2	2112			
3.20.6	Applying of the renewed protective layer of concrete and reinforced concrete structures	m^2	384			
3.20.7	Painting of plastered interior walls with lime mortars with the prior preparation of surface	m^2	288			
3.20.8	Drilling of horizontal openings in reinforced concrete structures with the use of a coolant /water/, depth of 200 mm and a diameter of 160 mm	psc	24			
3.20.9	Construction of a chimney ф=152	kg	912			
3.20.10	Laying of steel water supply pipes, pipe DN 150	m	50			
3.20.11	Installation of protective caps made of steel sheets above round-shaped shafts DN 150 mm	cap	24			
3.21	**Rehabilitation of chamber ВК-18**					
3.21.1	Installation of floor slabs ПТ8-11-19	psc	1			
3.21.2	Construction of ladders, joints and brackets - ladder brackets Installation of small metal structures weighing up to 0.1 tons - ladder brackets	kg	16			
3.21.3	Drilling of openings in reinforced concrete structures, opening's diameter 60 mm, depth of drilling 200 mm	psc	16			
3.21.4	Waterproofing of seams in reinforced concrete walls by injection method, seam cross-section 20 mm x 100 mm, without water filtration	m seam	50			
	A. Underground part					

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
3.21.5	Priming of walls, installation of metal mesh base for plastering on top of brick and concrete surfaces, applying of the renewed protective layer of concrete and reinforced concrete structures and painting of plastered interior walls	m^2	26			
3.21.6	Drilling of horizontal openings in reinforced concrete structures with the use of a coolant /water/, depth of 200 mm, a diameter of 160 mm	psc	1			
3.21.7	Construction of a chimney ф=152	kg	38			
3.21.8	Laying of steel water supply pipes pipe DN150	m	2			
3.21.9	Installation of protective caps made of steel sheets above round-shaped shafts DN150	cap	1			
3.22	**Rehabilitation of chamber MK8**					
3.22.1	Installation of prefabricated round reinforced concrete wells in dry soils	m^3	5			
3.22.2	Waterproofing of seams in reinforced concrete walls by injection method, seam cross-section 20 mm x 100 mm, without water filtration	m seam	650			
3.22.3	Priming of walls, applying of the renewed protective layer of concrete and reinforced concrete structures, installation of metal mesh base for plastering on top of brick and concrete surfaces	m^2	286			
3.23	**Hydraulic hammer suppressing chamber №1**					
3.23.1	Disassembly of roofing from rolled materials, disassembly of cement screed	m^2	28			
3.23.2	Loading of construction waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	kg	1 500			
3.23.3	Dismantling single crane beams at elevation up to 25 m and weighing up to 1 ton (sheet 3)	kg	1 100			
3.23.4	Dismantling of cover slabs with supports on both sides and area up to 10 m2 [for construction in areas with seismicity level up to 6 points]	psc	8			
3.23.5	Transportation of prefabricated reinforced concrete elements with a length from 6.6 to 12 m by general purpose vehicles at a distance of 30 km	kg	3 080			
3.23.6	Disassembly of brick walls	m^3	3			
3.23.7	Loading of construction waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	kg	2 400			
3.23.8	Priming of ceilings, installation of a metal grid base for plastering on brick and concrete surfaces, applying of the renewed protective layer of concrete and reinforced concrete structures	m^2	72			
3.23.9	Priming of walls, applying of the renewed protective layer of concrete and reinforced concrete structures	m^2	167			
3.23.10	Priming of walls with antiseptic, first layer	m^2	25			
3.23.11	Installation of metal door frames with door panels	m^2	3			
3.23.12	Manual cleaning of simple facades from moss	m^2	21			
3.23.13	Dismantling of wall finishing of ceramic glazed tiles	m^2	109			
3.23.14	Loading of construction waste on dump trucks by excavators, transportation of construction waste by dump trucks at a distance of 30 km	kg	4 800			
3.23.15	Installation of coverings [parapets] with galvanized sheet steel	m^2	4			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
3.23.16	Dismantling platforms with flooring and fencing (sheet 6)	t	5			
3.23.17	Construction and disassembly of inventory tubular scaffolding up to 20 m high inside facilities	m^2	237			
3.24	**Renovation of cover of the chamber №1**					
3.24.1	Masonry sections of brick walls and filling in openings in masonry walls, up to masonry volume in one place up to 5 m3	m^3	3			
3.24.2	Arrangement of belts in the formwork	m^3	4			
3.24.3	Production of ЗД-1 =12 pc.	kg	120			
3.24.4	Priming of metal surfaces in one layer primed with GF-0119	m^2	3			
3.24.5	Installation of embedded parts weighing more than 5 kg up to 10 kg	kg	116			
3.24.6	Installation of beams /on reinforced concrete and masonry supports/	kg	1 100			
3.24.7	Priming of metal surfaces in one layer	m^2	42			
3.24.8	Installation of roofing from prefabricated laminated panels /installation of factory painted or unpainted structures supplied in packages/	m^2	65			
3.25	**Service platform of the hydraulic hammer suppressing chamber №1**					
3.25.1	Construction of beams, installation of beams /on top of reinforced concrete and stone supports/	kg	880			
3.25.2	Production of elements of platforms for servicing of the equipment and pipelines	kg	1 145			
3.25.3	Construction of the fence	kg	105			
3.25.4	Installation of platforms with a flooring and a fencing from sheet, corrugated, plain and round steel	kg	1 250			
3.25.5	Cleaning surfaces with brushes	m^2	130			
3.25.6	Degreasing surfaces of devices and pipelines DN500 with white spirit	m^2	61			
3.25.7	Priming of metal surfaces in one layer, painting of metal primed surfaces in 2 layers	m^2	130			
3.26	**General construction works in chambers: ВК 9, ВК 11, ВК-18, ВК 22, ВК 27,ВК 33, ВК 39, ВК 41, ВК 51, ВК-53, ВК-55, ВК 57,ВК 61**					
3.26.1	Installation of prefabricated round reinforced concrete wells in dry soils (0,25)	m^3	22			
3.26.2	Laying of floor slabs up to 5 m2 up to 5 tons	psc	13			
3.27	**General construction works in chambers: ВК 10, ВК 12, ВК 16, ВК 19,ВК 23,ВК 24, ВК 25, ВК 28,ВК 31, ВК 32, ВК 36,ВК 37,ВК 43, ВК 45, ВК 46,ВК 56, ВК 59, ВК 61**					
3.27.1	Installation of prefabricated round reinforced concrete wells in dry soils (0.25)	m^3	29			
4	**<u>Earthworks</u>**					
4.1	**Relocation of the pipeline from the PS otlet 4ПК0+00 to chamber inlet 4ПК0+9,6**					
4.1.1	Soil development with vehicle load- dump trucks with single-bucket diesel excavator, soil group 2, transportation of soil up to 1 km, work on a dump, group of soils 2-3	m^3	73			
