



Aeratsia WWTP Rehabilitation

TENDER DOCUMENT

VOLUME 4: BILL OF QUANTITY

OCTOBER 1, 2014

VTI -International Activities

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Aeratsia WWTP Rehabilitation

TENDER DOCUMENT

OCTOBER 1, 2014

Index	Date	Author	Reviewer
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B	October 1, 2014	J.L. Pillaud	A. Enzinger

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BILL OF QUANTITY

APPENDIX 4

BOQ

YEREVAN WATER AND WASTEWATER SYSTEM IMPROVEMENT PROJECT
REHABILITATION OF AERATSIA WWTP

APPENDIX 4.1.

Appendix 4.1
Of the Invitation of open Procedure
with code *MDPIU-OPPW-14/1*

MDPIU-OPPW-14/1
To the evaluation commission of the open procedure

Bill of Quantities
Base Proposal and Option for the Base Proposal

Name of the bidder (Name, surname, position of Head)

(signature)

Seal

20
(Date and month)

Bill Of Quantity
Base Bid



Instructions to bidders: the Bidders shall provide a cost for all items. The ID number of items listed below shall not be modified.

Aeratsia WWTP		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
TOTAL (contract)						
a) ENGINEERING STUDIES Ինժեներական ուսումնասիրություններ						
Lot a,1	Preparation Phase					
1-1	Mobilisation of plant and equipment					Base LS 1
1-2	Shop drawings preparation for all disciplines and submittal to expertise, according to specification 01000					Base LS 1
1-3	Programmation of Scada system as per specification 17100					Base LS 1
1-4	Training of the operators on the use and the programming of the scada system					Base LS 1
1-5	Demolition of existing structures in accordance with drawing MND 000-200 and of any structure or part of structures of any type, if any and as necessary, and disposal onsite at a location approved by the Engineer,					Base LS 1
Lot a,2	Project Closing Phase					
1-1	Demobilisation of plant and equipment,					Base LS 1
1-2	As built plans for all disciplines and all areas					Base LS 1
1-3	Commisioning Plan preparation and submittal					Base LS 1
1-4	O&M manual in English including mechanical and electromechanical equipment, instrumentation and automation.					Base LS 1
Sub total Lot a						
b) CIVIL WORKS Ընդհանուր շինարարական աշխատանքներ						
Lot b,1	Inlet Chamber and Screening (zones 101 & 102): Construct, Testing and Handing Over in good conditions in accordance with the Drawings and Specifications for the following Items:					
	Structure 1: Existing By-Pass structure					
b, 1-1	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.					Base LS 1

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Base Bid



Aeratsia WWTP						
			Unit Միավոր			TOTAL [in EUR] Ընդամենը
		Base / Option		Quantity	Unit Price	
b, 1-2	<p>Concrete works, including:</p> <ul style="list-style-type: none"> - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all openings for pipe installation and the associated works and material to provide watertight connections to pipes (new and/or existing pipes), - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all type of joints and all specific works required to provide watertight structures and connections (concrete shall be watertight, meaning all joints shall be provided with suitable waterstops), - all necessary works for the connections with adjoining concrete structures, including watertight connections of any type where needed, - all equipment pads, where necessary, - watertightness test, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - where future extensions are indicated, steel reinforcement shall be positioned such that the structural integrity will not be impacted when placing the said extension connections, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer. 	Base	LS	1		
b,	Structure 2: North Chamber					
b, 1-3	<p>Earthworks, including:</p> <ul style="list-style-type: none"> - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer. 	Base	LS	1		
b, 1-4	<p>Concrete works, including:</p> <ul style="list-style-type: none"> - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all openings for pipe installation and the associated works and material to provide watertight connections to pipes (new and/or existing pipes), - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all type of joints and all specific works required to provide watertight structures and connections (concrete shall be watertight, meaning all joints shall be provided with suitable waterstops), - all necessary works for the connections with adjoining concrete structures, including watertight connections of any type where needed, - all equipment pads, where necessary, - watertightness test, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - where future extensions are indicated, steel reinforcement shall be positioned such that the structural integrity will not be impacted when placing the said extension connections, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer. 	Base	LS	1		
b,	Structure 3: East Chamber					

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Aeratsia WWTP							
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b, 1-5	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			
b, 1-6	Concrete works, including: - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all openings for pipe installation and the associated works and material to provide watertight connections to pipes (new and/or existing pipes), - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all type of joints and all specific works required to provide watertight structures and connections (concrete shall be watertight, meaning all joints shall be provided with suitable waterstops), - all necessary works for the connections with adjoining concrete structures, including watertight connections of any type where needed, - all equipment pads, where necessary, - watertightness test, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - where future extensions are indicated, steel reinforcement shall be positioned such that the structural integrity will not be impacted when placing the said extension connections, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			
b,	Structure 4: Inlet, Coarse and Fine Screen Structure						
b, 1-7	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			
b, 1-8	Concrete works, including: - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all openings for pipe installation and the associated works and material to provide watertight connections to pipes (new and/or existing pipes), - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all type of joints and all specific works required to provide watertight structures and connections (concrete shall be watertight, meaning all joints shall be provided with suitable waterstops), - all necessary works for the connections with adjoining concrete structures, including watertight connections of any type where needed, - all equipment pads, where necessary, - watertightness test, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - where future extensions are indicated, steel reinforcement shall be positioned such that the structural integrity will not be impacted when placing the said extension connections, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			

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b,		Structure 5: Skips Slab					
b,	1-9	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		
b,	1-10	Concrete works, including: - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - openings and connection for the collection manhole - all necessary works for the connections with adjoining concrete structures, including watertight connections of any type where needed, - all equipment pads, where necessary, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - minimum slope of the top surface toward the drain: 0.5%, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		
b,	1-11	Supply et installation of a prefabricated manhole 0.5m x 0.5m, including the cast iron grating,	Base	LS	1		
b,	1-12	Protective Finishes Provide and place a concrete hardener (quartz finishing) on the upper face of the concrete slab in order to prevent damages during the loading and unloading operations of the skips.	Base	LS	1		
Lot b,1	Sub Total Inlet Chamber and Screening						
Lot b,2	Grit & Grease Removal (zone 103): Construct, Testing and Handing Over in good conditions in accordance with the Drawings and Specifications for the following Items:						
		Structure 1: Magmeter chamber					
b,	2-1	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		

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		Base / Option		Quantity	Unit Price	
b, 2-2	Concrete works, including: - supply and placement of concrete of any type as required for bottom slab, walls and top slab (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - supply and placement of a removable top slab with an opening for a 600mm diameter cast iron manhole cover, including all provisions for a good clamping of the slab into the structural concrete walls, - all openings for pipe installation and the associated works and material to provide connections to the new pipes, - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - where future extensions are indicated, steel reinforcement shall be positioned such that the structural integrity will not be impacted when placing the said extension connections, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		
b, 2-3	Provide and place cast iron manhole cover, dia. 600mm, in the removable top slab	Base	LS	1		
b, 2-4	Provide and place galvanized steel ladder including fixation system (80 cm wide x 2.50 m high)	Base	LS	1		
Structure 2: Grit & Grease Removal Tank						
b, 2-5	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		
b, 2-6	Concrete works, including: - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all openings for pipe installation and the associated works and material to provide watertight connections to pipes (new and/or existing pipes), - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all type of joints and all specific works required to provide watertight structures and connections (concrete shall be watertight, meaning all joints shall be provided with suitable waterstops), - all necessary works for the connections with adjoining concrete structures, including supply and placement of watertight connections of any type where needed, - all equipment pads, where necessary, - watertightness test, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - where future extensions are indicated, steel reinforcement shall be positioned such that the structural integrity will not be impacted when placing the said extension connections, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		
b, 2-7	Supply and installation of galvanized steel pillars for deflection plate support, including the anchoring system in the concrete slab. The pillars shall be easily replaced.	Base	LS	1		
Structure 3: Skips Slab						

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b, 2-10	<p>Earthworks, including:</p> <ul style="list-style-type: none"> - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer. 	Base	LS	1		
b, 2-11	<p>Concrete works, including:</p> <ul style="list-style-type: none"> - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - openings and connection for the collection manhole - all necessary works for the connections with adjoining concrete structures, including watertight connections of any type if needed, - all equipment pads, where necessary, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - minimum slope of the top surface toward the drain: 0.5%, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer. 	Base	LS	1		
b, 2-12	Supply et installation of a prefabricated manhole 0.5m x 0.5m, including the cast iron grating,	Base	LS	1		
b, 2-13	Protective Finishes Provide and place a concrete hardener (quartz finishing) on the upper face of the concrete slab in order to prevent damages during the loading and unloading operations of the skips.	Base	LS	1		
Structure 4: Foul Water Sump						
b, 2-15	<p>Earthworks, including:</p> <ul style="list-style-type: none"> - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer. 	Base	LS	1		
b, 2-16	<p>Concrete works, including:</p> <ul style="list-style-type: none"> - supply and placement of concrete of any type as required for bottom slab, walls and top slab (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - supply and placement of a removable top slab with an opening for a 600mm diameter cast iron manhole cover, including all provisions for a good clamping of the slab into the structural concrete walls, - all openings for pipe installation and the associated works and material to provide watertight connections to pipes (new and/or existing pipes), - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all type of joints and all specific works required to provide watertight structures and connections (concrete shall be watertight, meaning all joints shall be provided with suitable waterstops), - all equipment pads, where necessary, - watertightness test, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer. 	Base	LS	1		
b, 2-17	Provide and place cast iron manhole cover, dia. 600mm, on the removable top slab	Base	LS	1		
b, 2-18	Provide and place galvanized steel ladder including fixation system (80 cm wide), from top to bottom	Base	LS	1		

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Structure 5: Valve Chamber							
b, 2-20	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			
b, 2-21	Concrete works, including: - supply and placement of concrete of any type as required for bottom slab, walls and top slab (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - supply and placement of a removable top slab with an opening for a 600mm diameter cast iron manhole cover, including all provisions for a good clamping of the slab into the structural concrete walls, - all openings for pipe installation and the associated works and material to provide connections to pipes, - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			
b, 2-22	Provide and place cast iron manhole cover, dia. 600mm, on the removable top slab	Base	LS	1			
b, 2-23	Provide and place galvanized steel ladder including fixation system (80 cm wide), from top to bottom	Base	LS	1			
Lot b,2	Sub Total Grit & Grease Removal						
Lot b,3	Primary Settling Tanks (zone 105): Construct, Testing and Handing Over in good conditions in accordance with the Drawings and Specifications for the following Items:						
b, 3-1	Earthworks, including: - clearing, grubbing and stripping, - demolition of all existing structures in the area, as shown on Drawing MND-00-200, and disposal onsite, at a location as directed or as approved by the Engineer, - backfilling of the areas after demolition, as shown and as indicated on Drawing MND-00-300, such as to form a regular slope between the Works and the natural ground elevation, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			

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b, 3-2	<p>Concrete works, including:</p> <ul style="list-style-type: none"> - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all openings for pipe installation and the associated works and material to provide watertight connections to pipes (new and/or existing pipes), - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all type of joints and all specific works required to provide watertight structures and connections (concrete shall be watertight, meaning all joints shall be provided with suitable waterstops), - all necessary works for the connections with adjoining concrete structures, including supply and placement of watertight connections of any type where needed, - all equipment pads, where necessary, - where future extensions are indicated, steel reinforcement shall be positioned such that the structural integrity will not be impacted when placing the said extension connections, - watertightness test, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and directed by the engineer. 	Base	LS	1		
Lot b,3 Sub total Primary Settling Tanks						
Lot b,4	Solids Handling Building (zone 200)					
	Existing building rehabilitation					
b, 4-1	<p>Concrete repair for all damaged or corroded structural elements such as beams, columns, roof slabs, bottom slabs, wall panels and foundations, with sulphate resisting cement, and including:</p> <ul style="list-style-type: none"> - crack repair (either with resin injection, lining or "cleaning/primer-application/grouting/curing", depending on the crack width), - defective concrete as loose, broken or honeycombed concrete - deteriorated joints, - voids under concrete slabs, - all exposed reinforcement shall be thoroughly cleaned from any loose rust (pickling) or other foreign matter. Exposed reinforcement shall be primed with an approved primer, to prevent further corrosion. If the reinforcement has broken or deteriorated too far, new reinforcement shall be placed. To accommodate this reinforcement, holes shall be drilled in which the new bars are fixed with an epoxy resin. As an alternative the surrounding sound concrete can be broken out until sufficient lap length has been acquired to accommodate the new bars. If neither option is suitable, an external steel or concrete bracing shall be constructed. The final solution to be applied shall be approved by the Engineer. 	Base	LS	1		
b, 4-2	<p>Steelwork repair for all corroded elements, such as steel plates and fixation elements linking the columns, beams and roof slabs, including:</p> <ul style="list-style-type: none"> - pickling, - sand blasting, - supply and placement of a coating for corrosion protection, with products approved by the Engineer, - and all material needed for workmanship. 	Base	LS	1		
b, 4-3	<p>Structural reinforcement works against seismic actions. The works shall be as follow:</p> <ul style="list-style-type: none"> - supply and installation of structural links between the top of all columns and all supported beams (installation of steel casings and welding of casings between them), - supply and installation of at least 6 bracing-cross systems linking the upper system described above and the bottom of the columns (≥ 300 kg/unit), - and all material needed for workmanship. 	Base	LS	1		
b, 4-4	<p>Roof rehabilitation including:</p> <ul style="list-style-type: none"> - removal and disposal in a landfill approved by the Engineer, of the existing bituminous roof cover, - supply and installation of roof felt sheets, - supply and placement over felt sheets of dry bent corrugated galvanized steel single sheets, type "ARVAL trapezoidal HACIERCO 3.333.39 TV" (corrugated height: 39mm; thickness: 0.63mm; pre-lacquered upper face) or equivalent, including aerator (aeration section of 1500 cm²), overlapping, adaptation on site, and all associated works, - supply and installation of gutters and downspouts, including fixation system and connection to the bottom infiltration well. - supply and placement of infiltration wells, constituted of manholes with no bottom part (0.6m x 0,6m x 1,2mht) filled with gravel 20/40mm, at ground level below gutters for infiltration of stormwater from the roof and including necessary earthworks, - and all material needed for workmanship. 	Base	LS	1		

Bill Of Quantity
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Aeratsia WWTP						
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b, 4-5	<p>Rehabilitation of the Western building facade, including:</p> <ul style="list-style-type: none"> - dismantling and disposal in a landfill approved by the Engineer, of all windows, including steel frames and fixation systems, - supply and installation of new windows of equivalent size as the old ones, at the same location, including all necessary frames and fixation systems, - supply and installation of a vehicles and lorries metallic door (dimensions: 5.6m wide x 3.5m high), including vertical opening, 2 epoxy coats, 1 prime, motorization, lock, frame and all fixation systems; and including all works for cut opening or dismantling the wall where this door shall be placed, - all necessary cut openings for HVAC equipment, - one pipe opening for the connection between the Foul Water Sump and the drainage system of the slab inside the building, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship. 	Base	LS	1		
b, 4-6	<p>Rehabilitation of the Eastern building facade, including:</p> <ul style="list-style-type: none"> - cut opening in the wall for installation of all HVAC equipment + screw conveyors + piping and electrical ducts, including all necessary works and workmanship for obtaining neat and plane cutting edges on all faces, - disposal onsite at a location approved by the Engineer, of all cut materials. - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship. 	Base	LS	1		
b, 4-7	<p>Rehabilitation of the Northern and Southern small building facades, including:</p> <ul style="list-style-type: none"> - dismantling and disposal in a landfill approved by the Engineer, of a metal door (width: 4.0m; height: 4.0m), including the frame and fixation systems, - dismantling and disposal in a landfill approved by the Engineer, of a metal door (width: 1.80m; height: 2.50m), including the frame and fixation systems, - supply and installation of 2 new paired door (width: 4.0m; height: 4.0m), one in the southern facade and one in the northern facade, including the frames, fixation systems, door handles, cylindrical chest locks and casement bolts, and also including all necessary works for enlarging the existing door opening in the northern wall for that installation. Paired doors shall have an opening angle of 180 degree toward the outside of the building. - all necessary cut openings for HVAC equipment, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship. 	Base	LS	1		
b, 4-8	<p>Building interior rehabilitation works, including:</p> <ul style="list-style-type: none"> - demolition, up to the upper base slab level, of the small 1.00m high concrete wall along the northern facade, including disposal onsite at a location approved by the Engineer, - proper cleaning of the entire inside area (columns, beams, roof slab, base slab), including the removal of all apparent stains - supply, preparation and placement of a smooth mortar coating, made of sulphate resisting cement, on all interior surfaces of walls, - supply, preparation and placement on the base slab of a 50mm sulphate resisting cement course, with a concrete hardener (quartz finishing) including previous concrete slab preparation as necessary, - all equipment pads, where necessary, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - supply and installation of separation walls and suspended ceilings for the lime mixing and electrical rooms, including all supports and fixations systems, - supply and installation of 2 paired doors in the separation walls (width: 2.40m; height: 2.10m), including the frames, fixation systems, door handles, - supply and installation of 1 paired door in a separation wall (width: 1.40m; height: 2.10m), including the frame, fixation systems, door handles, - painting in white color of all apparent surfaces, except the base slab, - and all material needed for workmanship. 	Base	LS	1		
	Skips & Lime Silos Slab					
b, 4-9	<p>Earthworks, including:</p> <ul style="list-style-type: none"> - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer. 	Base	LS	1		