4.1.2	Manual finishing, cleaning the bottom and walls manually with moving of soil in the ditches and trenches developed in a mechanized way	m^3	9			
4.1.3	Loading of soil on dump trucks by single-bucket diesel excavators on caterpillar course, group of soils 2, transportation of soil up to 1 km	m^3	109			
4.1.4	Work on a dump, group of soils 2-3	m^3	9			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
4.1.5	Arrangment of a sand base under the pipelines	m^3	1.2			
4.1.6	Loading on dump trucks by single-bucket diesel excavators on caterpillar course, group of soils 2, transportation of soil up to 1 km	m^3	81			
4.1.7	Backfilling of trenches and ditches with bulldozers with displacement soil up to 5 m, soil group 2	m^3	65			
4.1.8	Compaction of soil by pneumatic rammers, soil group 1, 2	m^3	66			
4.1.9	Manual backfilling of trenches, sides of ditches and pits, group of soils 2	m^3	16			
4.2	**General construction works in chambers: ВК 9, ВК 11, ВК-18, ВК 22, ВК 27,ВК 33, ВК 39, ВК 41, ВК 51, ВК-53, ВК-55, ВК 57,ВК 61**					
4.2.1	Cutting of dense shrubs and low forests in naturally occurring soils with bush cutters on a tractor base Gathering of cut or uprooted dense shrubs and low forests with a combine grubber and collecting device on a tractor base with relocation up to 20 m	m^2	1300			
4.2.2	Shredding branches, bushes and treetops for brunch thickness from 1 to 5 cm	m^3	20			
4.2.3	Excavation of soil into a dump with dragline excavators or "return shovel", soil group 2	m^3	469			
4.2.4	Manual finishing, cleaning the bottom and walls manually with moving of soil in the ditches and trenches developed in a mechanized way	m^3	202			
4.2.5	Construction of banks by a single-bucket diesel excavators on caterpillar course with a bucket capacity of 1 m3, group of soils 2	m^3	469			
4.2.6	Manual backfilling of trenches, sides of ditches and pits, group of soils 2	m^3	202			
4.2.7	Mechanical land leveling, soil group 2	m^2	13			
4.2.8	Compaction of soil by pneumatic rammers, soil group 1, 2	m^3	469			
4.3	**General construction works in chambers: ВК 10, ВК 12, ВК 16, ВК 19,ВК 23,ВК 24, ВК 25, ВК 28,ВК 31, ВК 32, ВК 36,ВК 37,ВК 43, ВК 45, ВК 46,ВК 56, ВК 59, ВК 61**					
4.3.1	Cutting of dense shrubs and low forests in naturally occurring soils with bush cutters on a tractor base, gathering of cut or uprooted dense shrubs and low forests with a combine grubber and collecting device on a tractor base with relocation up to 20 m	m^2	1700			
4.3.2	Shredding branches, bushes and treetops for brunch thickness from 1 to 5 cm	m^3	26			
4.3.3	Excavation of soil into a dump with dragline excavators or "return shovel", soil group 2	m^3	614			
4.3.4	Manual finishing, cleaning the bottom and walls manually with moving of soil in the ditches and trenches developed in a mechanized way	m^3	264			
4.3.5	Construction of banks by a single-bucket diesel excavators on caterpillar course with a bucket capacity of 1 m3, group of soils 2, compaction of soil by pneumatic rammers, soil group 1, 2	m^3	614			
4.3.6	Manual backfilling of trenches, sides of ditches and pits, group of soils 2	m^3	264			
4.3.7	Compaction of soil by pneumatic rammers, soil group 1, 2	m^3	614			
5	**Construction and installation works**					
5.1	**Rehabilitation of 2d Lift PS (Vikno)**					
5.1.1	Installation of the pump unit, Pump Q=2100m3/h, H=152 m, N=1008 kW, n=750 rpm	psc	2			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
5.1.2	Preparation for testing, commissioning, connection to power network of electrical machines with short-circuited rotor and panel bearings, that are delivered pre-assembled, weight up to 3 t	psc	2			
5.1.3	Installation of the short type Valve DN1000 mm, Pn10	psc	2			
5.1.4	Installation of the short type Valve DN800 mm, Pn10	psc	2			
5.1.5	Installation of the return disk type valve with a counterweight DN800 mm, Pn16	psc	2			
5.1.6	Installation of the single-dlanged air release valve for nominal pressure 1.6 MPa	psc	1			
5.1.7	Installation of dismantling joints DN1000 mm, PN10	psc	2			
5.1.8	Installation of dismantling joints DN800 mm, PN10	psc	2			
5.1.9	Installation of rubber expansion joint type 50 DN350 mm	psc	2			
5.1.10	Installation of rubber expansion joint type 50 DN400 mm	psc	2			
5.1.11	Installation of ductile iron gate valves DN 200 mm	psc	2			
5.2	**Pipelines**					
5.2.1	Laying of steel water supply pipelines with a hydraulic test, DN 1000	m	7			
5.2.2	Washing and disinfecting of pipelines with a diameter 1020	m	9			
5.2.3	Laying of steel water supply pipelines with a hydraulic test DN 800, washing and disinfecting of pipelines DN 800	m	8			
5.2.4	Laying of steel water supply pipelines with a hydraulic test DN 500	m	1			
5.2.5	Washing and disinfecting of pipelines DN 400 mm	m	1			
5.2.6	Installation of transition Э 1020x14 -530x8, L=1250 (268 kg)	psc	2			
5.2.7	Installation of bend 45 -1020x12, (293.5 kg)	psc	4			
5.2.8	Installation of transition К820x16 -530x12, L=800 (185 kg)	psc	2			
5.2.9	Installation of transition Э 530x12 -426x10, L=300 (46 kg)	psc	2			
5.2.10	Installation of transition К530x14 -377x12, L=220 (54 kg)	psc	4			
5.2.11	Installation of transition К377x16 -219x10, L=220 (29 kg)	psc	4			
5.2.12	Welding of flanges to steel pipelines DN 1000	psc	4			
5.2.13	Welding of flanges to steel pipelines DN 800	psc	4			
5.2.14	Welding of flanges to steel pipelines DN 400	psc	2			
5.2.15	Welding of flanges to steel pipelines DN 350	psc	2			
5.2.16	Welding of flanges to steel pipelines DN 200	psc	2			
5.2.17	Quality control of welded joints of pipelines by external inspection and measurement, performed during installation, pipe diameter up to 219	seam	4			
5.2.18	Quality control of welded joints of pipelines by external inspection and measurement, performed during installation, pipe diameter up to 377	seam	8			
5.2.19	Quality control of welded joints of pipelines by external inspection and measurement, performed during installation, pipe diameter up to 465	seam	2			
5.2.20	Quality control of welded joints of pipelines by external inspection and measurement, performed during installation, pipe diameter up to 530	seam	10			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
5.2.21	Quality control of welded joints of pipelines by external inspection and measurement, performed during installation, pipe diameter up to 820	seam	2			
5.2.22	Quality control of welded joints of pipelines by external inspection and measurement, performed during installation, pipe diameter up to 1020	seam	10			
5.2.23	Quality control of welded joints of pipelines by ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 299 mm, wall thickness up to 6-8 mm	seam	4			
5.2.24	Quality control of welded joints of pipelines by ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 377, wall thickness up to 6-8 mm	seam	8			
5.2.25	Quality control of welded joints of pipelines by ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 465, wall thickness 9-14 mm	seam	2			
5.2.26	Quality control of welded joints of pipelines by ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 550, wall thickness 9-14 mm	seam	10			
5.2.27	Quality control of welded joints of pipelines by ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 820, wall thickness 9-14 mm	seam	2			
5.2.28	Quality control of welded joints of pipelines by ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 1220, wall thickness 9-14 mm	seam	10			
5.2.29	Cleaning of surfaces with brushes + pipe diameter 820 mm, dedusting of metal surfaces, degreasing of surfaces of devices and pipelines diameter more than 500 mm with white spirit, priming of metal primed surfaces at once, painting of metal primed surfaces in 2 layers	m^2	82			
5.3	**Installation works for water supply block of the treatment plant: reagent facility block, sedimentation basins, filters**					
5.3.1	Installation of valve - flanged short-type ductile iron valve F4 (GR14) F4	psc	24			
5.3.2	Installation of turbidity measuring device	set	1			
5.3.3	Installation of ultrasonic flowmeter DN1000....1200; (weight=0)	psc	2			
5.3.4	Installation of dismantling joint DN1000 mm, PN10	psc	5			
5.3.5	Installation of dismantling joint DN800 mm, PN10	psc	1			
5.3.6	Installation of dismantling joint DN600 mm, PN10	psc	13			
5.3.7	Installation of dismantling joint DN400 mm, PN10	psc	8			
5.3.8	Installation of dismantling joint DN150 mm, PN10	psc	26			
5.3.9	Welding of flanges to steel pipelines DN 1000	psc	10			
5.3.10	Welding of flanges to steel pipelines DN 800	psc	12			
5.3.11	Welding of flanges to steel pipelines DN 600	psc	26			
5.3.12	Welding of flanges to steel pipelines DN 400	psc	16			
5.3.13	Welding of flanges to steel pipelines DN 150	psc	50			
5.3.14	Welding of flanged blinging DN 800	psc	5			
5.3.15	Installation of a coupling flange DN 600*400	psc	10			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
	Filters					
5.3.16	Installation of flanged ductile iron butterfly valve ASK with double eccentric type F4 (GR14) DN1000 PN10	psc	5			
5.3.17	Installation of ductile iron butterfly valve ASK type F4 (GR14) DN800 PN10	psc	5			
5.3.18	Installation of vavles - full pass hydraulic ductile iron valve DN400 PN10	psc	5			
5.3.19	Installation of vavles - flanged short-type ductile iron valve F4 (GR14) F4 DN150 PN10	psc	10			
	Sedimentation basins					
5.3.20	Installation of ductile iron butterfly valve ASK type F4 (GR14) DN800 PN10	psc	1			
5.3.21	Installation of ductile iron butterfly valve ASK type F4 (GR14) DN600 PN10	psc	8			
5.3.22	Installation of flanged ductile iron butterfly valve ASK with double eccentric type F4 (GR14) N400 PN10	psc	8			
5.3.23	Filling filters in tank structures with sand, dismantling filling filters in tank structures with sand	m^3	1400			
5.4	**Relocation of the pipeline from the PS otlet 4ПК0+00 to chamber inlet 4ПК0**					
5.4.1	Laying of steel water supply pipelines with a hydraulic test DN 1000	m	12			
5.4.2	Installation of elbow bend 45 -1020x12, (293.5 kg)	psc	2			
5.4.3	Applying of highly reinforced bitumen and rubber based anti-corrosion insulation on steel pipelines DN 500	m	12			
5.4.4	Applying of highly reinforced bitumen and rubber based anti-corrosion insulation on seams and fittings of pipelines DN 1000	m	2			
5.4.5	Applying of highly reinforced bitumen and rubber based anti-corrosion insulation on steel pipelines with a diameter of 1000 mm	m	12			
5.4.6	Washing and disinfecting of pipelines DN 1000	m	12			
5.4.7	Quality control of welded joints of pipelines by ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 1020 mm, wall thickness up to 9-14 mm	seam	3			
5.4.8	Quality control of welded joints of pipelines by external inspection and measurement, performed during installation, pipe diameter up to 1020 mm	seam	3			
5.5	**Works in the existing network - Dniester-Chernivtsi transmission main PS-II - PS-III section**					
5.5.1	Installation - ductile iron valvewith double eccentric DN 1200 mm, Pn10 with reducer	psc	3			
5.5.2	Welding of flanges to steel pipelines DN 1200	psc	6			
5.5.3	Installation of steel insert (smooth end - socket) DN 800 (248 kg)	psc	46			
5.5.4	Laying of steel water pipes with hydraulic testing DN 800	m	46			
5.5.5	Installation - ductile iron valvewith double eccentric DN 800, Pn10 with reducer (P=738 kg)	psc	10			
5.5.6	Welding of flanges to steel pipelines DN 800 mm	psc	20			
5.5.7	Installation of ductile iron valves or check valves DN 100	psc	13			
5.5.8	Welding of flanges to steel pipelines DN 100	psc	26			
5.5.9	Installation of valves - Full pass hydraulic ductile iron valve DN200 PN16	psc	23			
5.5.10	Connections to existing networks from DN 800 mm diameter steel pipes - Weld branch l=150	psc	23			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
5.5.11	Installation of a coupling flange 800*200 mm	psc	23			
5.5.12	Installation of ductile iron valves or check valves DN 200	psc	23			
5.5.13	Quality control of welded joints of pipelines by external inspection and measurement, performed during installation, pipe diameter up to 150	seam	46			
5.5.14	Quality control of welded joints of pipelines by ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up to 150	seam	46			
5.5.15	Quality control of welded joints of pipelines by external inspection and measurement, performed during installation, pipe diameter up to 820	seam	8			
5.5.16	Quality control of welded joints of pipelines by ultrasonic flaw detection with transverse sounding, performed during installation, pipe diameter up 820, wall thickness up to 9-14 mm	seam	8			
5.5.17	Washing and disinfecting of pipelines DN 900	m	28252			
5.5.18	Cleaning of surface with brushes (pipe diameter up 820), degreasing surfaces of devices and pipelines diameter over 500 mm with white spirit, priming of metal surfaces in one layer	m^2	127			
5.6	**Rehabilitation of the water hammer suppressing chamber №1**					
5.6.1	Savety valve for pressure 1.6-2.5 MPa, automatic hydraulic DN 300 (255 kg)	psc	2			