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b, 4-10	Concrete works, including: - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - openings and connection for the collection manhole - all necessary works for the connections with adjoining concrete structures, including watertight connections of any type if needed, - all equipment pads, where necessary, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - minimum slope of the top surface toward the drain: 0.5%, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		
b, 4-11	Protective Finishes Provide and place a concrete hardener (quartz finishing) on the upper face of the concrete skips slab only in order to prevent damages during the loading and unloading operations of the skips.	Base	LS	1		
	Foul Water Sump					
b, 4-13	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		
b, 4-14	Concrete works, including: - supply and placement of concrete of any type as required for bottom slab, walls and top slab (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - supply and placement of a removable top slab with an opening for a 600mm diameter cast iron manhole cover, including all provisions for a good clamping of the slab into the structural concrete walls, - all openings for pipe installation and the associated works and material to provide watertight connections to pipes (new and/or existing pipes), - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all type of joints and all specific works required to provide watertight structures and connections (concrete shall be watertight, meaning all joints shall be provided with suitable waterstops), - all equipment pads, where necessary, - watertightness test, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		
b, 4-15	Provide and place cast iron manhole cover, dia. 600mm, on the removable top slab	Base	LS	1		
b, 4-16	Provide and place galvanized steel ladder including fixation system (80 cm wide), from top to bottom	Base	LS	1		
	Valve Chamber					

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b, 4-17	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			
b, 4-18	Concrete works, including: - supply and placement of concrete of any type as required for bottom slab, walls and top slab (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - supply and placement of a removable top slab with an opening for a 600mm diameter cast iron manhole cover, including all provisions for a good clamping of the slab into the structural concrete walls, - all openings for pipe installation and the associated works and material to provide connections to pipes, - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			
b, 4-19	Provide and place cast iron manhole cover, dia. 600mm, on the removable top slab	Base	LS	1			
b, 4-20	Provide and place galvanized steel ladder including fixation system (80 cm wide), from top to bottom	Base	LS	1			
Lot b,4	Sub Total Solids Handling Building (zone 200)						
Lot b,5	Service Water and New Substation Room (zone 110): Construct, Testing and Handing Over in good conditions in accordance with the Drawings and Specifications for the following Items:						
b, 5-1	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			
b, 5-2	Concrete works, including: - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all openings for pipes, doors and venting systems installation and the associated works and material to provide connections to pipes, - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all equipment pads, where necessary, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			
b, 5-3	Supply and installation of three (3) paired doors (width: 3.0m; height: 3.0m), including the frames, fixation systems, door handles, cylindrical chest locks and casement bolts,	Base	LS	1			
b, 5-4	Supply and installation of one (1) swinging door (width: 1.0m; height: 2.10m), including the frame, fixation systems, door handle, cylindrical chest lock and casement bolt,	Base	LS	1			
b, 5-5	Supply and installation of one (1) window (width: 3.0m; height: 1.40m), including the frame and fixation system,	Base	LS	1			
b, 5-6	Supply and installation of one window (width: 1.50m; height: 1.40m), including the frame and fixation systems,	Base	LS	1			

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b, 5-7		Supply and installation of eight galvanized air louvers (one at the bottom of a wall and one at the top of the opposite wall for each room), including the frames and fixation systems,	Base	LS	1		
b, 5-8		Supply and installation of the steel sheets roofing system of the building, including the necessary galvanized steel frame supporting the roof top (beams, columns, struts, etc.). The roofing system shall protect the building from any stormwater infiltration, and be able to withstand all live loads such as snow loads, wind loads, etc. Insulation and all associated features shall be provided and placed below the steel sheets. This item includes all required galvanized steel fixation systems for the whole roofing system.	Base	LS	1		
b, 5-9		Protective Finishes: Provide and place a waterproofing bituminous coating on top of the low sloped concrete roof slab, including primer supply and placement and all associated works,	Base	LS	1		
Lot b,5 Sub TotalService Water and New Substation Room							
Lot b,6	Outlet Structures (zone 107): Construct, Testing and Handing Over in good conditions in accordance with the Drawings and Specifications for the following Items:						
	Structure 1: Effluent collection chamber						
b, 6-1		Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		
b, 6-2		Concrete works, including: - supply and placement of concrete of any type as required for bottom slab, walls and top slab (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all openings for pipe installation and the associated works and material to provide watertight connections to pipes (new and/or existing pipes), - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all type of joints and all specific works required to provide watertight structures and connections (concrete shall be watertight, meaning all joints shall be provided with suitable waterstops), - where future extensions are indicated, steel reinforcement shall be positioned such that the structural integrity will not be impacted when placing the said extension connections, - watertightness test, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		
b, 6-3		Provide and place a galvanized steel ladder (80 cm wide x 2.50 m high) and a galvanized steel grating platform just above the water level, including all fixation systems	Base	LS	1		
	Structure 2: Outlet connection chamber (connection to existing pipe dia.2000)						
b, 6-5		Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		

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b, 6-6	Concrete works, including: - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all openings for pipe installation and the associated works and material to provide watertight connections to pipes (new and/or existing pipes), - opening for the installation of a 600m diameter cast iron manhole cover, - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all type of joints and all specific works required to provide watertight structures and connections (concrete shall be watertight, meaning all joints shall be provided with suitable waterstops), - all necessary works for the connections with adjoining concrete structures, including supply and placement of watertight connections of any type where needed, - all equipment pads, where necessary, - watertightness test, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - where future extensions are indicated, steel reinforcement shall be positioned such that the structural integrity will not be impacted when placing the said extension connections, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			
	6-7	Provide and place cast iron manhole cover, dia. 600mm, in the top slab	Base	LS	1		
	6-8	Provide and place galvanized steel ladder including fixation system (80 cm wide), from top to bottom	Base	LS	1		
Lot b,6	Sub Total Outlet Structures						
Lot b,7	Rehabilitation of Existing Electrical Room (zone 402)						
		Rehabilitation of Existing Electrical Room (zone 402)					
b, 7-1	Cleaning and Rehabilitation works, including: - dismantling and disposal in a landfill approved by the Engineer, of all existing equipment, inside and outside the building, including all fixations, - dismantling and disposal in a landfill approved by the Engineer, of two metal paired doors, including the frames and fixation systems, - dismantling and disposal in a landfill approved by the Engineer, of one metal swinging door, including the frame and fixation systems, - dismantling and disposal in a landfill approved by the Engineer, of all air louvers located above the paired doors and at the bottom of the side walls, including the frames and fixation systems, - supply and installation of two new paired doors (width: 1.40m; height: 2.1m), including the frames, fixation systems, door handles, cylindrical chest locks and casement bolts, - supply and installation of one new swinging door (width: 1.0m; height: 2.1m), including the frame, fixation systems, door handles, and cylindrical chest lock, - supply and installation of new galvanized air louvers at the same location and with the same dimensions as the old ones, including the frames and fixation systems, - proper cleaning of the entire inside area (walls, roof slab, base slab), including the removal of all apparent stains - supply, preparation and placement of a smooth mortar coating, made of sulphate resisting cement, on all interior surfaces of walls, and roof slabs, - supply, preparation and placement on the base slab of a 20mm sulphate resisting cement course, including previous concrete slab preparation as necessary, - painting in white color of all apparent surfaces, except the base slab, - cleaning of the exterior building walls made of stones, including the removal of all apparent stains, - roof rehabilitation, including the removal and disposal of the existing covering steel sheets and supply and installation of new galvanized steel sheets, overlapping, allowing no stormwater infiltration inside the building, and all fixation systems and associated works, - Supply and installation of gutters and downspouts, including all fixation systems and connection to the bottom infiltration well, - supply and placement of infiltration wells, constituted of manholes with no bottom part (0.4m x 0,4m x 1,2mht) filled with gravel 20/40mm, at ground level below gutters for infiltration of stormwater from the roof and including necessary earthworks, - dismantling of the existing ventilation system on top of the roof, including disposal in a landfill approved by the Engineer, and supply and installation of a new one in lieu and place, including all fixation system and associated works, - and all material needed for workmanship.	Base	LS	1			
Lot b,7	Sub Total Rehabilitation of Existing Electrical Room						
Lot b,10	Site (roads, retaining wall, fencing, handling equipment,...)						
		Roads: Construct, Testing and Handing Over in good conditions in accordance with the Drawings and Specifications for the following Items (approx. new road surface is 4 850 m2)					

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b, 10-1		Clearing, grubbing and stripping where necessary, including disposal on site of surplus of material if any,	Base	LS	1		
b, 10-2		Dismantling existing roads wearing course structure, and disposal in a landfill approved by the Engineer,	Base	LS	1		
b, 10-3		Dismantling existing roads base and sub-base course structures, unless their respective elevation is below the new sub-base course bottom elevation to be provided, including disposal on site of surplus and/or rejected materials, if any,	Base	LS	1		
b, 10-4		Excavations for roadwork up to the required depth and gradient, including disposal on site of surplus and/or rejected materials, if any,	Base	LS	1		
b, 10-5		Fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the upper level of the sub-grade layer, including compaction,	Base	LS	1		
b, 10-6		Preparation of the sub-grade including dressing to designed slopes and consolidation with power roller for compaction of the upper most 300mm up to 95% of the Standard Maximum Dry Density in accordance with ASTM D698 and achieving the design level	Base	LS	1		
b, 10-7		Providing and placing non-woven geotextile $\geq 600\text{g/m}^2$	Base	LS	1		
b, 10-8		Providing and laying the Sub-Base course, 300mm thick, with Aggregates 0/50mm including compaction to the required density by approved mechanical means,	Base	LS	1		
b, 10-9		Providing and laying the Base course, 200mm thick, with Aggregates 0/25mm including compacting to the required density by approved mechanical means,	Base	LS	1		
b, 10-10		Providing and applying tack coat with asphalt emulsion using emulsion pressure distributor at the rate of 0.15 to 0.38 kg per sqm on the prepared granular base course surface cleaned with mechanical broom	Base	LS	1		
b, 10-11		Providing and laying ready mix asphalt concrete wearing course of total thickness 60mm as per the job mix formula proposed and approved by the Engineer.	Base	LS	1		
b, 10-12		Supply and placement of kerbs, both straight and curved shape as per drawings, including all associated works as necessary (excavations, foundations, alignment, joints, saw cut, etc.)	Base	LS	1		
b, 10-13		Supply and placement of gullies, both straight and curved shape as per drawings, including all associated works as necessary (excavations, foundations, alignment, joints, saw cut, etc.)	Base	LS	1		
b, 10-14		Excavation and backfilling of drainage trenches along roads as per Drawings, including all associated piping works as necessary (excavations, foundations, alignment, joints, saw cut, etc.)	Base	LS	1		
		Rockfill Retaining Wall: Construct, Testing and Handing Over in good conditions in accordance with the Drawings and Specifications for the following Items:					
b, 10-20		Provide and place non fractured rockfill material 500-1000kg in order to create a retaining wall along the Western access road where the difference elevation of the final cut between the new road to be built and the existing ground level is more than 2.00m. The rockfill retaining wall shall be 1.50m high above the finished road surface level and shall be founded at a minimum of 0.60m below the finished road surface level. A layer of blinding concrete of minimum 7cm in thickness shall be placed on the subgrade after compaction up to 95% of the maximum dry density in accordance with ASTM D698, before placing the rockfill materials. The width of the wall shall be at least 1.50m with a minimum of two rows of rockfill materials. Behind the retaining wall a round shape gravel 20-40mm backfill, as shown on drawings, shall be supplied and placed for drainage purposes. From the top of the retaining wall (meaning above 1.50m from the finished road surface level), the slope of the cut to reach the existing ground level shall be of a minimum of 2H/1V .	Base	LS	1		
		Fencing					
b, 10-26		Supply and installation of 4 new entrance gates (6m x 4m), including all frames, fixation systems and locking systems.	Base	No	4		
Lot b,10	Sub total Site						
Lot b,11	Yard Piping						
		Inlet Pipes and treated wastewater connection Pipes between Works					
b, 11-1		Ductile Iron ND 1600 (inlet to stone pit) including watertight connections to the concrete works.	Base	ml	24		
b, 11-2		Ductile Iron ND 1200 (inlet to stone pit) including watertight connections to the concrete works.	Base	ml	23		
b, 11-3		Ductile Iron ND 1400 (outlet of screening) including watertight connections to the concrete works.	Base	ml	116		
b, 11-4		Ductile Iron ND 1400 elbow	Base	No.	2		
b, 11-5		Ductile Iron ND 1200 (inlet to grit tank) with fittings to the magmeter and to the motorized gate valves. Including watertight connections to the concrete works.	Base	ml	24		
b, 11-6		Ductile Iron ND 1000 (outlet to sedimentation tank) with expansion to ND 1200. Including watertight connections to the concrete works.	Base	LS	1		
b, 11-7		Ductile Iron ND 1200 (outlet to sedimentation tank)	Base	ml	60		
b, 11-8		Concrete ND 2000 (outlet to existing ND 2000 pipe along the street). Including watertight connections to the concrete works.	Base	ml	80		
		Service Water					

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b, 11-10	Well water from well to buffer tank; ND 220 Diameter; well water Service; Pressure: 3 Bar; approx. burried length: 62 m; including all connections and fittings to and from connecting Works		Base	ml	63		
b, 11-11	Well water from Buffer Tank to Sludge Building ; ND 160 Diameter; well water Service; Pressure: 1 Bar; approx. burried length: 62 m; including all connections and fittings to and from connecting Works		Base	ml	63		
b, 11-12	Service water network; 42/45 Diameter; well water Service; Pressure: 6 bar; approx. burried length: 410 m. including all yard piping, fittings, valves, water connections, as indicated on the P&IDs and the Utilities drawings. Including heat tracing on all non burried pipes to hose bib water connections .		Base	LS	1		
b, 11-13	Well water to grit removal; 42/45 Diameter; well water Service; Pressure: 6 bar; approx. burried length: 110 m; including all connections and fittings to and from connecting Works		Base	ml	110		
b, 11-14	Well water to sludge building; 42/45 Diameter; well water Service; Pressure: 6 bar; approx. burried length: 65 m; including all connections and fittings to and from connecting Works		Base	ml	65		
b, 11-16	Drinking water to polymer preparation ; ND 75 Diameter; potable water Service; Pressure: 2 bar; approx. burried length: 410 m; including all connections and fittings to and from connecting Works		Base	ml	410		
b, 11-17	Decanted water to odor treatment of Sludge building; ND 40 Diameter; Decanted water Service; Pressure: 6 bar; approx. burried length: 162 m; including all connections and fittings to and from connecting Works		Base	ml	162		
b, 11-18	Decanted water to supplying dewatering units in case of well failure; ND 120 Diameter; Decanted water Service; Pressure: 3 bar; approx. burried length: 93 m; including all connections and fittings to and from connecting Works		Base	ml	93		
b, 11-19	Decanted water distribution network to odor control unit in area 300 including all yard piping, fittings, valves, water connections, as indicated on the P&IDs and the Utilities drawings. Including heat tracing on all non burried pipes.		Base	LS	1		
	Foul water						
b, 11-20	Drain from sludge storage skips to grit FW Sump; ND 200 Diameter; Foul water Service; Pressure: gravity; approx. burried length: 170 m; including all connections and fittings to and from connecting Works		Base	ml	170		
b, 11-21	Pumped drain from solids building sump to skips sump; ND 250 Diameter; Foul water Service; Pressure: 1 Bar; approx. burried length: 200 m; including all connections and fittings to and from connecting Works		Base	ml	200		
b, 11-22	Drain water from grit classifier and grease skip to grit sump; ND350 Diameter; foul water Service; Pressure: gravity; approx. burried length: 22 m; including all connections and fittings to and from connecting Works		Base	ml	22		
b, 11-23	Drain water from grit pumps room; ND 160 Diameter; foul water Service; Pressure: gravity; approx. burried length: 1 m; including all connections and fittings to and from connecting Works		Base	LS	1		
b, 11-24	Drain from sed tank gallery sump pump to grit sump; ND 160 Diameter; foul water Service; Pressure: 1 Bar; approx. burried length: 22 m; including all connections and fittings to and from connecting Works		Base	ml	22		
b, 11-25	Drain from sed tank sludge storage drain and overflow to grit sump; ND 200 Diameter; foul water Service; Pressure: gravity; approx. burried length: 22 m; including all connections and fittings to and from connecting Works		Base	ml	22		
b, 11-26	Drain water discharge pipe from foul water sump to grit and grease removal inlet channel; ND250 Diameter; foul water Service; Pressure: 1 Bar; approx. burried length: 50 m; including all connections and fittings to and from connecting Works		Base	ml	50		
b, 11-27	All necessary prefabricated manholes with Cast iron removal cover on the foul water drainage network.		Base	LS	1		
b, 11-28	Drain from area 110 building to nearby FW network ND 100 Diameter; Foul water Service; Pressure: gravity; approx. burried length: 40 m; including all connections and fittings to and from connecting Works		Base	ml	40		
b, 11-29	Valve chamber in Grit tank entrance vicinity to the connection of the drain pipe from the Grit tanks sump and from the dewatering sump. Including check valves and all necessary accessories. Including remove cast iron cover and access ladder.		Base	LS	1		
	Foul air						
b, 11-30	From Foul water Sump ; ND 80 Diameter; Foul air Service; Pressure: 1 Bar; approx. burried length: 10 m; including all connections and fittings to and from connecting Works		Base	LS	1		
b, 11-31	Fan discharge to unit; ND 300 Diameter; Foul air Service; Pressure: 1 Bar; approx. burried length: 10 m; including all connections and fittings to and from connecting Works		Base	LS	1		
	Grit Water						
b, 11-35	to Grit classifier 1, 2 and 3; DN200 Diameter; grit water Service; Pressure: 1 Bar; approx. burried length: 30 m total in three // pipes of different length; including all connections and fittings to and from connecting Works		Base	LS	1		
	Primary Sludge						
b, 11-40	Sludge feed to 3 dewatering units; DN150 Diameter; Primary sludge Service; Pressure: 1 Bar; approx. burried length: 160 m times three, installed in three // pipes. No 90° Elbows allowed. Including all connections and fittings to and from connecting Works		Base	ml	480		
Lot b 11	Sub total Yard Piping						