5.6.2	Flanged ductile iron valves for nominal pressure 1 MPa DN 1000	psc	1			
5.6.3	Installation of ductile iron gate valves or check valves DN 300	psc	2			
5.6.4	Installation of ductile iron gate valves or check valves DN 200	psc	2			
5.6.5	Installation of return valves for nominal pressure 1.6 MPa, nominal diameter 1000 mm	psc	1			
5.6.6	Installation of a manual mobile hoist device, load lifting capacity 3.2 t, lifting hight 3 m	psc	1			
5.6.7	Installation - Dismantling joint DN1000 mm, PN10	psc	1			
	Pipelines					
5.6.8	Laying of steel water supply pipelines with a hydraulic test, DN 1200	m	2			
5.6.9	Washing and disinfecting of pipelines with DN 1200	m	8			
5.6.10	Laying of steel water supply pipelines with a hydraulic test, DN 1000, washing and disinfecting of pipelines with a diameter 1020	m	8			
5.6.11	Laying of steel water supply pipelines with a hydraulic test, DN 600, washing and disinfecting of pipelines DN 600	m	6			
5.6.12	Welding of flanges to steel pipelines DN 1000	psc	4			
5.6.13	Welding of flanges to steel pipelines DN 300	psc	2			
5.6.14	Welding of flanges to steel pipelines DN 200	psc	1			
5.6.15	Installation of reducer К426x10-219x8, L=220 (45 kg)	psc	1			
5.6.16	Installation of reducer К630x14-426x10, L=580 (90 kg)	psc	1			
5.6.17	Installation of Reducer К1220x14.0-1020x12.0 L=700 mm (249 kg)	psc	1			
5.6.18	Quality control of welded joints of pipelines by external inspection and measurement, performed during installation, pipe diameter up to 1220	seam	1			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
5.6.19	Quality control of welded joints of pipelines by external inspection and measurement, performed during installation, pipe diameter up to 1020	seam	2			
5.6.20	Quality control of welded joints of pipelines by external inspection and measurement, performed during installation, pipe diameter up to 630	seam	1			
5.6.21	Quality control of welded joints of pipelines by external inspection and measurement, performed during installation, pipe diameter up to 426	seam	2			
5.6.22	Quality control of welded joints of pipelines by external inspection and measurement, performed during installation, pipe diameter up to 219	seam	1			
5.6.23	Priming of metal surfaces with ГФ-021 primer, painting of metal primed surfaces with ПФ-115 enamel - in 2 layers,	m^2	51			
6	**Electrical works**					
6.1	**6 kV Power supply line for Vikno 2nd Lift Pumping Station**					
6.1.1	Dismantling of the current transformer with voltage up to 20 kV	psc	3			
6.1.2	Dismantling cable up to 35 kV, installed using overlaying fastening brackets, weight of 1 m up to 1 kg	m	134			
6.1.3	Dismantling of the current transformer with voltage up to 20 kV	psc	9			
6.1.4	Installation of a circuit breaker with the switching module = Vacuum circuit breaker - BB/TEL-10-20/630	psc	3			
6.1.5	Installation of block of a control unit or distribution point [cabinet] that is installed on wall, height and width up to 600x600 mm - control module	psc	3			
6.1.6	Installation of a protection switch / limiter - overvoltage limiter	psc	9			
6.1.7	Installation of the current transformer with voltage up to 20 kV	psc	12			
6.1.8	Installation of the boards, panels, relay cabinets, weight up to 50 kg - Microprocessor relay protection device	psc	3			
6.1.9	Installation of the basis of single cable shelves - the console fastening	psc	59			
6.1.10	Installation of tay on top of installed structures, tray width up to 400 mm	m	30			
6.1.11	Laying the cable up to 35 kV, installed on top of the constructed structures and in trays with fastening throughout the entire length, weight of 1 m up to 3 kg = (3.78 kg/m)	m	199			
6.1.12	Laying the steel pipe attached to walls with overlaying fastening brackets, DN 50	m	4			
6.1.13	Laying the cable up to 35 kV installed in laid pipes, blocks and boxes, weight of 1 m up to 3 kg	m	4			
6.1.14	Installation (by Heating) of the epoxy coupling binder of the improved-structure for the 3-core cable [one connection - 3 couplings] with a voltage up to 35 kV in climatic performance У-2.5 and УХЛ-2.5, cross section of one core up to 95 mm2 = 10 pc.	connection	3			
6.1.15	Installation of louvered grilles with an area of opening up to 2.5 m2 - Façade sheet for the cart	grilles	3			
6.1.16	Installation of a module block-box of the 6 kV frequency converter	psc	2			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
6.1.17	Installation of the device and connection of external network cables or wires to the equipment and devices - modernization of switchgear for 6(10) kV	device	1			
6.2	**0,4 kV Power supply line for Vikno 2nd Lift Pumping Station. Water Hammer Suppressing Chamber №1**					
6.2.1	Installation of automatic circuit breaker 6kA, 3P, C, 20A	psc	2			
6.2.2	Installation of automatic circuit breaker 6kA, 3P, C, 40A	psc	1			
6.2.3	Installation of automatic circuit breaker 6kA, 3P, C, 32A	psc	1			
6.2.4	Installation of the switchgear cabinet of the complex distribution device with a voltage 6-10 kV for current up to 3200 A - 800x1800x600 (WxHxG)	psc	1			
6.2.5	Installation of the hinged control panel, height, width and depth up to 600x600x350 mm	psc	5			
6.2.6	Laying of the flexible hermetic PVC sleeve in a case with sealing д-20мм-Р3-ЦХ-20 d 20 mm, with cotton sealing	m	55			
6.2.7	Laying of the first single-core or multi-core wire in the general braid in laid pipes or metal sleeves, total cross section up to 6 mm2	m	55			
6.2.8	Installation of the basis of single cable shelves - console fastening	psc	120			
6.2.9	Installation of the tray on top of installed structures, tray width up to 200 mm	m	126			
6.2.10	Laying of the cable up to 35 kV, installed on top of the constructed structures and in trays with fastening throughout the entire length, weight of 1 m up to 3 kg	m	1165			
6.3	**0,4 kV Power supply line for Vikno 2nd Lift Pumping Station. WTP**					
6.3.1	Installation of automatic circuit breaker 6kA, 3P, C, 20A	psc	2			
6.3.2	Installation of automatic circuit breaker 6kA, 3P, C, 63A	psc	2			
6.3.3	Installation of automatic circuit breaker 6kA, 3P, C, 40A	psc	5			
6.3.4	Installation of the ABP (Automatic reserve inlet) cabinet - hinged, height, width and depth up to 600x800x250 mm -	psc	1			
6.3.5	Installation of the switchgear cabinet of the complex distribution device with a voltage 6-10 kV for current up to 3200 A - 1200x1800x600 (WxHxD)	psc	1			
6.3.6	Installation of the switchgear cabinet of the complex distribution device with a voltage 6-10 kV for current up to 3200 A - 1200x1800x600 (WxHxD)	psc	1			
6.3.7	Installation of the switchgear cabinet of the complex distribution device with a voltage 6-10 kV for current up to 3200 A - 1200x1800x600 (WxHxD)	psc	1			
6.3.8	Hinged control panel, height, width and depth up to 600x600x350 mm - valves	psc	27			
6.3.9	Installation of a box with a switch for current up to 100A	psc	3			
6.3.10	Laying of metal sleeve, outer diameter up to 48 mm	m	605			
6.3.11	Laying of the first single-core or multi-core wire in the general braid in laid pipes or metal sleeves, total cross section up to 6 mm2	m	100			
6.3.12	Laying of the first single-core or multi-core wire in the general braid in laid pipes or metal sleeves, total cross section up to 16 mm2	m	470			
6.3.13	Laying of the first single-core or multi-core wire in the general braid in laid pipes or metal sleeves, total cross section up to 35 mm2	m	10			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
6.3.14	Laying of the first single-core or multi-core wire in the general braid in laid pipes or metal sleeves, total cross section up to 70 mm2	m	15			
6.3.15	Laying of the first single-core or multi-core wire in the general braid in laid pipes or metal sleeves, total cross section up to 120 mm2	m	10			
6.3.16	Installation of basis of single cable shelves -- console fastening	psc	470			
6.3.17	Installation of tray on top of installed structures, tray width up to 400 mm	m	135			
6.3.18	Installation of tray on top of installed structures, tray width up to 200 mm	m	345			
6.3.19	Laying of the cable up to 35 kV, installed on top of the constructed structures and in trays with fastening throughout the entire length, weight of 1 m up to 3 kg	m	16400			
7	**Road surfaces**					
7.1	**Rehabilitation of 2d Lift PS (Vikno). Blinding areas.**					
7.1.1	Disassembly of road asphalt concrete pavements and its foundations, transportation of construction waste by dump trucks at a distance of 30 km	m^3	5			
7.1.2	Disassembly of pavements and crushed stone foundations, transportation of construction waste by dump trucks at a distance of 30 km	m^3	23			
7.1.3	Construction of sidewalk's crushed stone bases, layer thickness 12 cm, construction of concrete 30 mm thick cover	m^2	220			
7.2	**Filter building. Blinding areas.**					
7.2.1	Disassembly of road asphalt concrete pavements and its foundations, transportation of construction waste by dump trucks at a distance of 30 km	m^3	2			
7.2.2	Disassembly of pavements and crushed stone foundations, transportation of construction waste by dump trucks at a distance of 30 km	m^3	11			
7.2.3	Construction of sidewalk's crushed stone bases, layer thickness 12 cm, remove up to 8 cm for each 1 cm of thickness change	m^2	155			
7.2.4	Construction of concrete 30 mm thick cover, add for each 5 mm of thickness changes of the concrete cover up to 50 mm	m^2	70			
7.3	**Sedimentation basins, reaction chamber. Blinding areas.**					
7.3.1	Disassembly of road asphalt concrete pavements and its foundations, transportation of construction waste by dump trucks at a distance of 30 km	m^3	4			
7.3.2	Disassembly of pavements and crushed stone foundations, transportation of construction waste by dump trucks at a distance of 30 km	m^3	19			
7.3.3	Construction of sidewalk's crushed stone bases, layer thickness 12 cm, construction of concrete 30 mm thick cover	m^2	168			
7.4	**The contact reaction chamber. Blinding areas.**					
7.4.1	Disassembly of road asphalt concrete pavements and its foundations, transportation of construction waste by dump trucks at a distance of 30 km	m^3	3			
7.4.2	Disassembly of pavements and crushed stone foundations, transportation of construction waste by dump trucks at a distance of 30 km	m^3	14			
7.4.3	Construction of sidewalk's crushed stone bases, layer thickness 12 cm,	m^2	126			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
	construction of concrete 30 mm thick cover,					
7.5	**Restoration of pavement and vegetation soil layer**					
7.5.1	Construction of a single-layer crushed stone base 15 cm thick	m^2	1602			
7.5.2	Construction of a leveling pavement layer from asphalt concrete mix by a motor grader	t	247			
7.5.3	Restoration of the soil vegetation layer by a bulldozer with soil relocation up to 10 m, soil group 1	m^3	160			
7.5.4	Land leveling by a bulldozer in single pass when working on the construction of main pipelines /the final leveling on marks/	m^2	801			
7.6	**Blinding areas of chamber К2**					
7.6.1	Disassembly of road asphalt concrete pavements and its foundations, loading of construction waste by excavators on dump trucks, transportation of construction waste by dump trucks at a distance of 30 km	m^3	1			
7.6.2	Disassembly of pavements and crushed stone foundations, loading of construction waste by excavators on dump trucks, transportation of construction waste by dump trucks at a distance of 30 km	m^3	4			
7.6.3	Construction of sidewalk's crushed stone bases, layer thickness 12 cm, construction of concrete 30 mm thick cover	m^2	38			
8	**Comissioning works**					
8.1	**0,4 kV line equipment**					
8.1.1	Installation of the PLC cabinet in the set 800x1800x500 (WxHxD)	psc	1			
8.1.2	Installation of the wall-mounted devices, weight from 0.15 to 0.2 t	psc	2			
8.2	**Cable networks**					
8.2.1	Installation of a flexible hermetic PVC sleeve in a case with sealing д-20мм-РЗ-ЦХ-20 d 20 mm, with cotton sealing	m	48			
8.2.2	Installation of corrugated pipe, outer diameter up to 48 mm	m	145			
8.2.3	Installation of the first wire in the laid metal sleeves, total cross section up to 16 mm2	m	193			
8.2.4	Installation of the basis of single cable shelves -- console fastening	psc	195			
8.2.5	Installation of tray on top of installed structures, tray width up to 200 mm	m	195			
8.2.6	Laying of the cable up to 35 kV, installed on top of the constructed structures and in trays with fastening throughout the entire length, weight of 1 m up to 3 kg	m	195			
8.2.7	Laying of the cable up to 35 kV, installed on top of the constructed structures and in trays with fastening throughout the entire length, weight of 1 m up to 1 kg	m	1405			
8.2.8	Laying of the cable up to 35 kV, installed on top of the constructed structures and in trays with fastening throughout the entire length, weight of 1 m up to 1 kg	m	195			
8.2.9	Laying of the cable up to 35 kV, installed on top of the constructed structures and in trays with fastening throughout the entire length, weight of 1 m up to 1 kg	m	1212			
8.3	**Control and metering devices**					