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			Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
Lot b,15	Facilities, Temporary works						
	b, 15-1	All site facilities as specified under specification 01000- General requirements	Base	LS	1		
	b, 15-2	All temporary Works required for construction	Base	LS	1		
	b, 15-3	Survey equipment	Base	LS	1		
	b, 15-4	Site offices for the Engineer	Base	LS	1		
	b, 15-5	Maintenance of the site offices	Base	LS	1		
	b, 15-6	400KVA generator for temporary use during new substation installation	Base	LS	1		
	b, 15-7	any other item required under specification -01000	Base	LS	1		
Lot b,15	Sub Total facilities, Temporary works						
Lot b,20	Daywork						
		Labour Charges					
		Labour Charges					
		Materials					
Sub total Lot b							
c) SUPPLIES Մատակարարում							
All items shall be in accordance with the Drawings and Specifications							
Lot c,1	Inlet Chamber and Screening (Area 101-102).						
	Equipment						
	c, 1-1	101-GR-001- Grabing Hoist; large debris service ; Capacity: 500 kg; Manual Crankset. Including support and anchoring system.	Base	No.	1		
	c, 1-2	101-BS-101- Automatic Coarse Screen 40 mm; raw wastewater service ; Capacity:11 500 m3/h Including support and anchoring system and all accessories	Base	No.	2		
	c, 1-3	101-BS-301- Manual Bar Screen 40 mm; raw wastewater service ; Dimension:1m50 wide x 3m45 high Including support and anchoring system	Base	No.	1		
	c, 1-4	101-BC-001- Belt conveyor with distributor in 2 skips; coarse screenings service ; Dimension:9,8 m long Including support and anchoring system	Base	No.	1		
	c, 1-5	101-SG-101; 201; 301- Motorized Sluice Gate; raw wastewater service ; Dimension:1.50 m x 2,65m - Channel height: 2,65 Including support and anchoring system	Base	No.	2		
	c, 1-6	101-SL-001- Stop Log frame and plate; raw wastewater service ; Dimension:1m 50 wide x 3m 15 high frame and 1,5 m x 2m 90 plate with lifting ring Including support and anchoring system	Base	No.	1		
	c, 1-7	101-SL-002- Stop Log frame and plate; raw wastewater service ; Dimension:1m 50 wide x 2m70 high frame and 1,5 m x 1m 90 plate with lifting ring Including support and anchoring system	Base	No.	1		
	c, 1-8	101-SL-003- Stop Log frame and plate; raw wastewater service ; Dimension:1m 60 wide x 3m 45 high frame and 1,8 m x 3m plate with lifting ring Including support and anchoring system	Base	No.	1		
	c, 1-9	101-SL-004; -101 -201; -301 - Stop Log frame ; raw wastewater service ; Dimension:1m 50 wide x 3m 45 high frame Including support and anchoring system	Base	No.	4		
	c, 1-10	101-SL-004; -101 -201; -301; 102-SL-101; -201; -301; -401;-001; -002 - Stop Log plate ; raw wastewater service ; Dimension:1,5 m x 3m15 plate with lifting ring, interchangeable for the various 1m 50 wide stop log frames	Base	No.	3		
	c, 1-11	101-SK-001; -002 - skip with cover; coarse screenings service ; Capacity:25 m³	Base	No.	2		
	c, 1-14	102-BS-100; -200; -300 - Automatic Fine Screen 6 mm; raw wastewater service ; Capacity:6 800 m3/h Including support and anchoring system and all accessories	Base	No.	3		
	c, 1-15	102-BS-400- Manual bar screen 20 mm; raw wastewater service ; Dimension:1m50 wide x 4m20 high Including support and anchoring system	Base	No.	1		
	c, 1-16	102-SW-001- Screw conveyor and compactor; fine screenings service ; Dimension:9 m long Including support and anchoring system	Base	No.	1		
	c, 1-17	102-SG-101; -201; -301- motorized Sluice gate; raw wastewater service ; Dimension:1.50 m x 3 m - Channel height: 3,70m Including support and anchoring system	Base	No.	3		

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c, 1-18	102-SG-401 - Sluice Gate with Manual crankset; raw wastewater service ; Dimension:1.50 m x 3 m - Channel height: 3,70m Including support and anchoring system	Base	No.	1		
c, 1-19	102-SL-101; -201; -301; -401 - Stop log frame only ; raw wastewater service ; Dimension:1m 50 wide x 3m 70 high frame Including support and anchoring system	Base	No.	4		
c, 1-20	102-SG-001/002 - Motorized Sluice Gate with Manual crankset; raw wastewater service ; Dimension:1.50 m x 1,5 m - Channel height: 4,20m; watertight joint on 4 sides Including support and anchoring system	Base	No.	2		
c, 1-21	102-SK-001; -002- skip with cover; fine screenings service ; Capacity:25 m³	Base	No.	2		
c, 1-25	102-SP-801- Submersible pump drainage sump; Foul water service ; Capacity:20 m3/h ; 3 m TDH	Base	No.	2		
Fabricated items						
c, 1-31	Galvanized Steel hand railing on the north side of the Screening channel including support and anchoring system (100 cm high) as shown on drawing MND-101-000.	Base	ml	47		
c, 1-32	Galvanized Steel hand railing for the North Chamber, East Chamber & New Bypass structure including support and anchoring system (120 cm high) as shown on drawing MND-101-000.	Base	ml	24		
c, 1-33	Two Monorail of 10 m long rails for stoplog lifting; each with hand operated hoist trolley. Self supporting structure 4 m high.	Base	LS	1		
c, 1-34	1 mobile jib crane with hand operated chain hoist for other stop logs removal to be installed on each of the fixing plates adjacent to the stop logs location. Lifting weight 850 kg. Include fixing plates at all stop log locations.	Base	LS	1		
c, 1-35	Galvanized Steel Grating access platforms to fine and coarse screens including support and anchoring system, as shown on the drawing MND-101-000	Base	LS	1		
c, 1-37	Galvanized Steel Ladder to platform including support and anchoring system (80 cm wide x 2 m high). Include handrail posts 1.2 m above top of wall in continuity with ladder's side handrails.	Base	No.	4		
c, 1-38	Galvanized Steel Ladders to platform including support and anchoring system (80 cm wide x 1 m high)	Base	No.	1		
c, 1-40	Stainless steel weir plate including all support and anchoring system with adjustable level installation on the emergency overflow weir wall	Base	ml	14		
C 1	Sub total Lot c1, Inlet Chamber and Screening					
Lot c,2	Grit & Grease Removal (Area 103 and 300). All items shall be in accordance with the Drawings and Specifications					
c, 2-1	103-FM-001- Magnetic Flowmeter; Raw wastewater service ;Diameter 1200 mm; Capacity: 1,2 to 5,6 m3/s	Base	No.	2		
c, 2-2	103-SL-101; -201; -301; -401 - Stop Log frame only ; Raw wastewater service ; Dimension:0m90 wide x 1m90 high frame; Including anchoring system	Base	No.	4		
c, 2-3	103-SL-101; -201; -301; -401 - Stop Log plate ; Raw wastewater service ; Dimension:0m90 wide x 1,6 m high , including lifting ring;	Base	No.	1		
c, 2-4	103-SG-003- Manual Sluice Gate; Raw wastewater service ; Dimension:0m40 wide x 0m40 high ; Manual Sluice Gate ; Including anchoring system	Base	No.	1		
c, 2-5	103-PP-501- Grit pump; Grit service ; Capacity:100 m3/h ; Vortex type ; Including pipes, connections, valves and accessories	Base	No.	2		
c, 2-6	103-PP-503- Grit Pump; Grit service ; Capacity:100 m3/h ; Vortex type ; Stand by Non installed	Base	No.	1		
c, 2-7	103-BL-101 to 108 - Submerged Air Turbine; Air service ; Capacity:720 Nm3/h max at 250 mbar ; including all accessories and support system in coordination with the bridge travelling	Base	No.	8		
c, 2-8	103-BL-201 to 208- Submerged Air Turbine; Air service ; Capacity:720 Nm3/h max at 250 mbar ; including all accessories and support system in coordination with the bridge travelling	Base	No.	8		
c, 2-9	103-BL-301 to 308- Submerged Air Turbine; Air service ; Capacity:720 Nm3/h max at 250 mbar ; including all accessories and support system in coordination with the bridge travelling	Base	No.	8		
c, 2-10	103-BL-401 to 408- Submerged Air Turbine; Air service ; Capacity:720 Nm3/h max at 250 mbar ; including all accessories and support system in coordination with the bridge travelling	Base	No.	8		
c, 2-11	103-BL-501 ; -502- Air Lift ; Air service ; Capacity:55 m3/h ; including pipes, connections, valves and accessories for installation on travelling bridge	Base	No.	2		
c, 2-12	103-TB-101; -401- Traveling Bridge ; Dimensions: aprox 12 m wide (to be adjusted to wall thickness) ; Including truck, rails, wheels, motor, guidance system, scraping system (bottom and surface) and all accessories	Base	No.	2		
c, 2-13	103-GC-511; -512 -513 Grit Classifier; Grit service ;Capacity:100 m3/h ; including pipes, valves and accessories	Base	No.	3		
c, 2-15	103-SK-501; -502- Grease concentration skip; Grease and water service ; Capacity:25 m3 ; including accessories- Overflow and siphon baffle welded locally	Base	No.	2		
c, 2-16	103-SK-511; -512; -513 - Grit skip; Grit service ; Capacity:25 m3 ; including cover and all accessories	Base	No.	3		
c, 2-17	103-SP-001; -002- Submersible Pump ; Foul water service ; Capacity:250 m3/h; Including pipes, connections, valves and accessories for operation as one duty+ one standby.	Base	No.	2		
c, 2-19	103-GA-003 / -004- Gate valve; Foul water service ; Capacity:Diameter pipe 350 mm	Base	No.	2		
Pump Gallery HVAC						
c, 2-20	103-HTR-001 - Electroheater for the Pump Room, 3 kW. Including all support system.	Base	No.	1		
c, 2-21	103-FN-001- Pump Room ventilation exhaust 2-speed fan for 6000 and 2000 m3/h, including all air ducts for proper room ventilation , including support and anchoring.	Base	No.	1		
Odor treatment of the Foul water sump and Sludge Storage (Area 300)		Option				

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Fabricated items						
c, 2-40	Galvanized Steel hand railing whatever the position including support system (120 cm high) in all locations where protection is needed.	Base	ml	55		
c, 2-41	Galvanized Steel or FRP Grating access platforms at the inlet and outlet of the grit tanks as shown on the drawing MND-103-001 ; including support and anchoring system, including all penetrations for valve actuators.	Base	m2	115		
c, 2-43	Galvanized Steel Grating above all slab drains shown on the Drawings including support system.	Base	LS	1		
c, 2-44	Galvanized steel Stairs (2m 50 high, 1m 20 wide with handrails)	Base	LS	1		
c, 2-45	Galvanized steel double door with lower louvers including industrial painting, frame, fixing, handle and lock	Base	No.	1		
c, 2-46	Wall air intake louvers with weather protection in the pump room	Base	No.	2		
c, 2-47	Stainless Steel or HDPE weir troughs including support system with easily adjustable level system for flow balancing over the 6 weir troughs per tank. Dimensions as shown on drawings MND-103-105	Base	No.	18		
c, 2-48	Deflector plates (HDPE; 2500 x1500 x 20 mm) including fixation system on pillars	Base	u	56		
c, 2-49	SS Grease trough (according to drawings, 40 cm half pipe with 40 cm high straight sides) including support and anchoring system	Base	lm	25		
c, 2-50	HDPE Grit trough (according to drawings, 40 cm half pipe with 40 cm high straight sides) including support and anchoring system and heat tracing.	Base	lm	60		
c, 2-51	Soft rubber splashguard including support system (50 cm long over 15 m on each side)	Base	lm	30		
c, 2-52	1 mobile jib crane with hand operated chain hoist for other stop logs removal to be installed on each of the fixing plates adjacent to the stop logs location. Lifting weight 500 kg. Include fixing plates at all stop log locations.	Base	LS	1		
C2	Sub Total Lot c2 , Grit & Grease Removal					
Lot c,3	New primary clarifiers (Area 105). All items shall be in accordance with the Drawings and Specifications					
c, 3-1	105-SL-101 to 108 - Stop Log frame; wastewater service ; Dimension:1m wide x 1m90 high frame	Base	No.	8		
c, 3-2	105-SL-101 to 108 - Stop Log plate ; wastewater service ; Dimension:1m wide x 1m90 high with lifting ring	Base	No.	2		
c, 3-3	105-PF-101; -201; -301 ; -401- Primary Settling Tank Pickets Fence scraper; wastewater service ; Dimension:17 m diameter; 6.9 m depth (tank bottom to motor base plate)	Base	No.	4		
c, 3-4	105-WN-101; -201; -301; -401- water spray nozzle; serve water ; Dimension:2 m3/h	Base	No.	4		
c, 3-5	105-OF-101; -201; -301; -401- overflow funnel with adjustable level; wastewater service ; Dimension:250-200 mm diameter	Base	No.	4		
c, 3-6	105-SV-501; -502; -601; -602- solenoid valves to supply air to air pinch valves; compressed air service	Base	No.	4		
c, 3-7	105-PV-501; -502; -601; -602- Sludge extraction pinch valve; primary sludge service	Base	No.	4		
c, 3-8	105-MF-501; -502; -601; -602- Magnetic Flow Meter; primary sludge service ; Capacity: 1 to 10 m3/min; Dimension: 350 mm	Base	No.	4		
c, 3-9	105-GR-501; -601- Jib crane with manual hoist for Mixer lifting	Base	No.	2		
c, 3-10	105-IM-501; -601- Immersed mixer; primary sludge service ; including all accessories and lifting rail	Base	No.	2		
c, 3-11	105-PC-701; 702; -703- Progressing cavity pump; primary sludge service ; Capacity:20 to 35 m3/hr; 150 mm; 25 m TDH; including all valves, piping and appurtenances.	Base	No.	3		
c, 3-14	105-MF-701; 702; 703- Magnetic Flow Meter; primary sludge service ; Capacity:20 to 35 m3/hr; 150 mm	Base	No.	3		
c, 3-12	105-SP-801- Submersible pump for gallery sump; Foul water / Sludge service ; Capacity:25 m3/h ; 5 m TDH	Base	No.	1		
c, 3-13	105-HT-001; -002- Pump Gallery freeze protection Electroheating, including support and anchoring.	Base	No.	2		
c, 3-14	105-FN-001- Pump Gallery ventilation exhaust 2-speed fan for 6000 and 2000 m3/h, including all air ducts for proper room ventilation , including support and anchoring.	Base	No.	1		
	Decanted water as service water					
c, 3-30	105-PP-801- Decanted water Pump to sludge dewatering washing; decanted water service ; Capacity:45 m3/h, 3 Bar TDH; including two 500 microns particle filters with manual backwash (1 duty, 1 standby), and including all pipes, fittings, valves and appurtenances.	Base	No.	1		
c, 3-31	105-PP-811- Decanted water Pump to odor treatment; decanted water service ; Capacity:4 m3/h, 6 Bar TDH, including two 500 microns particle filters with manual backwash (1 duty, 1 standby), and including all pipes, fittings, valves and appurtenances.	Base	No.	1		
	Pump Gallery HVAC					
c, 3-45	105-HT-001; -002- Electroheating , 6 kW , including support and anchoring sytem	Base	No.	2		
c, 3-46	105-FN-001- 2 speed Fan; ambient air service ; 6000 and 2000 m3/h; 1000 Pa maximum speed 1500 tr/min Including all appurtenances	Base	No.	1		
	Fabricated items					
c, 3-40	Lammellas for each of the sedimentation tanks, including support and anchoring system	Base	LS	4		