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
8.3.1	Installation of equipment installed on the technological pipeline: Hydrostatic level sensor	psc	2			
8.3.2	Installation of equipment installed on the technological pipeline, pipeline diameter up to 20 mm (1/4") - Dry running control	psc	2			
8.3.3	Installation of equipment installed on the technological pipeline: Pressure sensor	psc	3			
8.3.4	Installation of equipment installed on the technological pipeline, DN up to 20 mm (1/4") - Pressure Gauge	psc	2			
8.4	**Installation of Technological control and monitoring system at Vikno WTP Buildings**					
8.4.1	Installation of the PLC-BOC cabinet in the set (1000x1800x500)	psc	1			
8.4.2	Installation of flexible hermetic PVC sleeve in a case with sealing д-20мм-РЗ-ЦХ-20 СКаТ d 20 mm, with cotton sealing	m	60			
8.4.3	Installation of the basis of single cable shelves - console fastening	psc	423			
8.4.4	Installation of the tray on top of installed structures, tray width up to 200 mm	m	423			
8.4.5	Laying of the first single-core or multi-core wire in the general braid in laid pipes or metal sleeves, total cross section up to 6 mm2	m	57			
8.4.6	Laying of the cable up to 35 kV, installed on top of the constructed structures and in trays with fastening throughout the entire length, weight of 1 m up to 1 kg	m	2162			
8.4.7	Laying of the cable up to 35 kV, installed on top of the constructed structures and in trays with fastening throughout the entire length, weight of 1 m up to 1 kg	m	4873			
8.4.8	Welding of flanges to steel pipelines with a diameter of 1000 mm (for installation of flow meters)	psc	2			
8.4.9	Installation of equipment installed on the technological pipeline [electromagnetic flowmeter], pipeline diameter 1000 mm	psc	2			
8.4.10	Installation of devices for the analysis of the physical-chemical composition of substances, complexity category of devices 3 - Turbidimeter	set	1			
8.5	**Vikno water treatment plant**					
8.5.1	Installation of II Lift circulating water supply Pumping Station, capacity up to 5000 m3/hour	building	1			
8.5.2	Installation of software or logical control operation systems with the number of input signals up to 2 (valve)	system	1			
8.5.3	Installation of software or logical control operation systems with the number of input signals up to: for each subsequent input signal (valve)	system	2			
8.5.4	Installation of software or logical control operation systems with the number of input signals up to 2 (gate valve)	system	1			
8.5.5	Installation of software or logical control operation systems with the number of input signals up to: for each subsequent input signal (gate valve)	system	2			
8.5.6	Installation of software or logical control operation systems with the number of input signals up to: for each subsequent input signal (rehabilitated valves)	system	2			
8.5.7	Installation of automatic circuit breaked with electromagnetic blast, vacuum or SF6, voltage up to 11 kV - vacuum circuit breaker	psc	3			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
8.5.8	Installation of secondary switching scheme with remote control and the general drive, voltage of the breaker to 20 kV - Control module	scheme	3			
8.5.9	Installation of three-pole circuit breaker, voltage up to 20 kV - Voltage limiter	psc	9			
8.5.10	Installation of zero sequence transformer without magnetization	psc	3			
8.5.11	Installation of portable measuring current transformer, voltage up to 1 kV	psc	9			
8.5.12	Installation of automatic current or rotor voltage limiting device -- microprocessor device for relay protection and automation	device	3			
8.5.13	Installation of interconnected mechanisms with continuous adjustment and mutual control of operating modes. The unit, which includes mechanisms in quantities up to 30 pcs - module block	set	1			
8.5.14	Installation of alarm systems. Alarm systems areas - modernization of the existing cells	area	1			
8.5.15	Installation of three-pole curcuit breaker with electromagnetic, thermal or combined release, nominal current up to 50 A, voltage up to 1 kV	psc	4			
8.5.16	Installation of interconnected mechanisms with continuous adjustment and mutual control of operating modes. The unit, which includes mechanisms in quantities up to 10 pcs - supply and control cabinet	set	1			
8.5.17	Installation of horizontal sedimentation basin, capacity up to 5000 m3/day	node	1			
8.5.18	Installation of open or pressure filter, capacity up to 1600 m3/day	node	1			
8.5.19	Installation of three-pole circuit breaker with electromagnetic, thermal or combined release, nominal current up to 50 A, voltage up to 1 kV	psc	9			
8.5.20	Installation of interconnected devices with continuous adjustment and mutual control of operating modes. The technical complex, which includes mechanisms in quantities up to 30 pcs = ЩК3А cabinets = (4 pc.)	set	1			
8.5.21	Installation of interconnected mechanisms with continuous adjustment and mutual control of operating modes. The unit, which includes mechanisms in quantities up to 30 pc. - RLS-HC cabinet with control unit (water treatment plant)	set	1			
8.5.22	Installation of pressure gauge, vacuum meter, pressure and vacuum gauge, traction meter, head meter, head and traction meter with visualization - hydrostatic sensor	psc	2			
8.5.23	Installation of devices, elements of alarm systems, blocking, protection. Contactless block or device, relay or contact block elements - dry running control	psc	2			
8.5.24	Installation of pressure gauge, vacuum meter, pressure and vacuum gauge, traction meter, head meter, head and traction meter with visualization --- pressure meter	psc	3			
8.5.25	Installation of interconnected mechanisms with continuous adjustment and mutual control of operating modes. The unit, which includes mechanisms in quantities up to 30 pc. -- RLS-BOC cabinet with control unit	set	1			
8.5.26	Installation of A system measuring the consumption or water level --- Water meter	set	2			
8.5.27	Installation of A system measuring the composition, properties	set	1			