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c, 3-41	Galvanized Steel Grating access platforms for tanks access as shown on the drawing MND-105-001 ; including support and anchoring system.	Base	m2	425		
c, 3-43	Galvanized Steel Grating access platforms with handrail inside the pump gallery as shown on the drawing MND-105-003 ; including support and anchoring system; including 2 m high stairs to sludge pumps level.	Base	LS	1		
c, 3-44	Galvanized steel Stairs (3m 50 high, 1m 20 wide with handrails) for upper platform access	Base	LS	1		
c, 3-45	Galvanized Steel hand railing whatever the position including support system (120 cm high) as shown on drawing MND-105-001.	Base	ml	180		
3-46	Galvanized Steel hand railing for the Effluent Collection Chamber structure including support and anchoring system (120 cm high) as shown on drawing MND-107-001.	Base	ml	16		
c, 3-47	Galvanized Steel Access hatch ; diameter 800 ; with ladder for pump gallery emergency exit; watertight to rain water.	Base	LS	1		
c, 3-48	Galvanized Steel Mixer access hatch; dimensions : 2m by 2m	Base	LS	2		
c, 3-49	Galvanized Steel Access hatch ; diameter 800 ; with ladder for sludge storgae inspection	Base	LS	2		
c, 3-50	Galvanized Equipment installation or removal access hatch; dimensions : 3.40 m by 2m; watertight to rain water.	Base	LS	1		
c, 3-51	Galvanized Steel Wall air intake louvers with weather protection in the pump gallery	Base	No.	2		
c, 3-52	Roof Fresh air intake (Galvanized Steel) with weather protection for the sludge storage	Base	No.	2		
c, 3-53	Monorails for sludge pump lifting, 9.75 m long, including manual crankset trolley hoist and all support systems	Base	No.	2		
c, 3-54	Monorails for pump lifting, 35 m long, including manual crankset trolley hoist and all support systems	Base	No.	1		
c, 3-55	Construction of an open light steel framed rain protection roof (6m ² and 2.8m high) covering the stairs down to the pump gallery, including: - supply and installation of galvanized steel frame (columns, primary and secondary beams, struts and all necessary steel works for the support of the roofing system, and including all fixation systems such as foundations plates, bolting, welding and connections). - supply and installation of corrugated galvanized steel single sheets (corrugation height: 39mm; thickness: 0.63mm; pre-lacquered upper face) or equivalent, overlapping, all fixation systems and all associated works, - supply and installation of gutters and downspouts, including fixation system and connection to the bottom infiltration well, - supply and placement of infiltration wells, constituted of manholes with no bottom part (0.4m x 0,4m x 1,2mht) filled with gravel 20/40mm, at ground level below gutters for infiltration of stormwater from the roof and including necessary earthworks, - and all material needed for workmanship.	Base	LS	1		
Pipes						
c, 3-60	All piping inside the pump gallery in accordance with the P&IDs, including all support and anchoring systems.	Base	LS	1		
C 3						
Sub total Lot c,3 New primary clarifiers						
Lot c,4						
Solids Handling (area 200)						
Polymer Preparation (Area 201)						
c, 4-1	201-BF-001- big bag emptying station with Polymer storage vibrator; bulk polymer service ; Capacity:1000 kg	Base	No.	1		
c, 4-2	201-SW-001- screw conveyor; bulk polymer service ; Capacity:200 kg/h	Base	No.	1		
c, 4-3	201-DS-001- dosing screw; bulk polymer service ; Capacity:200 kg/h	Base	No.	1		
c, 4-4	201-MX-001; -002- vertical slow mixer; liquid polymer service ; Capacity:100 rpm max	Base	No.	2		
c, 4-5	201-PC-101;-201; -301- Progressing cavity pump; liquid polymer service ; capacity:1 to 3 m3/h, Motor with gear.	Base	No.	3		
c, 4-6	201-MF-101;-201; -301- magnetic flow meter (progressive cavity pump); liquid polymer service ; capacity:0 to 3 m3/h; ND 30	Base	No.	3		
c, 4-7	201-SV-001- solenoid valve; drinking water service ;size:ND45	Base	No.	1		
c, 4-8	201-SV-101;-201; -301- solenoid valve; drinking water service ;size:ND30	Base	No.	3		
c, 4-9	201-MV-101;-201; -301 - Motorized valve for polymer dilution; drinking water service ;size:ND30	Base	No.	3		
c, 4-10	201-MF-102; -202; -302- magnetic flow meter (for dilution); drinking water service ; capacity:0 to 3 m3/h; ND 30	Base	No.	3		
c, 4-11	201-SUR-001- Surpression pump with vessel; drinking water service ; capacity:12 m3/h; 3 bars	Base	No.	1		
Dewatering (Area 202)						
c, 4-21	202-BT&FP-101; -201; 301 - Gravity belt thickener combined with Belt filter Press; primary sludge service ; capacity:belt width 2m; 28 m3/h; 1000 kg SS/h; including air compressor, washwater pump, piping, valves, and all appurtenances; including support system and floor anchors; including any necessary access platform for maintenance.	Base	No.	3		
c, 4-23	202-SW-101; -201- Screw conveyor;dewatered primary sludge service ; capacity:5 wet t/h;8 m; Ø 328 mm. Including all support and anchoring systems. Including connections to downstream and upstream equipment.	Base	No.	2		
c, 4-24	202-SW-301- Screw conveyor; primary sludge service ; capacity:5 wet t/h;13 m; Ø 328 mm. Including all support and anchoring systems. Including connections to downstream and upstream equipment.	Base	No.	1		
Sludge liming, conveying and storage (Area 203-204)						
c, 4-31	203-LB-101; 201- lime storage silo; useful volume: 50 m3; including dust filter, archbreaker of 100 to 500 kg/h and Ø 2 m; with two connections to dosing screws per silo. Including all support and anchoring systems.	Base	No.	3		
c, 4-32	203-DS-101; 301- screw dosing; 100 to 500 kg/h , Ø 70 mm	Base	No.	2		

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c, 4-33	203-DS-201- screw dosing; 100 to 500 kg/h , Ø 70 mm, with connection to silo 203-LB-101 and -201 for operation on one or the other of the two silos. Including all support and anchoring systems.	Base	No.	1		
c, 4-36	203-SW-101, -301 - lime screw conveyor; 100 to 500 kg/h ,5m, ,Ø 80mm. Including all support and anchoring systems.	Base	No.	2		
c, 4-37	203-SW-201- lime screw conveyor; 100 to 500 kg/h ,8.50m, ,Ø 80mm. Including all support and anchoring systems.	Base	No.	1		
c, 4-38	203-SW-102; 202; -302 - screw injector; 100 to 500 kg/h ,1m,Ø 80mm. Including all support and anchoring systems.	Base	No.	3		
c, 4-39	203-SM-101; 201; -301- Sludge-lime mixer; lime-sludge service ; capacity:sludge 4.5 m3/h; lime:0.6 m3/h. Including all support and anchoring systems. Including connections to downstream and upstream equipment.	Base	No.	3		
c, 4-40	203-SW-001; -002- skip feeding screw conveyor; limed sludge service ; capacity:20 wet t/h; 15 m. Including all support and anchoring systems. Including connections to downstream and upstream equipment.	Base	No.	2		
c, 4-41	203-BC-001- Stand-by belt conveyor(between 203-SW-001 &002); limed sludge service ; capacity:10 wet t/h; 7 m. Including removable connections to the inlet hopper of 203-SW-001 and -002.	Base	No.	1		
c, 4-42	204-SK-001 to -006 limed sludge skips; Grit service ; Capacity:25 m3 ; including cover and all accessories	Base	No.	6		
c, 4-42	202-HT-001; -002- Liming room Electroheating; ambient air service ; Capacity:delta T= 10 oC	Base	No.	2		
Foul water sump (Area 205)						
c, 4-51	205-SP-001- Submerged sump pump; Foul water service ; capacity:200 m3/h; 10 m TDH. Including pipes, connections, valves and accessories for operation as one duty+ one standby.	Base	No.	2		
Ventilation and Odor Treatment for Sludge Building (Area 206)						
c, 4-67	HVAC equipment for proper anti-freeze heating and ventilation of the various rooms of the building.	Base	LS	1		
Solids Building HVAC (Area 200)						
c, 4-70	200-AC-001- Air conditioning unit for electrical room; ambient air service ; Capacity:100 m3/h, 10oC cooling	Base	No.	1		
c, 4-71	200-FN-001; -002- Exhaust ventilation 2-speed Fan; ambient air service ; Capacity:8000 and 2700 m3/h	Base	No.	2		
c, 4-72	200-HT-001 to -005- Solids handling room Electroheating; ambient air service ; Capacity:delta T= 10 oC; 6 kW	Base	No.	5		
Fabricated items and handling equipment for all Zone 200						
c, 4-100	Galvanized Steel Grating above all slab drains shown on the Drawings including support system.	Base	LS	1		
c, 4-101	Wall air intake louvers with weather protection	Base	No.	8		
c, 4-102	Stainless Steel plate for deflecting the limed sludge to the Belt conveyor 203-BC-001, in case the Screw Conveyor 203-SW-001 or -002 is out of order.	Base	No.	1		
c, 4-103	Palett truck for equipment handling, maintenance and repair	Base	No.	1		
c, 4-104	Electrical stacker for polymer handling	Base	No.	1		
Pipes						
c, 4-110	All piping inside the sludge handling building in accordance with the P&IDs, including all support and anchoring systems.	Base	LS	1		
C 4	Sub total C4, Solids Handling					
Lot c,5	Service Water and Substation Building (area 110 and 400)					
c, 5-1	102-SV-811 and -812; Solenoid Valves DN40 ; decanted water service	Base	No.	1		
c, 5-2	110-TK-001 and -002; Fiberglass water tank for well water ; Capacity:7,5 m3 each Including all appurtenances	Base	No.	1		
c, 5-3	110-TK-111; Fiberglass water tank for decanted water ; Capacity:7,5 m3 each Including all appurtenances	Base	No.	1		
c, 5-4	110-HW-001- Water hammer Tank; well water service ; Capacity:6 bar, 15 m3/h Including 2 suppression pumps (one duty, one standby) and all appurtenances.	Base	No.	1		
c, 5-5	110-PP-011 and -021, water service centrifugal pumps	base	No.	2		
Building HVAC						
c, 5-10	200-AC-001; -002- Air conditioning unit for substation rooms; ambient air service ; Capacity:100 m3/h, 10oC cooling	Base	No.	2		
c, 5-11	Wall air intake louvers with weather protection	Base	No.	4		
Pipes						
c, 5-20	All piping inside the building in accordance with the P&IDs, including all support and anchoring systems.	Base	LS	1		
C 5	Sub Total Lot c,5 Service Water and Substation Building					
Lot c,6	Outlet structure (area 107)					
c, 6-01	107-SP-801- Submersible pump drainage sump; Foul water service ; Capacity:50 m3/h ; 1,3 m TDH	Base	No.	2		

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Lot c,10	Instrumentation					
	Instruments Area 101-102					
c, 10-1	101-FL-001- Float level sensor; raw wastewater service; Including all electrical and automation connections.	Base	No.	1		
c, 10-2	101-TI-001- Ultrasonic level sensor; raw wastewater service; Including all electrical and automation connections.	Base	No.	1		
c, 10-3	101-UF-002- Temperature sensor; raw wastewater service; Including all electrical and automation connections.	Base	No.	1		
c, 10-4	102-UF-001- Ultrasonic level sensor; raw wastewater service; Including all electrical and automation connections.	Base	No.	1		
c, 10-5	102-UF-002- Ultrasonic level sensor; raw wastewater service; Including all electrical and automation connections.	Base	No.	1		
	Instruments Area 103					
c, 10-10	103-FL-001- Float level; Foul water service ; Including all electrical and automation connections.	Base	No.	1		
c, 10-11	103-FL-002- Float level; Foul water service ; Including all electrical and automation connections.	Base	No.	1		
c, 10-12	103-LS-001- Capacitive Level Sensor; Foul water service ; Including all electrical and automation connections.	Base	No.	1		
c, 10-13	103-LS-501- Capacitive Level Sensor; Grit water service ; Including all electrical and automation connections.	Base	No.	1		
c, 10-14	103-LS-502- Capacitive Level Sensor; Grit water service ; Including all electrical and automation connections.	Base	No.	1		
	Instruments Area 105					
c, 10-20	105-FL-101; -201; 301; -401- Float Level indicator; wastewater service ; Including all electrical and automation connections.	Base	No.	4		
c, 10-21	105-SBL-101; -201; 301; -401- Sludge blanquet level Sensor; wastewater service ; Including all electrical and automation connections.	Base	No.	4		
c, 10-22	105-LS-501; -601- capacitive Level sensor; Including all electrical and automation connections.	Base	No.	2		
c, 10-23	105-FL-801- Float level sensor for alarm; Including all electrical and automation connections.	Base	No.	1		
c, 10-24	105-PI-801-Pressure Gauge; 0-10 Bar; ND 120; Including all electrical and automation connections.	Base	No.	1		
c, 10-25	105-PI-811-Pressure Gauge; 0-10 Bar; ND 40; Including all electrical and automation connections.	Base	No.	1		
	Instruments Area 201					
c, 10-30	201-FL-001 to 004- Float level sensors; liquid polymer service ; Including all electrical and automation connections.	Base	No.	4		
c, 10-31	201-FL-005- Blockage Level sensor ; polymer powder service ;Including all electrical and automation connections.	Base	No.	1		
c, 10-32	201-PI-101;-201; -301- Manometer with local pressure indication; drinking water service ; capacity:0-5 Bar, ND 30; Including all electrical and automation connections.	Base	No.	3		
	Instruments Area 202					
c, 10-40	202-GDS-001, -002- Gas detector H2S; ambient air; Including all electrical and automation connections.	Base	No.	2		
c, 10-41	202-GDN-001; -002- Gas detector NH3; ambient air; Including all electrical and automation connections.	Base	No.	2		
c, 10-42	202-FL-101; -201; -301- Blockage Level sensor ; dewatered primary sludge; Including all electrical and automation connections.	Base	No.	3		
	Instruments Area 203					
c, 10-45	203-GDS-001- Gas detector H2S; ambient air ; Including all electrical and automation connections.	Base	No.	1		
c, 10-46	203-GDN-001- Gas detector NH3; ambient air ; Including all electrical and automation connections.	Base	No.	1		
c, 10-47	203-FL-101; -201; -301- Blockage Level sensor ; limed sludge; Including all electrical and automation connections.	Base	No.	3		
	Instruments Area 205					
c, 10-50	205-LS-001- Capacitive level sensor; Foul water service; Including all electrical and automation connections.	Base	No.	1		
c, 10-51	205-FL-001- Float level sensor; Foul water service; Including all electrical and automation connections.	Base	No.	2		
	Instruments Area 110					
c, 10-60	110-FL-101, -102, -103 Float level sensor for well water tank 1; Including all electrical and automation connections.	Base	No.	3		
c, 10-61	110-FL-201, -202, -203 Float level sensor for well water tank 2; Including all electrical and automation connections.	Base	No.	3		
c, 10-62	110-FL-111, -112, -113 Float level sensor for decanted water tank; Including all electrical and automation connections.	Base	No.	3		
C 10	Sub Total Lot c,10, Instrumentation					
Lot c,11	Electrical Equipment					
	Electrical equipments Area 400					

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c, 11-01	Diversion and burying of the existing line MT to feed the main substation including	Base	Ls	1		
c, 11-02	Transformer 6kV/0,4kV 800kVA	Base	No.	2		
c, 11-03	MV arrival cell	Base	No.	1		
c, 11-04	MV departure cell	Base	No.	1		
c, 11-05	MV metering cell	Base	No.	1		
c, 11-06	MV general circuit breaker cell	Base	No.	1		
c, 11-07	MV transformer protection cell	Base	No.	2		
c, 11-08	Reactive power compensation capacitor for cos Phi > 0,97	Base	No.	1		
c, 11-09	LV General Cupboard, including all components, departure protections, relays, internal cabling, accessories, etc...	Base	Ls	1		
c, 11-10	LV cable from the general cupboard to all concerned equipments in accordance at the corresponding single line diagram.	Base	Ls	1		
c, 11-11	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete including all accessories, fixing brackets, connection to pump, suspensions, drilling and cutting to form a complete installation (the resistance shall not exceed five ohm).	Base	Ls	1		
c, 11-12	Ceiling surface mounted weather proof lighting fixture (IP-54) including 2X36 W fluorescent day light lamp including flat prismatic diffuser completed including electronic ballast, mounting brackets, wires, cables, raceways and accessories. (the level of illumination must be at least equal to 300 luxes)	Base	Ls	1		
c, 11-13	One way, one-gang and two-gang 10/16A lighting switch completed including wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-14	2pole including earth single socket of 16A, 240V, height 110cm AFFL completed including wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-15	Exit sign emergency lighting fixture of 1X8W fluorescent lamp supplied with self-contained nickel cadmium battery for 3 hours duration completed including wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-16	Outdoor hot dipped galvanized steel lighting post of height 6 m equipped with junction box, with one flood lighting fixtures, each completed with 150 watt high-pressure sodium to be protected by a MCB of 6 Amp for the external lighting along the new ways. (the level of illumination must be at least equal to 20 luxes)	Base	Ls	1		
c, 11-17	Safety equipment for transformer station.	Base	Ls	1		
c,	Electrical equipments Area 401					
c, 11-20	MV cable for connecting the new main sub-station at the existing sub-station.	Base	m	130		
c, 11-21	Temporary gas-oil generator 400V 400kVA for supply the existing installation during the diversion of the MV cable, including all connections at the existing general cupboard, supply and temporary stockage of the gas-oil and all accesories.	Base	Ls	1		
	Electrical equipments Area 402					
c, 11-25	Screening divisional cupboard, including all components, departure protections, relays, internal cabling, accessories, etc...	Base	Ls	1		
c, 11-26	LV cable from the divisional cupboard to all concerned equipments in accordance with the corresponding single line diagram.	Base	Ls	1		
c, 11-27	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete with all accessories, fixing brackets, connection to pump, suspensions, drilling and cutting to form a complete installation (the resistance shall not exceed five ohm).	Base	Ls	1		
c, 11-28	Ceiling surface mounted weather proof lighting fixture (IP-54) with 2X36 W fluorescent day light lamp with flat prismatic diffuser complete with electronic ballast, mounting brackets, wires, cables, raceways and accessories. (the level of illumination must be at least equal to 300 luxes)	Base	Ls	1		
c, 11-29	One way, one-gang and two-gang 10/16A lighting switch complete including wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-30	2pole with earth single socket of 16A, 240V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-31	Exit sign emergency lighting fixture of 1X8W fluorescent lamp supplied with self-contained nickel cadmium battery for 3 hours duration complete with wires, cables, raceways and accessories.	Base	Ls	1		
	Electrical equipments Area 101					
c, 11-35	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete with all accessories, fixing brackets, connection to pump, suspensions, drilling and cutting to form a complete installation (the resistance shall not exceed five ohm).	Base	Ls	1		
	Electrical equipments Area 102					
c, 11-40	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete with all accessories, fixing brackets, connection to pump, suspensions, drilling and cutting to form a complete installation (the resistance shall not exceed five ohm).	Base	Ls	1		
	Electrical equipments Area 103					
c, 11-45	GG removal tank and primary settling tank divisional cupboard, including all components, departure protections, relays, internal cabling, accessories, etc...	Base	Ls	1		
c, 11-46	LV cable from the divisional cupboard to all concerned equipments in accordance with the corresponding single line diagram.	Base	Ls	1		
c, 11-47	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete with all accessories, fixing brackets, connection to pump, suspensions, drilling and cutting to form a complete installation (the resistance shall not exceed five ohm).	Base	Ls	1		
c, 11-48	Ceiling surface mounted weather proof lighting fixture (IP-54) with 2X36 W fluorescent day light lamp with flat prismatic diffuser completed with electronic ballast, mounting brackets, wires, cables, raceways and accessories. (the level of illumination must be at least equal to 300 luxes)	Base	Ls	1		
c, 11-49	One way, one-gang and two-gang 10/16A lighting switch completed with wires, cables, raceways and accessories.	Base	Ls	1		

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c, 11-50	2pole including earth single socket of 16A, 240V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-51	Three phase including earth weather proof single socket of 32A, 400V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-52	Exit sign emergency lighting fixture of 1X8W fluorescent lamp supplied with self-contained nickel cadmium battery for 3 hours duration complete including wires, cables, raceways and accessories.	Base	Ls	1		
Electrical equipments Area 105						
c, 11-55	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete including all accessories, fixing brackets, connection to pump, suspensions, drilling and cutting to form a complete installation (the resistance shall not exceed five ohm).	Base	Ls	1		
c, 11-56	Ceiling surface mounted weather proof lighting fixture (IP-54) with 2X36 W fluorescent day light lamp with flat prismatic diffuser complete including electronic ballast, mounting brackets, wires, cables, raceways and accessories. (the level of illumination must be at least equal to 300 luxes)	Base	Ls	1		
c, 11-57	One way, one-gang and two-gang 10/16A lighting switch complete including wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-58	2pole with earth single socket of 16A, 240V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-59	Three phase with earth weather proof single socket of 32A, 400V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-60	Exit sign emergency lighting fixture of 1X8W fluorescent lamp supplied with self-contained nickel cadmium battery for 3 hours duration complete including wires, cables, raceways and accessories.	Base	Ls	1		
Electrical equipments Area 107						
c, 11-65	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete including all accessories, fixing brackets, connection to pump, suspensions, drilling and cutting to form a complete installation (the resistance shall not exceed five ohm).	Base	Ls	1		
Electrical equipments Area 200						
c, 11-70	LV cable for connecting the new main sub-station at the Sludge Building divisional cupboard.	Base	Ls	1		
c, 11-71	LV cable from the divisional cupboard to all concerned equipments in accordance with the corresponding single line diagram.	Base	Ls	1		
c, 11-72	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete including all accessories, fixing brackets, connection to pump, suspensions, drilling and cutting to form a complete installation (the resistance shall not exceed five ohm).	Base	Ls	1		
c, 11-73	Screening, Grit removal and Primary settling tank divisional cupboard, including all components, departure protections, relays, internal cabling, accessories, etc...	Base	Ls	1		
c, 11-74	Ceiling surface mounted weather proof lighting fixture (IP-54) with 2X36 W fluorescent day light lamp with flat prismatic diffuser complete including electronic ballast, mounting brackets, wires, cables, raceways and accessories. (the level of illumination must be at least equal to 300 luxes)	Base	Ls	1		
c, 11-75	One way, one-gang and two-gang 10/16A lighting switch complete including wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-76	2pole with earth single socket of 16A, 240V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-77	Exit sign emergency lighting fixture of 1X8W fluorescent lamp supplied with self-contained nickel cadmium battery for 3 hours duration complete including wires, cables, raceways and accessories.	Base	Ls	1		
C 11	Sub Total Lot c,11, Electrical equipment					
Lot c,12 Automation						
Automation equipments Control Center Room						
c, 12-01	RTU 1 according to description in the specification and drawing including all accessories.	Base	Ls	1		
c, 12-02	Ethernet / Fiber optic switch.	Base	U	1		
c, 12-03	Industrial PC with Armenian keyboard and optical mouse.	Base	Ls	1		
c, 12-04	Screen 23 inches	Base	U	1		
c, 12-05	Colour printer including cartridges	Base	Ls	1		
c, 12-06	Uninterruptable power supply (UPS) at 4 hours, (240V) of rating 1 kVA complete including all necessary accessories and ancillary materials required for complete installation.	Base	Ls	1		
c, 12-07	Software and licenses	Base	Ls	1		
c, 12-08	Control / command cupboard for integration of the RTU ; including all accessories equipments (light, relays, switch, etc...)	Base	Ls	1		
c,	Automation equipments in Plant	Base	Ls	1		
c, 12-10	Fiber optic cable	Base	m	400		
c,	Automation equipments Area 400					
c, 12-15	RTU 4 according to description in the specification and drawing including all accessories.	Base	Ls	1		
c, 12-16	Control / command cupboard for integration of the RTU ; including all accessories equipments (light, relays, switch, etc...)	Base	Ls	1		
c, 12-17	Uninterruptable power supply (UPS) at 4 hours, (240V) of rating 1 kVA complete including all necessary accessories and ancillary materials required for complete installation.	Base	Ls	1		
c,	Automation equipments Areas 101 - 102 & 402					
c, 12-20	RTU 2 according to description in the specification and drawing including all accessories.	Base	Ls	1		
c, 12-21	Control / command cupboard for integration of the RTU and all accessories equipments (light, relays, switch, etc...)	Base	Ls	1		
c, 12-22	Uninterruptable power supply (UPS) at 4 hours, (240V) of rating 1 kVA complete with all necessary accessories and ancillary materials required for complete installation.	Base	Ls	1		
c,	Automation equipments Area 103-105					
c, 12-25	RTU 3 according to description in the specification and drawing including all accessories.	Base	Ls	1		

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c, 12-26	Control / command cupboard for integration of the RTU and all accessories equipments (light, relays, switch, etc...)	Base	Ls	1		
c, 12-27	Uninterruptable power supply (UPS) at 4 hours, (240V) of rating 1 kVA complete with all necessary accessories and ancillary materials required for complete installation.	Base	Ls	1		
Automation equipments Area 200						
c, 12-30	RTU 5 according to description in the specification and drawing including all accessories.	Base	Ls	1		
c, 12-31	Control / command cupboard for integration of the RTU and all accessories equipments (light, relays, switch, etc...)	Base	Ls	1		
c, 12-32	Uninterruptable power supply (UPS) at 4 hours, (240V) of rating 1 kVA complete with all necessary accessories and ancillary materials required for complete installation.	Base	Ls	1		
C 12	Sub Total Lot c,12, Automation					
Sub Total Lot c, SUPPLIES						
d) INSTALLATION Մոնտաժային աշխատանքներ						
Lot d,1	Inlet Chamber and Screening (Area 101-102).					
	Equipment					
d, 1-1	101-GR-001- Grabing Hoist; large debris service ; Capacity: 500 kg; Manual Crankset. Including support and anchoring system.	Base	No.	1		
d, 1-2	101-BS-101- Automatic Coarse Screen 40 mm; raw wastewater service ; Capacity:11 500 m3/h Including support and anchoring system and all accessories	Base	No.	2		
d, 1-3	101-BS-301- Manual Bar Screen 40 mm; raw wastewater service ; Dimension:1m50 wide x 3m45 high	Base	No.	1		
d, 1-4	101-BC-001- Belt conveyor with distributor in 2 skips; coarse screenings service ; Dimension:9,8 m long	Base	No.	1		
d, 1-5	101-SG-101; 201; 301- Motorized Sluice Gate; raw wastewater service ; Dimension:1.50 m x 2,65m - Channel height: 2,65	Base	No.	2		
d, 1-6	101-SL-001- Stop Log frame and plate; raw wastewater service ; Dimension:1m 50 wide x 3m 15 high frame and 1,5 m x 2m 90 plate with lifting ring	Base	No.	1		
d, 1-7	101-SL-002- Stop Log frame and plate; raw wastewater service ; Dimension:1m 50 wide x 2m70 high frame and 1,5 m x 1m 90 plate with lifting ring	Base	No.	1		
d, 1-8	101-SL-003- Stop Log frame and plate; raw wastewater service ; Dimension:1m 60 wide x 3m 45 high frame and 1,8 m x 3m plate with lifting ring	Base	No.	1		
d, 1-9	101-SL-004; -101 -201; -301 - Stop Log frame ; raw wastewater service ; Dimension:1m 50 wide x 3m 45 high frame	Base	No.	4		
d, 1-10	101-SL-004; -101 -201; -301; 102-SL-101; -201; -301; -401;-001; -002 - Stop Log plate ; raw wastewater service ; Dimension:1,5 m x 3m15 plate with lifting ring, interchangeable for the various	Base	No.	3		
d, 1-11	101-SK-001; -002 - skip with cover; coarse screenings service ; Capacity:25 m³	Base	No.	2		
d, 1-14	102-BS-100; -200; -300 - Automatic Fine Screen 6 mm; raw wastewater service ; Capacity:6 800 m3/h	Base	No.	3		
d, 1-15	102-BS-400- Manual bar screen 20 mm; raw wastewater service ; Dimension:1m50 wide x 4m20 high Including support and anchoring system	Base	No.	1		
d, 1-16	102-SW-001- Screw conveyor and compactor; fine screenings service ; Dimension:9 m long Including support and anchoring system	Base	No.	1		
d, 1-17	102-SG-101; -201; -301- motorized Sluice gate; raw wastewater service ; Dimension:1.50 m x 3 m - Channel height: 3,70m	Base	No.	3		
d, 1-18	102-SG-401 - Sluice Gate with Manual crankset; raw wastewater service ; Dimension:1.50 m x 3 m - Channel height: 3,70m	Base	No.	1		
d, 1-19	102-SL-101; -201; -301; -401 - Stop log frame only ; raw wastewater service ; Dimension:1m 50 wide x 3m 70 high frame	Base	No.	4		
d, 1-20	102-SG-001/002 - Motorized Sluice Gate with Manual crankset; raw wastewater service ; Dimension:1.50 m x 1,5 m - Channel height: 4,20m; watertight joint on 4 sides	Base	No.	2		
d, 1-21	102-SK-001; -002- skip with cover; fine screenings service ; Capacity:25 m³	Base	No.	2		
	Fabricated items					
d, 1-31	Galvanized Steel hand railing on the north side of the Screening channel including support and anchoring system (100 cm high) as shown on drawing MND-101-000.	Base	ml	47		
d, 1-32	Galvanized Steel hand railing for the North Chamber, East Chamber & New Bypass structure including support and anchoring system (120 cm high) as shown on drawing MND-101-000.	Base	ml	24		
d, 1-33	Two Monorail of 10 m long rails for stoplog lifting; each with hand operated hoist trolley. Self supporting structure 4 m high.	Base	LS	1		
d, 1-34	1 mobile jib crane with hand operated chain hoist for other stop logs removal to be installed on each of the fixing plates adjacent to the stop logs location. Lifting weight 850 kg. Include fixing plates at all stop log locations.	Base	LS	1		
d, 1-35	Galvanized Steel Grating access platforms to fine and coarse screens including support and anchoring system, as shown on the drawing MND-101-000	Base	LS	1		
d, 1-37	Galvanized Steel Ladder to platform including support and anchoring system (80 cm wide x 2 m high). Include handrail posts 1.2 m above top of wall in continuity with ladder's side handrails.	Base	No.	4		
d, 1-38	Galvanized Steel Ladders to platform including support and anchoring system (80 cm wide x 1 m high)	Base	No.	1		
d, 1-40	Stainless steel weir plate including all support and anchoring system with adjustable level installation on the emergency overflow weir wall	Base	ml	14		
d1	Sub Total d,1 Inlet chamber and screening					

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Aeratsia WWTP						
		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
Lot d,2	Grit & Grease Removal (Area 103 and 300). All items shall be in accordance with the Drawings and Specifications					
d, 2-1	103-FM-001- Magnetic Flowmeter; Raw wastewater service ;Diameter 1200 mm; Capacity: 1,2 to 5,6 m3/s	Base	No.	2		
d, 2-2	103-SL-101; -201; -301; -401 - Stop Log frame only ; Raw wastewater service ; Dimension:0m90 wide x 1m90 high frame; Including anchoring system	Base	No.	4		
d, 2-3	103-SL-101; -201; -301; -401 - Stop Log plate ; Raw wastewater service ; Dimension:0m90 wide x 1,6 m high , including lifting ring;	Base	No.	1		
d, 2-4	103-SG-003- Manual Sluice Gate; Raw wastewater service ; Dimension:0m40 wide x 0m40 high ; Manual Sluice Gate ; Including anchoring system	Base	No.	1		
d, 2-5	103-PP-501- Grit pump; Grit service ; Capacity:100 m3/h ; Vortex type ; Including pipes, connections, valves and accessories	Base	No.	2		
d, 2-6	103-PP-503- Grit Pump; Grit service ; Capacity:100 m3/h ; Vortex type ; Stand by Non installed	Base	No.	1		
d, 2-7	103-BL-101 to 108 - Submerged Air Turbine; Air service ; Capacity:720 Nm3/h max at 250 mbar ; including all accessories and support system in coordination with the bridge travelling	Base	No.	8		
d, 2-8	103-BL-201 to 208- Submerged Air Turbine; Air service ; Capacity:720 Nm3/h max at 250 mbar ; including all accessories and support system in coordination with the bridge travelling	Base	No.	8		
d, 2-9	103-BL-301 to 308- Submerged Air Turbine; Air service ; Capacity:720 Nm3/h max at 250 mbar ; including all accessories and support system in coordination with the bridge travelling	Base	No.	8		
d, 2-10	103-BL-401 to 408- Submerged Air Turbine; Air service ; Capacity:720 Nm3/h max at 250 mbar ; including all accessories and support system in coordination with the bridge travelling	Base	No.	8		
d, 2-11	103-BL-501 ; -502- Air Lift ; Air service ; Capacity:55 m3/h ; including pipes, connections, valves and accessories for installation on travelling bridge	Base	No.	2		
d, 2-12	103-TB-101; -401- Traveling Bridge ; Dimensions: aprox 12 m wide (to be adjusted to wall thickness) ; Including truck, rails, wheels, motor, guidance system, scraping system (bottom and surface) and all accessories	Base	No.	2		
d, 2-13	103-GC-511; -512 -513 Grit Classifier; Grit service ;Capacity:100 m3/h ; including pipes, valves and accessories	Base	No.	3		
d, 2-15	103-SK-501; -502- Grease concentration skip; Grease and water service ; Capacity:25 m3 ; including accessories- Overflow and siphon baffle welded locally	Base	No.	2		
d, 2-16	103-SK-511; -512; -513 - Grit skip; Grit service ; Capacity:25 m3 ; including cover and all accessories	Base	No.	3		
d, 2-17	103-SP-001; -002- Submersible Pump ; Foul water service ; Capacity:250 m3/h; Including pipes, connections, valves and accessories for operation as one duty+ one standby.	Base	No.	2		
d, 2-19	103-GA-003 / -004- Gate valve; Foul water service ; Capacity:Diameter pipe 350 mm	Base	No.	2		
	Pump Gallery HVAC					
d, 2-20	103-HTR-001 - Electroheater for the Pump Room, 3 kW. Including all support system.	Base	No.	1		
d, 2-21	103-FN-001- Pump Room ventilation exhaust 2-speed fan for 6000 and 2000 m3/h, including all air ducts for proper room ventilation , including support and anchoring.	Base	No.	1		
	Odor treatment of the Foul water sump and Sludge Storage (Area 300)	Option				
	Fabricated items					
d, 2-40	Galvanized Steel hand railing whatever the position including support system (120 cm heigh) in all locations where protection in needed.	Base	m	55		
d, 2-41	Galvanized Steel or FRP Grating access platforms at the inlet and outlet of the grit tanks as shown on the drawing MND-103-001 ; including support and anchoring system, including all penetrations for	Base	m2	115		
d, 2-43	Galvanized Steel Grating above all slab drains shown on the Drawings including support system.	Base	LS	1		
d, 2-44	Galvanized steel Stairs (2m 50 high, 1m 20 wide with handrails)	Base	LS	1		
d, 2-45	Galvanized steel double door with lower louvers including industrial painting, frame, fixing, handle and lock	Base	No.	1		
d, 2-46	Wall air intake louvers with weather protection in the pump room	Base	No.	2		
d, 2-47	Stainless Steel or HDPE weir troughs including support system with easily adjustable level system for flow balancing over the 6 weir troughs per tank. Dimensions as shown on drawings MND-103-105	Base	No.	18		
d, 2-48	Deflector plates (HDPE; 2500 x1500 x 20 mm) including fixation system on pillars	Base	u	56		
d, 2-49	SS Grease trough (according to drawings, 40 cm half pipe with 40 cm high straight sides) including support and anchoring system	Base	lm	25		
d, 2-50	HDPE Grit trough (according to drawings, 40 cm half pipe with 40 cm high straight sides) including support and anchoring system and heat tracing.	Base	lm	60		
d, 2-51	Soft rubber splashguard including support system (50 cm long over 15 m on each side)	Base	lm	30		
d, 2-52	1 mobile jib crane with hand operated chain hoist for other stop logs removal to be installed on each of the fixing plates adjacent to the stop logs location. Lifting weight 500 kg. Include fixing plates at all stop log locations.	Base	LS	1		