Item	Description	Unit	Q-ty	Unit price, excluding VAT, EUR	VAT, EUR	Subtotal, EUR (3 + 4)
	or structures of substance --- Turbidity meter					
	Lifting and transport equipment					
8.5.28	Installation of general use electric bridge crane, lifting height up to16 m	set	1			
8.5.29	Installation of suspended single-beam and single-span electric crane	set	2			
9	**Other works**					
9.1	**Installation works for water supply block of the treatment plant: reagent facility block, sedimentation basins, filters**					
9.1.1	Installation of electric trolley hoist device, lifting capacity 5 tons, lifting height 18 m	psc	2			
9.1.2	Installation of the electrical part of the electric hoist device, lifting capacity up to 5 tons	psc	2			
9.1.3	Installation of straight monorails for hoist devices on top of metal supports made of N36 I-beams at a height of up to 25 m	m	5			
9.1.4	Installation of a single-girder overhead crane with electric hoist, capacity 5 t, runway up to 13.5 m	psc	1			
9.1.5	Installation of the electric part of the electric hoist device with a flexible cable supply when moving up to 15 m along a girder	psc	1			

Note:
1. In the event of discrepancies between the unit price and the subtotal price, prices will be adjusted under clause 30.1(b) of the Instructions to Tenderers.
2. Mandatory spare parts are determined by the Tenderer, based on his experience, to ensure the smooth operation of the proposed equipment for the first at least two years