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d 2						
Sub Total d,2 Grit & grease removal						
Lot d,3						
New primary clarifiers (Area 105). All items shall be in accordance with the Drawings and Specifications						
d, 3-1	105-SL-101 to 108 - Stop Log frame; wastewater service ; Dimension:1m wide x 1m90 high frame	Base	No.	8		
d, 3-2	105-SL-101 to 108 - Stop Log plate ; wastewater service ; Dimension:1m wide x 1m90 high with lifting ring	Base	No.	2		
d, 3-3	105-PF-101; -201; -301 ; -401- Primary Settling Tank Pickets Fence scraper; wastewater service ; Dimension:17 m diameter; 6.9 m depth (tank bottom to motor base plate)	Base	No.	4		
d, 3-4	105-WN-101; -201; -301; -401- water spray nozzle; servive water ; Dimension:2 m3/h	Base	No.	4		
d, 3-5	105-OF-101; -201; -301; -401- overflow funnel with adjustable level; wastewater service ; Dimension:250-200 mm diameter	Base	No.	4		
d, 3-6	105-SV-501; -502; -601; -602- solenoid valves to supply air to air pinch valves; compressed air service	Base	No.	4		
d, 3-7	105-PV-501; -502; -601; -602- Sludge extraction pinch valve; primary sludge service	Base	No.	4		
d, 3-8	105-MF-501; -502; -601; -602- Magnetic Flow Meter; primary sludge service ; Capacity: 1 to 10 m3/min; Dimension: 350 mm	Base	No.	4		
d, 3-9	105-GR-501; -601- Jib crane with manual hoist for Mixer lifting	Base	No.	2		
d, 3-10	105-IM-501; -601- Immersed mixer; primary sludge service ; including all accessories and lifting rail	Base	No.	2		
d, 3-11	105-PC-701; 702; -703- Progressing cavity pump; primary sludge service ; Capacity:20 to 35 m3/hr; 150 mm; 25 m TDH; including all valves, piping and appurtenances.	Base	No.	3		
d, 3-14	105-MF-701; 702; 703- Magnetic Flow Meter; primary sludge service ; Capacity:20 to 35 m3/hr; 150 mm	Base	No.	3		
d, 3-12	105-SP-801- Submersible pump for gallery sump; Foul water / Sludge service ; Capacity:25 m3/h ; 5 m TDH	Base	No.	1		
d, 3-13	105-HT-001; -002- Pump Gallery freeze protection Electroheating, including support and anchoring.	Base	No.	2		
d, 3-14	105-FN-001- Pump Gallery ventilation exhaust 2-speed fan for 6000 and 2000 m3/h, including all air ducts for proper room ventilation , including support and anchoring.	Base	No.	1		
Decanted water as service water						
d, 3-30	105-PP-801- Decanted water Pump to sludge dewatering washing; decanted water service ; Capacity:45 m3/h, 3 Bar TDH; including two 500 microns particle filters with manual backwash (1	Base	No.	1		
d, 3-31	105-PP-811- Decanted water Pump to odor treatment; decanted water service ; Capacity:4 m3/h, 6 Bar TDH, including two 500 microns particle filters with manual backwash (1 duty, 1 standby), and	Base	No.	1		
Pump Gallery HVAC						
d, 3-45	105-HT-001; -002- Electroheating , 6 kW , including support and anchoring sytem	Base	No.	2		
d, 3-46	105-FN-001- 2 speed Fan; ambient air service ; 6000 and 2000 m3/h; 1000 Pa maximum speed 1500 tr/min	Base	No.	1		
Fabricated items						
d, 3-40	Lammellas for each of the sedimentation tanks, including support and anchoring system	Base	LS	4		
d, 3-41	Galvanized Steel Grating access platforms for tanks access as shown on the drawing MND-105-001 ; including support and anchoring system.	Base	m2	425		
d, 3-43	Galvanized Steel Grating access platforms with handrail inside the pump gallery as shown on the drawing MND-105-003 ; including support and anchoring system; including 2 m high stairs to sludge	Base	LS	1		
d, 3-44	Galvanized steel Stairs (3m 50 high, 1m 20 wide with handrails) for upper platform access	Base	LS	1		
d, 3-45	Galvanized Steel hand railing whatever the position including support system (120 cm high) as shown on drawing MND-105-001.	Base	ml	180		
d, 3-46	Galvanized Steel hand railing for the Effluent Collection Chamber structure including support and anchoring system (120 cm high) as shown on drawing MND-107-001.	Base	ml	16		
d, 3-47	Galvanized Steel Access hatch ; diameter 800 ; with ladder for pump gallery emergency exit; watertight to rain water.	Base	LS	1		
d, 3-48	Galvanized Steel Mixer access hatch; dimensions : 2m by 2m	Base	LS	2		
d, 3-49	Galvanized Steel Access hatch ; diameter 800 ; with ladder for sludge storgae inspection	Base	LS	2		
d, 3-50	Galvanized Equipment installation or removal access hatch; dimensions : 3.40 m by 2m; watertight to rain water.	Base	LS	1		
d, 3-51	Galvanized Steel Wall air intake louvers with weather protection in the pump gallery	Base	No.	2		
d, 3-52	Roof Fresh air intake (Galvanized Steel) with weather protection for the sludge storage	Base	No.	2		
d, 3-53	Monorails for sludge pump lifting, 9.75 m long, including manual crankset trolley hoist and all support systems	Base	No.	2		
d, 3-54	Monorails for pump lifting, 35 m long, including manual crankset trolley hoist and all support systems	Base	No.	1		

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d, 3-55	Construction of an open light steel framed rain protection roof (6m ² and 2,8m high) covering the stairs down to the pump gallery, including:	Base	LS	1		
Pipes						
d, 3-60	All piping inside the pump gallery in accordance with the P&IDs, including all support and anchoring systems.	Base	LS	1		
d 3	Sub Total d,3 New Primary Clarifiers					
Lot d,4	Solids Handling (area 200)					
Polymer Preparation (Area 201)						
d, 4-1	201-BF-001- big bag emptying station with Polymer storage vibrator; bulk polymer service ; Capacity:1000 kg	Base	No.	1		
d, 4-2	201-SW-001- screw conveyor; bulk polymer service ; Capacity:200 kg/h	Base	No.	1		
d, 4-3	201-DS-001- dosing screw; bulk polymer service ; Capacity:200 kg/h	Base	No.	1		
d, 4-4	201-MX-001; -002- vertical slow mixer; liquid polymer service ; Capacity:100 rpm max	Base	No.	2		
d, 4-5	201-PC-101;-201; -301- Progressing cavity pump; liquid polymer service ; capacity:1 to 3 m3/h, Motor with gear.	Base	No.	3		
d, 4-6	201-MF-101;-201; -301- magnetic flow meter (progressive cavity pump); liquid polymer service ; capacity:0 to 3 m3/h; ND 30	Base	No.	3		
d, 4-7	201-SV-001- solenoid valve; drinking water service ;size:ND45	Base	No.	1		
d, 4-8	201-SV-101;-201; -301- solenoid valve; drinking water service ;size:ND30	Base	No.	3		
d, 4-9	201-MV-101;-201; -301 - Motorized valve for polymer dilution; drinking water service ;size:ND30	Base	No.	3		
d, 4-10	201-MF-102; -202; -302- magnetic flow meter (for dilution); drinking water service ; capacity:0 to 3 m3/h; ND 30	Base	No.	3		
d, 4-11	201-SUR-001- Surpression pump with vessel; drinking water service ; capacity:12 m3/h; 3 bars	Base	No.	1		
Dewatering (Area 202)						
d, 4-21	202-BT&FP-101; -201; 301 - Gravity belt thickener combined with Belt filter Press; primary sludge service ; capacity:belt width 2m; 28 m3/h; 1000 kg SS/h; including air compressor, washwater pump,	Base	No.	3		
d, 4-23	202-SW-101; -201- Screw conveyor;dewatered primary sludge service ; capacity:5 wet t/h;8 m; Ø 328 mm. Including all support and anchoring systems. Including connections to downstream and upstream	Base	No.	2		
d, 4-24	202-SW-301- Screw conveyor; primary sludge service ; capacity:5 wet t/h;13 m; Ø 328 mm. Including all support and anchoring systems. Including connections to downstream and upstream equipment.	Base	No.	1		
Sludge liming, conveying and storage (Area 203-204)						
d, 4-31	203-LB-101; 201- lime storage silo; useful volume: 50 m3; including dust filter, archbreaker of 100 to 500 kg/h and Ø 2 m; with two connections to dosing screws per silo. Including all support and	Base	No.	3		
d, 4-32	203-DS-101; 301- screw dosing; 100 to 500 kg/h , Ø 70 mm	Base	No.	2		
d, 4-33	203-DS-201- screw dosing; 100 to 500 kg/h , Ø 70 mm, with connection to silo 203-LB-101 and -201 for operation on one or the other of the two silos. Including all support and anchoring systems.	Base	No.	1		
d, 4-36	203-SW-101, -301 - lime screw conveyor; 100 to 500 kg/h ,5m, ,Ø 80mm. Including all support and anchoring systems.	Base	No.	2		
d, 4-37	203-SW-201- lime screw conveyor; 100 to 500 kg/h ,8.50m, ,Ø 80mm. Including all support and anchoring systems.	Base	No.	1		
d, 4-38	203-SW-102; 202; -302 - screw injector; 100 to 500 kg/h ,1m,Ø 80mm. Including all support and anchoring systems.	Base	No.	3		
d, 4-39	203-SM-101; 201; -301- Sludge-lime mixer; lime-sludge service ; capacity:sludge 4.5 m3/h; lime:0.6 m3/h. Including all support and anchoring systems. Including connections to downstream and	Base	No.	3		
d, 4-40	203-SW-001; -002- skip feeding screw conveyor; limed sludge service ; capacity:20 wet t/h; 15 m. Including all support and anchoring systems. Including connections to downstream and upstream	Base	No.	2		
d, 4-41	203-BC-001- Stand-by belt conveyor(between 203-SW-001 &002); limed sludge service ; capacity:10 wet t/h; 7 m. Including removable connections to the inlet hopper of 203-SW-001 and -002.	Base	No.	1		
d, 4-42	204-SK-001 to -006 limed sludge skips; Grit service ; Capacity:25 m3 ; including cover and all accessories	Base	No.	6		
d, 4-42	202-HT-001; -002- Liming room Electroheating; ambient air service ; Capacity:delta T= 10 oC	Base	No.	2		
Foul water sump (Area 205)						
d, 4-51	205-SP-001- Submerged sump pump; Foul water service ; capacity:200 m3/h; 10 m TDH. Including pipes, connections, valves and accessories for operation as one duty+ one standby.	Base	No.	2		

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Ventilation and Odor Treatment for Sludge Building (Area 206)						
d, 4-67	HVAC equipment for proper anti-freeze heating and ventilation of the various rooms of the building.	Base	LS	1		
Solids Building HVAC (Area 200)						
d, 4-70	200-AC-001- Air conditioning unit for electrical room; ambient air service ; Capacity:100 m3/h, 10oC cooling	Base	No.	1		
d, 4-71	200-FN-001; -002- Exhaust ventilation 2-speed Fan; ambient air service ; Capacity:8000 and 2700 m3/h	Base	No.	2		
d, 4-72	200-HT-001 to -005- Solids handling room Electroheating; ambient air service ; Capacity:delta T= 10 oC; 6 kW	Base	No.	5		
Fabricated items and handling equipment for all Zone 200						
d, 4-100	Galvanized Steel Grating above all slab drains shown on the Drawings including support system.	Base	LS	1		
d, 4-101	Wall air intake louvers with weather protection	Base	No.	8		
d, 4-102	Stainless Steel plate for deflecting the limed sludge to the Belt conveyor 203-BC-001, in case the Screw Conveyor 203-SW-001 or -002 is out of order.	Base	No.	1		
Pipes						
d, 4-110	All piping inside the sludge handling building in accordance with the P&IDs, including all support and anchoring systems.	Base	LS	1		
d4	Sub Total d,4 Solids handling					
Lot d,5	Service Water and Substation Building (area 110 and 400)					
d, 5-1	102-SV-811 and -812; Solenoid Valves DN40 ; decanted water service	Base	No.	1		
d, 5-2	110-TK-001 and -002; Fiberglass water tank for well water ; Capacity:7,5 m3 each Including all appurtenances	Base	No.	1		
d, 5-3	110-TK-111; Fiberglass water tank for decanted water ; Capacity:7,5 m3 each Including all appurtenances	Base	No.	1		
d, 5-4	110-HW-001- Water hammer Tank; well water service ; Capacity:6 bar, 15 m3/h Including 2 supression pumps (one duty, one standby) and all appurtenances.	Base	No.	1		
5-5	110-PP-011 and -021, water service centrifugal pumps	base	No.	2		
Building HVAC						
d, 5-10		Base	No.	2		
d, 5-11	Wall air intake louvers with weather protection	Base	No.	4		
Pipes						
d, 5-20	All piping inside the building in accordance with the P&IDs, including all support and anchoring systems.	Base	LS	1		
d 5	Sub Total D 5, Service water and substation					
Lot d,6	Outlet structure (area 107)					
d, 6-01	107-SP-801- Submersible pump drainage sump; Foul water service ; Capacity:50 m3/h ; 1,3 m TDH	Base	No.	2		
Lot d,10	Instrumentation					
Instruments Area 101-102						
d, 10-1	101-FL-001- Float level sensor; raw wastewater service; Including all electrical and automation connections.	Base	No.	1		
d, 10-2	101-TI-001- Ultrasonic level sensor; raw wastewater service; Including all electrical and automation connections.	Base	No.	1		
d, 10-3	101-UF-002- Temperature sensor; raw wastewater service; Including all electrical and automation connections.	Base	No.	1		
d, 10-4	102-UF-001- Ultrasonic level sensor; raw wastewater service; Including all electrical and automation connections.	Base	No.	1		
d, 10-5	102-UF-002- Ultrasonic level sensor; raw wastewater service; Including all electrical and automation connections.	Base	No.	1		

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Instruments Area 103						
d, 10-10	103-FL-001- Float level; Foul water service ; Including all electrical and automation connections.	Base	No.	1		
d, 10-11	103-FL-002- Float level; Foul water service ; Including all electrical and automation connections.	Base	No.	1		
d, 10-12	103-LS-001- Capacitive Level Sensor; Foul water service ; Including all electrical and automation connections.	Base	No.	1		
d, 10-13	103-LS-501- Capacitive Level Sensor; Grit water service ; Including all electrical and automation connections.	Base	No.	1		
d, 10-14	103-LS-502- Capacitive Level Sensor; Grit water service ; Including all electrical and automation connections.	Base	No.	1		
Instruments Area 105						
d, 10-20	105-FL-101; -201; 301; -401- Float Level indicator; wastewater service ; Including all electrical and automation connections.	Base	No.	4		
d, 10-21	105-SBL-101; -201; 301; -401- Sludge blanquet level Sensor; wastewater service ; Including all electrical and automation connections.	Base	No.	4		
d, 10-22	105-LS-501; -601- capacitive Level sensor; Including all electrical and automation connections.	Base	No.	2		
d, 10-23	105-FL-801- Float level sensor for alarm; Including all electrical and automation connections.	Base	No.	1		
d, 10-24	105-PI-801-Pressure Gauge; 0-10 Bar; ND 120; Including all electrical and automation connections.	Base	No.	1		
d, 10-25	105-PI-811-Pressure Gauge, 0-10 Bar; ND 40; Including all electrical and automation connections.	Base	No.	1		
Instruments Area 201						
d, 10-30	201-FL-001 to 004- Float level sensors; liquid polymer service ; Including all electrical and automation connections.	Base	No.	4		
d, 10-31	201-FL-005- Blockage Level sensor ; polymer powder service ;Including all electrical and automation connections.	Base	No.	1		
d, 10-32	201-PI-101;-201; -301- Manometer with local pressure indication; drinking water service ; capacity:0-5 Bar, ND 30; Including all electrical and automation connections.	Base	No.	3		
Instruments Area 202						
d, 10-40	202-GDS-001, -002- Gas detector H2S; ambient air; Including all electrical and automation connections.	Base	No.	2		
d, 10-41	202-GDN-001; -002- Gas detector NH3; ambient air; Including all electrical and automation connections.	Base	No.	2		
d, 10-42	202-FL-101; -201; -301- Blockage Level sensor ; dewatered primary sludge; Including all electrical and automation connections.	Base	No.	3		
Instruments Area 203						
d, 10-45	203-GDS-001- Gas detector H2S; ambient air ; Including all electrical and automation connections.	Base	No.	1		
d, 10-46	203-GDN-001- Gas detector NH3; ambient air ; Including all electrical and automation connections.	Base	No.	1		
d, 10-47	203-FL-101; -201; -301- Blockage Level sensor ; limed sludge; Including all electrical and automation connections.	Base	No.	3		
Instruments Area 205						
d, 10-50	205-LS-001- Capacitive level sensor; Foul water service; Including all electrical and automation connections.	Base	No.	1		
d, 10-51	205-FL-001- Float level sensor; Foul water service; Including all electrical and automation connections.	Base	No.	2		
Instruments Area 110						
d, 10-60	110-FL-101, -102, -103 Float level sensor for well water tank 1; Including all electrical and automation connections.	Base	No.	3		
d, 10-61	110-FL-201, -202, -203 Float level sensor for well water tank 2; Including all electrical and automation connections.	Base	No.	3		
d, 10-62	110-FL-111, -112, -113 Float level sensor for decanted water tank; Including all electrical and automation connections.	Base	No.	3		
d,10	Sub Total Lot c,10, Instrumentation					
Lot d,11	Electrical Equipment					
Electrical equipments Area 400						
d, 11-01	Diversion and burying of the existing line MT to feed the main substation including	Base	Ls	1		
d, 11-02	Transformer 6kV/0,4kV 800kVA	Base	No.	2		

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d, 11-03	MV arrival cell	Base	No.	1		
d, 11-04	MV departure cell	Base	No.	1		
d, 11-05	MV metering cell	Base	No.	1		
d, 11-06	MV general circuit breaker cell	Base	No.	1		
d, 11-07	MV transformer protection cell	Base	No.	2		
d, 11-08	Reactive power compensation capacitor for cos Phi > 0,97	Base	No.	1		
d, 11-09	LV General Cupboard, including all components, departure protections, relays, internal cabling, accessories, etc...	Base	Ls	1		
d, 11-10	LV cable from the general cupboard to all concerned equipments in accordance at the corresponding single line diagram.	Base	Ls	1		
d, 11-11	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete	Base	Ls	1		
d, 11-12	Ceiling surface mounted weather proof lighting fixture (IP-54) including 2X36 W fluorescent day light lamp including flat prismatic diffuser completed including electronic ballast, mounting brackets, wires,	Base	Ls	1		
d, 11-13	One way, one-gang and two-gang 10/16A lighting switch completed including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-14	2pole including earth single socket of 16A, 240V, height 110cm AFFL completed including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-15	Exit sign emergency lighting fixture of 1X8W fluorescent lamp supplied with self-contained nickel cadmium battery for 3 hours duration completed including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-16	Outdoor hot dipped galvanized steel lighting post of height 6 m equipped with junction box, with one flood lighting fixtures, each completed with 150 watt high-pressure sodium to be protected by a MCB	Base	Ls	1		
d, 11-17	Safety equipment for transformer station.	Base	Ls	1		
Electrical equipments Area 401						
d, 11-20	MV cable for connecting the new main sub-station at the existing sub-station.	Base	m	130		
d, 11-21	Temporary gas-oil generator 400V 400kVA for supply the existing installation during the diversion of the MV cable, including all connections at the existing general cupboard, supply and temporary	Base	Ls	1		
Electrical equipments Area 402						
d, 11-25	Screening divisional cupboard, including all components, departure protections, relays, internal cabling, accessories, etc...	Base	Ls	1		
d, 11-26	LV cable from the divisional cupboard to all concerned equipments in accordance with the corresponding single line diagram.	Base	Ls	1		
d, 11-27	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete	Base	Ls	1		
d, 11-28	Ceiling surface mounted weather proof lighting fixture (IP-54) with 2X36 W fluorescent day light lamp with flat prismatic diffuser complete with electronic ballast, mounting brackets, wires, cables,	Base	Ls	1		
d, 11-29	One way, one-gang and two-gang 10/16A lighting switch complete including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-30	2pole with earth single socket of 16A, 240V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-31	Exit sign emergency lighting fixture of 1X8W fluorescent lamp supplied with self-contained nickel cadmium battery for 3 hours duration complete with wires, cables, raceways and accessories.	Base	Ls	1		
Electrical equipments Area 101						
d, 11-35	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete	Base	Ls	1		
Electrical equipments Area 102						
11-40	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete	Base	Ls	1		
Electrical equipments Area 103						
d, 11-45	GG removal tank and primary settling tank divisional cupboard, including all components, departure protections, relays, internal cabling, accessories, etc...	Base	Ls	1		
d, 11-46	LV cable from the divisional cupboard to all concerned equipments in accordance with the corresponding single line diagram.	Base	Ls	1		
d, 11-47	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete	Base	Ls	1		
d, 11-48	Ceiling surface mounted weather proof lighting fixture (IP-54) with 2X36 W fluorescent day light lamp with flat prismatic diffuser completed with electronic ballast, mounting brackets, wires, cables,	Base	Ls	1		
d, 11-49	One way, one-gang and two-gang 10/16A lighting switch completed with wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-50	2pole including earth single socket of 16A, 240V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-51	Three phase including earth weather proof single socket of 32A, 400V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-52	Exit sign emergency lighting fixture of 1X8W fluorescent lamp supplied with self-contained nickel cadmium battery for 3 hours duration complete including wires, cables, raceways and accessories.	Base	Ls	1		
Electrical equipments Area 105						
d, 11-55	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete	Base	Ls	1		
d, 11-56	Ceiling surface mounted weather proof lighting fixture (IP-54) with 2X36 W fluorescent day light lamp with flat prismatic diffuser complete including electronic ballast, mounting brackets, wires, cables,	Base	Ls	1		
d, 11-57	One way, one-gang and two-gang 10/16A lighting switch complete including wires, cables, raceways and accessories.	Base	Ls	1		

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		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
d, 11-58	2pole with earth single socket of 16A, 240V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-59	Three phase with earth weather proof single socket of 32A, 400V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-60	Exit sign emergency lighting fixture of 1X8W fluorescent lamp supplied with self-contained nickel cadmium battery for 3 hours duration complete including wires, cables, raceways and accessories.	Base	Ls	1		
Electrical equipments Area 107						
d, 11-65	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete	Base	Ls	1		
Electrical equipments Area 200						
d, 11-70	LV cable for connecting the new main sub-station at the Sludge Building divisional cupboard.	Base	Ls	1		
d, 11-71	LV cable from the divisional cupboard to all concerned equipments in accordance with the corresponding single line diagram.	Base	Ls	1		
d, 11-72	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete	Base	Ls	1		
d, 11-73	Screening, Grit removal and Primary settling tank divisional cupboard, including all components, departure protections, relays, internal cabling, accessories, etc...	Base	Ls	1		
d, 11-74	Ceiling surface mounted weather proof lighting fixture (IP-54) with 2X36 W fluorescent day light lamp with flat prismatic diffuser complete including electronic ballast, mounting brackets, wires, cables,	Base	Ls	1		
d, 11-75	One way, one-gang and two-gang 10/16A lighting switch complete including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-76	2pole with earth single socket of 16A, 240V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-77	Exit sign emergency lighting fixture of 1X8W fluorescent lamp supplied with self-contained nickel cadmium battery for 3 hours duration complete including wires, cables, raceways and accessories.	Base	Ls	1		
d,11	Sub Total Lot c,11, Electrical equipment					
Lot d,12	Automation					
Automation equipments Control Center Room						
d, 12-01	RTU 1 according to description in the specification and drawing including all accessories.	Base	Ls	1		
d, 12-02	Ethernet / Fiber optic switch.	Base	U	1		
d, 12-03	Industrial PC with Armenian keyboard and optical mouse.	Base	Ls	1		
d, 12-04	Screen 23 inches	Base	U	1		
d, 12-05	Colour printer including cartridges	Base	Ls	1		
d, 12-06	Uninterruptable power supply (UPS) at 4 hours, (240V) of rating 1 kVA complete including all necessary accessories and ancillary materials required for complete installation.	Base	Ls	1		
d, 12-07	Software and licenses	Base	Ls	1		
d, 12-08	Control / command cupboard for integration of the RTU ; including all accessories equipments (light, relays, switch, etc...)	Base	Ls	1		
Automation equipments in Plant		Base	Ls	1		
d, 12-10	Fiber optic cable	Base	m	400		
Automation equipments Area 400						
d, 12-15	RTU 4 according to description in the specification and drawing including all accessories.	Base	Ls	1		
d, 12-16	Control / command cupboard for integration of the RTU ; including all accessories equipments (light, relays, switch, etc...)	Base	Ls	1		
d, 12-17	Uninterruptable power supply (UPS) at 4 hours, (240V) of rating 1 kVA complete including all necessary accessories and ancillary materials required for complete installation.	Base	Ls	1		
Automation equipments Areas 101 - 102 & 402						
d, 12-20	RTU 2 according to description in the specification and drawing including all accessories.	Base	Ls	1		
d, 12-21	Control / command cupboard for integration of the RTU and all accessories equipments (light, relays, switch, etc...)	Base	Ls	1		
d, 12-22	Uninterruptable power supply (UPS) at 4 hours, (240V) of rating 1 kVA complete with all necessary accessories and ancillary materials required for complete installation.	Base	Ls	1		
Automation equipments Area 103-105						
d, 12-25	RTU 3 according to description in the specification and drawing including all accessories.	Base	Ls	1		
d, 12-26	Control / command cupboard for integration of the RTU and all accessories equipments (light, relays, switch, etc...)	Base	Ls	1		
d, 12-27	Uninterruptable power supply (UPS) at 4 hours, (240V) of rating 1 kVA complete with all necessary accessories and ancillary materials required for complete installation.	Base	Ls	1		
Automation equipments Area 200						
d, 12-30	RTU 5 according to description in the specification and drawing including all accessories.	Base	Ls	1		

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		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
d, 12-31	Control / command cupboard for integration of the RTU and all accessories equipments (light, relays, switch, etc...)	Base	Ls	1		
d, 12-32	Uninterruptable power supply (UPS) at 4 hours, (240V) of rating 1 kVA complete with all necessary accessories and ancillary materials required for complete installation.	Base	Ls	1		
d,12	Sub total d 12, Automation					
Sub Total d, INSTALLATION						
e) TECHNICAL ASSISTANCE						
1	Operator's Personnel training on the equipment maintenance	Base	LS	1		
2	O&M manual training	Base	LS	1		
Sub Total e TECHNICAL ASSISTANCE						
f) MAINTENANCE SERVICES Պահպանման ծառայություն						
g) INTERNATIONAL TRANSPORT Միջազգային տեղափոխում(տրանսպորտ)						
Lot g,1	Contractor to detail as needed:					
1	...	Base				
2	...	Base				
Sub Total g,INTERNATIONAL TRANSPORT						
h) LOCAL TRANSPORTS Տեղական տեղափոխում (տրանսպորտ)						
Lot h,1	Contractor to detail as needed:					
1	...	Base				
2	...	Base				
Sub Total g,INTERNATIONAL TRANSPORT						
i) INSURANCES Ապահովագրություն						
Lot i,1	Contractor to detail as needed:					
1	...	Base				
2	...	Base				
Sub Total i, INSURANCES						
j) OTHER (Contractor to detail) այլ (մանրամասները շինարարի կողմից)						
Lot j,1						
Lot j,2						
Sub Total j, Other						

SUMMARY TABLE		Sub Total	TOTAL [in EUR] Ընդամենը
a) ENGINEERING STUDIES Ինժեներական ուսումնասիրություններ			
a1 preparation phase			
a2 project closing phase			
b) CIVIL WORKS Ընդհանուր շինարարական աշխատանքներ			
b1, inlet chamber & screening			
b2, grit & grease removal			
b3, PST			
b4, Sludge building			
b5, service water & new substation room			
b6, outlet structures			
b7, Rehabilitation of electrical room			

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Aeratsia WWTP					
		Base / Option	Unit Միավոր	Quantity	Unit Price
					TOTAL [in EUR] Ընդամենը
b10, Site					
b11, yard piping					
b15, mobilisation& temporary works					
c) SUPPLIES Մատակարարում					
c1, inlet chamber & screening					
c2, grit&grease removal					
c3, PST					
c4, Sludge building					
c5, service water & new substation room					
c10, instrumentation					
c11, electrical equipment					
c12, automation					
d) INSTALLATION Մոնտաժային աշխատանքներ					
d1, inlet chamber & screening					
d2, grit&grease removal					
d3, PST					
d4, Sludge building					
d5, service water & new substation room					
d10, instrumentation					
d11, electrical equipment					
d12, automation					
e) TECHNICAL ASSISTANCE					
f) MAINTENANCE SERVICES Պահպանման ծառայություն					
g) INTERNATIONAL TRANSPORT Միջազգային տեղափոխում (տրանսպորտ)					
h) LOCAL TRANSPORTS Տեղական տեղափոխում (տրանսպորտ)					
i) INSURANCES Ապահովագրություն					
j) OTHER այլ					
GRAND TOTAL					

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Instructions to bidders: the Bidders shall provide a cost for all items. The ID number of items listed below shall not be modified.

Aeratsia WWTP						
		Base / Option	Unit Միավոր	Quantity	Unit price	TOTAL [in EUR] Ընդամենը
TOTAL (contract)						
a) ENGINEERING STUDIES Ինժեներական ուսումնասիրություններ						
Lot a,1	Preparation Phase					
Lot a,2	Project Closing Phase					
1-5	O&M manual translated in Armenian	Option	LS	1		
b) CIVIL WORKS Ընդհանուր շինարարական աշխատանքներ						
Lot b,1	Inlet Chamber and Screening (zones 101 & 102): Construct, Testing and Handing Over in good conditions in accordance with the Drawings and Specifications for the following Items:					
	Structure 6: Shed over the skips slab					
b, 1-15	Construction of an open light steel framed shaded area (200m ² and 5m high) covering the skips, and allowing for its normal operation with trucks loading and unloading in particular, including: - supply and installation of galvanized steel frame (columns, primary and secondary beams, struts and all necessary steel works for the support of the roofing system, and including all fixation systems such as foundations plates, bolting, welding and connections). - supply and installation of corrugated galvanized steel single sheets (corrugation height: 39mm; thickness: 0.63mm; pre-lacquered upper face) or equivalent, overlapping, all fixation systems and all associated works, - supply and installation of gutters and downspouts, including fixation system and connection to the bottom infiltration well, - supply and placement of infiltration wells, constituted of manholes with no bottom part (0.4m x 0,4m x 1,2mht) filled with gravel 20/40mm, at ground level below gutters for infiltration of stormwater from the roof and including necessary earthworks, - and all material needed for workmanship.	Option	LS	1		
Lot b,2	Grit & Grease Removal (zone 103): Construct, Testing and Handing Over in good conditions in accordance with the Drawings and Specifications for the following Items:					
	Structure 7: Shed over the grit skips					
b, 2-30	Construction of an open light steel framed shaded area (100m ²) covering the grit skips only, and allowing for its normal operation with trucks loading and unloading in particular, including: - supply and installation of galvanized steel frame (columns, primary and secondary beams, struts and all necessary steel works for the support of the roofing system, and including all fixation systems such as foundations plates, bolting, welding and connections). - supply and installation of corrugated galvanized steel single sheets (corrugation height: 39mm; thickness: 0.63mm; pre-lacquered upper face) or equivalent, overlapping, all fixation systems and all associated works, - supply and installation of gutters and downspouts, including fixation system and connection to the bottom infiltration well, - supply and placement of infiltration wells, constituted of manholes with no bottom part (0.4m x 0,4m x 1,2mht) filled with gravel 20/40mm, at ground level below gutters for infiltration of stormwater from the roof and including necessary earthworks, - and all material needed for workmanship.	Option	LS	1		

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Aeratsia WWTP							
			Base / Option	Unit Միավոր	Quantity	Unit price	TOTAL [in EUR] Ընդամենը
Lot b,4	Solids Handling Building (zone 200)						
	Shed over the sludge skips						
b, 4-12	<p>Construction of an open light steel framed shaded area (200m²) covering the skips, and allowing for its normal operation with trucks loading and unloading in particular, including:</p> <ul style="list-style-type: none"> - supply and installation of galvanized steel frame (columns, primary and secondary beams, struts and all necessary steel works for the support of the roofing system, and including all fixation systems such as foundations plates, bolting, welding and connections). - supply and installation of corrugated galvanized steel single sheets (corrugation height: 39mm; thickness: 0.63mm; pre-lacquered upper face) or equivalent, overlapping, all fixation systems and all associated works, - supply and installation of gutters and downspouts, including fixation system and connection to the bottom infiltration well, - supply and placement of infiltration wells, constituted of manholes with no bottom part (0.4m x 0,4m x 1,2mht) filled with gravel 20/40mm, at ground level below gutters for infiltration of stormwater from the roof and including necessary earthworks, - and all material needed for workmanship. 		Option	LS	1		
b, 5	Odor Treatment (biofilters) Slab						
b, 5-1	<p>Earthworks, including:</p> <ul style="list-style-type: none"> - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer. 		option	LS	1		
b, 5-2	<p>Concrete works, including:</p> <ul style="list-style-type: none"> - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all necessary works for the connections with adjoining concrete structures, including watertight connections of any type if needed, - all equipment pads, where necessary, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - minimum slope of the top surface toward the finished ground level: 0.5%, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer. 		option	LS	1		
b, 5	Sub Total Odor Treatment (biofilters) Slab						
Lot b,10	Site						
	Roads						
b, 10-15	Provide and paint road marking as per the Technical Specifications		Option	ml	1		
	Fencing						
b, 10-25	<p>Fencing works shall include:</p> <p>Supply and fixation of galvanized iron stakes of a C-shaped section (angular) 50 x 50 x 5 mm, measuring height of 1.80m off the ground, which will be fixed in a C12/15 concrete base, measuring 0.40 x 0.40 x 0.50m. Galvanized iron stakes shall be placed every 3m along the required fencing length and in combination with a wire netting featuring loops that measure 5cm x 5cm, 1.80m height and 2.2mm thickness. The wire netting shall be fixed onto three wire rails running along the fencing.</p>		Option	lm	430		
b 10	Sub total b10 Site						

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lot b,11 Yard Piping							
		Primary Sludge					
b, 11-41		Sludge feed to future dewatering unit 4; DN150 Diameter; Primary sludge Service; Pressure: 1 Bar; approx. buried length: 160 m. Including all connections and fittings to and from connecting Works	Option	ml	160		
b, 11-42		Acces prefabricated manholes with Cast iron removal cover.for future connection to and from the digestion facilities, as indicated on the drawings	Option	LS	2		
b 11	Sub Total b11, Yard piping						
Lot b,20 Daywork							
		Labour Charges					
b, 20-1		Unskilled Labour	Option	hr	0		
b, 20-2		Semi-skilled Labour	Option	hr	0		
b, 20-3		Skilled Labour	Option	hr	0		
b, 20-4		Operator for light general equipment	Option	hr	0		
b, 20-5		Operator for heavy general equipement	Option	hr	0		
		Labour Charges					
b, 20-10		Compressor 5 m³/hr max	Option	hr	0		
b, 20-11		Compressor 5/15 m³/hr	Option	hr	0		
b, 20-12		Compressor 15/30 m³/hr	Option	hr	0		
b, 20-13		Mobile crane 5 tons max	Option	hr	0		
b, 20-14		Mobile crane 5/20 tons	Option	hr	0		
b, 20-15		Mobile crane 20/40 tons	Option	hr	0		
b, 20-16		Dumper 4/6 tons pay load	Option	hr	0		
b, 20-17		Dumper 4/6 tons pay load	Option	hr	0		
b, 20-18		Dumper 10/20 tons pay load	Option	hr	0		
b, 20-19		Dumper 20/40 tons pay load	Option	hr	0		
b, 20-20		Excavator 50 hp max	Option	hr	0		
b, 20-21		Excavator 50/100 hp	Option	hr	0		
b, 20-22		Excavator 100/400 hp	Option	hr	0		
b, 20-23		Excavator 200/400 hp	Option	hr	0		
b, 20-24		Lorry 1,5 ton max pay load	Option	hr	0		
b, 20-25		Lorry 1,5/5 tons pay load	Option	hr	0		
b, 20-26		Lorry 5/15 tons pay load	Option	hr	0		
b, 20-27		Lorry 15/35 tons pay load	Option	hr	0		
b, 20-28		Concrete mixer 500 litres max	Option	hr	0		
b, 20-29		Concrete mixer greater than 500 litres	Option	hr	0		
b, 20-30		Water pump 3 kw max	Option	hr	0		
b, 20-31		Water pump 3/8 kw	Option	hr	0		
b, 20-32		Water pump 8/20 kw	Option	hr	0		
b, 20-33		Mechanical hammer	Option	hr	0		
b, 20-34		Compactor 5 hp max	Option	hr	0		
b, 20-35		Compactor 15/40 hp	Option	hr	0		
b, 20-36		Compactor 40/100 hp	Option	hr	0		
b, 20-37		Compactor 100/200 hp	Option	hr	0		
b, 20-38		Tractor type Cat D4 or similar (with doze and ripper)	Option	hr	0		
b, 20-39		Tractor type Cat D5 or similar (with doze and ripper)	Option	hr	0		
b, 20-40		Tractor type Cat D6 or similar (with doze and ripper)	Option	hr	0		
b, 20-41		Tractor type Cat D7 or similar (with doze and ripper)	Option	hr	0		
b, 20-42		Tractor type Cat D8 or similar (with doze and ripper)	Option	hr	0		
b, 20-43		Showel loader 150 hp	Option	hr	0		
b, 20-44		Showel loader 270 hp	Option	hr	0		
b, 20-45		Grader 150 hp max	Option	hr	0		
b, 20-46		Grader more than 150 hp	Option	hr	0		
b, 20-47		Generator 5 kVA max	Option	hr	0		
b, 20-48		Generator 5/25 kVA	Option	hr	0		
b, 20-49		Generator 25/50 kVA	Option	hr	0		
b, 20-50		Generator more than 50 kVA	Option	hr	0		