Name:

In capacity of

Signed

Duly authorized to sign the bidder for and on behalf of (bidder name)

_____

Dated on____day of _____

Rehabilitation and Modernisation of Raw Water Intake Mytkiv and Water Treatment Plant Vikno
Line 3

PRICE SCHEDULE

DAYWORKS

(AS REQUIRED UNDER THE CONTRACT)

PLANT, EQUIPMENT AND LABOUR

Item No	Item Description	Unit	Price /Unit Euro
7.1	Schedule of Dayworks (Design and Surveys Labour)		
7.1 1	Topographical survey specialist	Hour	
7.1.2	Design specialist	Hour	
7.1.3		Hour	
7.2	Schedule of Dayworks (Civil and Mechanical Works Labour)		
7.2 1	Foreman	Hour	
7.2.2	Skilled laborer	Hour	
7.2.3	Unskilled laborer	Hour	
7.3	Schedule of Dayworks (New valve chamber civil works including reinstatement works in complete)		
7.3 1	Valve chamber / manhole for pipe DN100 up to 200 mm	LS	
7.3 2	Valve chamber / manhole for pipe DN 300 up to 500 mm	LS	
	Valve chamber / manhole for pipe DN 500	LS	
7.4	Schedule of Dayworks (New valve chamber mechanical equipment and installation works in complete)		
7.4 1	Valve chamber / manhole valve(s) fittings, etc for pipe DN100	LS	
7.4.2	Valve chamber / manhole valve(s) fittings, etc for pipe DN200	LS	
7.4.3	Valve chamber / manhole valve(s) fittings, etc for pipe DN250	LS	
7.4.4	Valve chamber / manhole valve(s) fittings, etc for pipe DN300	LS	
7.4.5	Valve chamber / manhole valve(s) fittings, etc for pipe DN500	LS	
7.5	Schedule of Dayworks (Contractor's Equipment)		
7.5 1	Bulldozer	Hour	
7.5 2	Excavator	Hour	
7.5 3	Truck > 20 tons	Hour	
7.5 4	Truck < 20 tons	Hour	
7.5 5	Mobile crane	Hour	
7.5 6	Compressor	Hour	
7.5 7	Compactor	Hour	
	Additional equipment as proposed by contractor	Hour	

iName:

In capacity of

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_____

Dated on____day of _____

Rehabilitation and Modernisation of Raw Water Intake Mytkiv and Water Treatment Plant Vikno
Line 3

PRICE SCHEDULE NO. 4
GRAND TOTAL

PART	DESCRIPTION	PRICE (EUR)	VAT (EUR)	TOTAL (EUR)
1.	PRICE SCHEDULE No.1 General Items			
2	PRICE SCHEDULE No.2 First (1-st) Works Launch Complex. «Mytkiv» Raw Water Intake			
3	PRICE SCHEDULE No.3 Second (2-nd) Works Launch Complex. «Vikno» Water Treatment Plant			
	TOTAL (Parts 1,2 and 3)			
4	Provisional Sum (10% of Total Part 1 and 2)			
	GRAND TOTAL (to be included into the Bid)			

Name:

In capacity of

Signed

Duly authorized to sign the bidder for and on behalf of (bidder name)

_____

Dated on____day of _____