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Aeratsia WWTP		Base / Option	Unit Միավոր	Quantity	Unit price	TOTAL [in EUR] Ընդամենը
Materials						
b, 20-55	Sand	Option	m3	0		
b, 20-56	Gravel	Option	m3	0		
b, 20-57	90/100 for substitution	Option	m3	0		
c) SUPPLIES						
Lot c,1	Inlet Chamber and Screening (Area 101-102).					
	Equipment					
c, 1-12	101-NZ-001; 002; Air Nozzle flush; compressed air service ; Capacity:1.5 l/s	Option	No.	2		
c, 1-13	101-SV-001- Solenoid Valve; compressed air service ; Capacity:1.5 l/s	Option	No.	1		
c, 1-22	102-BL-001- Air Compressor; air service ; Capacity:3 l/s free air delivery Including support and anchoring system and all accessories	Option	No.	1		
c, 1-23	102-NZ-001; -002- Air Nozzle flush; compressed air service ; Capacity:1.5 l/s; including all air piping to air compressor	Option	No.	2		
c, 1-24	101-SV-001- Solenoid Valve; compressed air service ; Capacity:3 l/s	Option	No.	1		
	Fabricated items					
c, 1-36	Replace Galvanized Steel grating by GRP Grating access platforms to fine and coarse screens including support and anchoring system, as shown on the drawing MND-101-000	Option	LS	1		
c, 1-39	Replace all Galvanized Steel Ladders to platform by GRP ladders. Including support and anchoring system (80 cm wide x 1 m high)	Option	LS	1		
Lot c1	Sub total c1, inlet chamber and screening					
Lot c,2	Grit & Grease Removal (Area 103 and 300). All items shall be in accordance with the Drawings and Specifications					
c, 2-14	103-GC-513- Grit Classifier; Grit service ;Capacity:100 m3/h ; including pipes, valves and accessories	Option	No.	1		
c, 2-18	103-GA-504/505/507/508/510 - Gate Valves - Grit and water service ; Diameter 150mm ; used to select the grit classifier in operation	Option	No.	5		
	Odor treatment of the Foul water sump and Sludge Storage (Area 300)					
c, 2-25	300-AV-001; -002 - Air Regulating Valve for sludge storage 1 and 2; Foul air service; Dimension:DN250	Option	LS	1		
c, 2-26	300-AV-003- Air Regulating Valve for foul water pit; Foul air service ;Dimension:DN80	Option	LS	1		
c, 2-27	300-FN-001- 2 speed Fan; Foul air service ; Capacity:DN 300, 3100 and 2100 m3/h; 1000 Pa maximum speed 1500 tr/min Including all appurtenances	Option	LS	1		
c, 2-28	300-HT-001- Heater; Foul air service ; Capacity:2100 m3/h , Air temperature increase 10 degrees C. Including all appurtenances	Option	LS	1		
c, 2-29	300-TK-001- Biofilter with Thermal insulation and air diffusion and water sprinkler systems; Foul air service ; Capacity:3100 m3/h, 550 m/h air flow speed; Media bed 1,05 m deep Including all appurtenances	Option	LS	1		
	Fabricated items					
c, 2-42	Replace Galvanized Steel Grating by GRP grating access platforms at the inlet and outlet of the grit tanks as shown on the drawing MND-103-001 ; including support and anchoring system, including all penetrations for valve actuators.	Option	m2	115		
	Pipes					
c, 2-76	All DN 200 piping for grit water service within the pump room and to 2 grit classifiers, including all valves, fittings, and accessories. The price indicated shall be the difference with the base bid (piping to 3 classifiers)	Option	LS	1		
Lot c2	Sub total, Grit&grease removal					

Bill Of Quantity Options for Base Proposal

Aeratsia WWTP		Base / Option	Unit Միավոր	Quantity	Unit price	TOTAL [in EUR] Ընդամենը
Lot c,3		New primary clarifiers (Area 105). All items shall be in accordance with the Drawings and Specifications				
		Fabricated items				
c, 3-42	Replace Galvanized Steel grating by GRP Grating access platforms for tanks access as shown on the drawing MND-105-001 ; including support and anchoring system.	Option	m2	425		
Lot c,4		Solids Handling (area 200)				
		Sludge liming, conveying and storage (Area 203-204)				
c, 4-34	203-LB-301- lime storage silo; useful volume: 50 m3; including dust filter, archbreaker of 100 to 500 kg/h and Ø 2 m; with two connections to dosing screws. Including all support and anchoring systems.	Option	No.	1		
c, 4-35	203-DS-201- screw dosing; 100 to 500 kg/h , Ø 70 mm, with connection to silo 203-LB-201 only. Including all support and anchoring systems.	Option	No.	1		
		Ventilation and Odor Treatment for Sludge Building (Area 206)				
c, 4-61	206-AV-001; -002; -003 Air Regulating Valves for dewatering Unit 1, 2 and 3; Foul air service; Dimension:DN40	Option	LS	1		
c, 4-62	206-AV-004- Air Regulating Valve for liming room; Foul air service ;Dimension:DN400	Option	LS	1		
c, 4-63	206-AV-005- Air Regulating Valve for foul water pit; Foul air service ;Dimension:DN80	Option	LS	1		
c, 4-64	206-FN-001- 2-speed Fan; Foul air service ; Capacity:DN 400, 8600 & 2800 m3/h; 1000 Pa Including all appurtenances	Option	LS	1		
c, 4-65	206-TK-001- Biofilter with air diffusion and water sprinkler systems; Foul air service ; Capacity:8600 m3/h, 550 m/h air flow speed; Media bed 1,05 m deep Including all appurtenances	Option	LS	1		
c, 4-66	All air piping including Air suction pipes from dewatering units, lime-mixer units, main collector for dewatering room, main collector for liming room, piping to and from the Fan to the biofilter, piping from the biofilter cover to the outside. Include all fittings necessary and an air outlet louver	Option	LS	1		
Lot c4	Sub total, solids handling					
d) INSTALLATION Մոնտաժային աշխատանքներ						
Lot d,1		Inlet Chamber and Screening (Area 101-102).				
		Equipment				
d, 1-12	101-NZ-001; 002; Air Nozzle flush; compressed air service ; Capacity:1.5 l/s	Option	No.	2		
d, 1-13	101-SV-001- Solenoid Valve; compressed air service ; Capacity:1.5 l/s	Option	No.	1		
d, 1-22	102-BL-001- Air Compressor; air service ; Capacity:3 l/s free air delivery Including support and anchoring system and all accessories	Option	No.	1		
d, 1-23	102-NZ-001; -002- Air Nozzle flush; compressed air service ; Capacity:1.5 l/s; including all air piping to air compressor	Option	No.	2		
d, 1-24	101-SV-001- Solenoid Valve; compressed air service ; Capacity:3 l/s	Option	No.	1		
		Fabricated items				
d, 1-36	Replace Galvanized Steel grating by GRP Grating access platforms to fine and coarse screens including support and anchoring system, as shown on the drawing MND-101-000	Option	LS	1		
d, 1-39	Replace all Galvanized Steel Ladders to platform by GRP ladders. Including support and anchoring system (80 cm wide x 1 m high)	Option	LS	1		
Lot d1	Sub total c1, inlet chamber and screening					

Bill Of Quantity Options for Base Proposal

Aeratsia WWTP						
		Base / Option	Unit Միավոր	Quantity	Unit price	TOTAL [in EUR] Ընդամենը
Lot d,2						
Grit & Grease Removal (Area 103 and 300). All items shall be in accordance with the Drawings and Specifications						
d, 2-14	103-GC-513- Grit Classifier; Grit service ;Capacity:100 m3/h ; including pipes, valves and accessories	Option	No.	1		
d, 2-18	103-GA-504/505/507/508/510 - Gate Valves - Grit and water service ; Diameter 150mm ; used to select the grit classifier in operation	Option	No.	5		
Odor treatment of the Foul water sump and Sludge Storage (Area 300)						
d, 2-25	300-AV-001; -002 - Air Regulating Valve for sludge storage 1 and 2; Foul air service; Dimension:DN250	Option	LS	1		
d, 2-26	300-AV-003- Air Regulating Valve for foul water pit; Foul air service ;Dimension:DN80	Option	LS	1		
d, 2-27	300-FN-001- 2 speed Fan; Foul air service ; Capacity:DN 300, 3100 and 2100 m3/h; 1000 Pa maximum speed 1500 tr/min	Option	LS	1		
d, 2-28	300-HT-001- Heater; Foul air service ; Capacity:2100 m3/h , Air temperature increase 10 degrees C. Including all appurtenances	Option	LS	1		
d, 2-29	300-TK-001- Biofilter with Thermal insulation and air diffusion and water sprinkler systems; Foul air service ; Capacity:3100 m3/h, 550 m/h air flow speed; Media bed 1,05 m deep	Option	LS	1		
Fabricated items						
d, 2-42	Replace Galvanized Steel Grating by GRP grating access platforms at the inlet and outlet of the grit tanks as shown on the drawing MND-103-001 ; including support and anchoring system, including all	Option	m2	115		
Pipes						
d, 2-76	All DN 200 piping for grit water service within the pump room and to 2 grit classifiers, including all valves, fittings, and accessories. The price indicated shall be the difference with the base bid (piping	Option	LS	1		
Lot d 2		Sub total d2, grit & grease removal				
Lot d,3						
New primary clarifiers (Area 105). All items shall be in accordance with the Drawings and Specifications						
Fabricated items						
d, 3-42	Replace Galvanized Steel grating by GRP Grating access platforms for tanks access as shown on the drawing MND-105-001 ; including support and anchoring system.	Option	m2	425		
Lot d,4						
Solids Handling (area 200)						
Sludge liming, conveying and storage (Area 203-204)						
d, 4-34	203-LB-301- lime storage silo; useful volume: 50 m3; including dust filter, archbreaker of 100 to 500 kg/h and Ø 2 m; with two connections to dosing screws. Including all support and anchoring systems.	Option	No.	1		
d, 4-35	203-DS-201- screw dosing; 100 to 500 kg/h , Ø 70 mm, with connection to silo 203-LB-201 only. Including all support and anchoring systems.	Option	No.	1		
Ventilation and Odor Treatment for Sludge Building (Area 206)						
d, 4-61	206-AV-001; -002; -003 Air Regulating Valves for dewatering Unit 1, 2 and 3; Foul air service; Dimension:DN40	Option	LS	1		
d, 4-62	206-AV-004- Air Regulating Valve for liming room; Foul air service ;Dimension:DN400	Option	LS	1		
d, 4-63	206-AV-005- Air Regulating Valve for foul water pit; Foul air service ;Dimension:DN80	Option	LS	1		
d, 4-64	206-FN-001- 2-speed Fan; Foul air service ; Capacity:DN 400, 8600 & 2800 m3/h; 1000 Pa Including all appurtenances	Option	LS	1		
d, 4-65	206-TK-001- Biofilter with air diffusion and water sprinkler systems; Foul air service ; Capacity:8600 m3/h, 550 m/h air flow speed; Media bed 1,05 m deep	Option	LS	1		
d, 4-66	All air piping including Air suction pipes from dewatering units, lime-mixer units, main collector for dewatering room, main collector for liming room, piping to and from the Fan to the biofilter, piping	Option	LS	1		
Lot d4		Sub total, solids handling				

Bill Of Quantity Options for Base Proposal

Aeratsia WWTP		Base / Option	Unit Միավոր	Quantity	Unit price	TOTAL [in EUR] Ընդամենը
e) TECHNICAL ASSISTANCE						
f) MAINTENANCE SERVICES Պահպանման ծառայություն						
1	Check screen and screws operation after 1 year	Option	LS	1		
2	Check dewatering equipment operation after 6 months and 1 year	Option	LS	1		
3	Check liming equipment operation after 6 months and 1 year	Option	LS	1		
4	Check traveling bridge equipment operation after 6 months	Option	LS	1		
g) INTERNATIONAL TRANSPORT Միջազգային տեղափոխում (տրանսպորտ)						
Lot g,1	Contractor to detail as needed:					
h) LOCAL TRANSPORTS Տեղական տեղափոխում (տրանսպորտ)						
Lot h,1	Contractor to detail as needed:					
i) INSURANCES Ապահովագրություն						
Lot i,1	Contractor to detail as needed:					
j) OTHER (Contractor to detail) այլ (մանրամասները շինարարի կողմից)						
Lot j,1						
Lot j,2						

Bill Of Quantity Options for Base Proposal

Aeratsia WWTP					
	Base / Option	Unit Միավոր	Quantity	Unit price	TOTAL [in EUR] Ընդամենը

SUMMARY TABLE - OPTIONS	TOTAL [in EUR] Ընդամենը
Shed over skips: lots b1 + b2 + b4	
Odour treatment slabs: lot b5	
Site options: lot b10	
Yard piping: lot b11	
Inlet chamber and screening options : c1 +d1	
Grit and grease removal options (including Odour treatment): c2 +d2	
New primary clarifiers: c3 + d3	
Solids handling (including Odour treatment): c 4 +d 4	
TOTAL of the Options	
ODOUR Treatment (subtotal)	
Odour treatment of the grit and grease removal (c 2-25 to c 2-29 + d 2-25 to d 2-29)	
Odour treatment of the Sludge building (c 4-61 to c4-66 + d 4-61 to d 4-66)	

YEREVAN WATER AND WASTEWATER SYSTEM IMPROVEMENT PROJECT
REHABILITATION OF AERATSIA WWTP

APPENDIX 4.2.

Appendix 4.2.
Of the Invitation of open Procedure
with code *MDPIU-OPPW-14/1*

MDPIU-OPPW-14/1

To the evaluation commission of the open procedure

Bill of Quantities
Alternative Proposal and Option for the Alternative Proposal

Name of the bidder (Name, surname, position of Head)

(signature)

Seal

20
(Date and month)

Bill Of Quantity Alternative proposal

Instructions to bidders: the Bidders shall provide a cost for all items. The ID number of items listed below shall not be modified.

Aeratsia WWTP										
		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը				
TOTAL (contract)										
a) ENGINEERING STUDIES Ինժեներական ուսումնասիրություններ										
Lot a,1	Preparation Phase									
1-1	Mobilisation of plant and equipment					Base	LS	1		
1-2	Shop drawings preparation for all disciplines and submittal to expertise, according to specification 01000					Base	LS	1		
1-3	Programmation of Scada system as per specification 17100					Base	LS	1		
1-4	Training of the operators on the use and the programming of the scada system					Base	LS	1		
1-5	Demolition of existing structures in accordance with drawing MND 000-200 and of any structure or part of structures of any type, if any and as necessary, and disposal onsite at a location approved by the Engineer.					Base	LS	1		
Lot a,2	Project Closing Phase									
1-1	Demobilisation of plant and equipment,					Base	LS	1		
1-2	As built plans for all disciplines and all areas					Base	LS	1		
1-3	Commisioning Plan preparation and submittal					Base	LS	1		
1-4	O&M manual in English including mechanical and electromechanical equipment, instrumentation and automation.					Base	LS	1		
Sub total Lot a										
b) CIVIL WORKS Ընդհանուր շինարարական աշխատանքներ										
Lot b,1	Inlet Chamber and Screening (zones 101 & 102): Construct, Testing and Handing Over in good conditions in accordance with the Drawings and Specifications for the following Items:									
	Structure 1: Existing By-Pass structure									
b, 1-1	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.					Base	LS	1		

Bill Of Quantity
Alternative proposal



Aeratsia WWTP							
			Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
b,	1-2	<p>Concrete works, including:</p> <ul style="list-style-type: none"> - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all openings for pipe installation and the associated works and material to provide watertight connections to pipes (new and/or existing pipes), - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all type of joints and all specific works required to provide watertight structures and connections (concrete shall be watertight, meaning all joints shall be provided with suitable waterstops), - all necessary works for the connections with adjoining concrete structures, including watertight connections of any type where needed, - all equipment pads, where necessary, - watertightness test, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - where future extensions are indicated, steel reinforcement shall be positioned such that the structural integrity will not be impacted when placing the said extension connections, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer. 	Base	LS	1		
b,		Structure 2: North Chamber					
b,	1-3	<p>Earthworks, including:</p> <ul style="list-style-type: none"> - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer. 	Base	LS	1		
b,	1-4	<p>Concrete works, including:</p> <ul style="list-style-type: none"> - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all openings for pipe installation and the associated works and material to provide watertight connections to pipes (new and/or existing pipes), - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all type of joints and all specific works required to provide watertight structures and connections (concrete shall be watertight, meaning all joints shall be provided with suitable waterstops), - all necessary works for the connections with adjoining concrete structures, including watertight connections of any type where needed, - all equipment pads, where necessary, - watertightness test, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - where future extensions are indicated, steel reinforcement shall be positioned such that the structural integrity will not be impacted when placing the said extension connections, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer. 	Base	LS	1		
b,		Structure 3: East Chamber					

Bill Of Quantity
Alternative proposal



Aeratsia WWTP			Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
b, 1-5	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			
b, 1-6	Concrete works, including: - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all openings for pipe installation and the associated works and material to provide watertight connections to pipes (new and/or existing pipes), - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all type of joints and all specific works required to provide watertight structures and connections (concrete shall be watertight, meaning all joints shall be provided with suitable waterstops), - all necessary works for the connections with adjoining concrete structures, including watertight connections of any type where needed, - all equipment pads, where necessary, - watertightness test, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - where future extensions are indicated, steel reinforcement shall be positioned such that the structural integrity will not be impacted when placing the said extension connections, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			
b,	Structure 4: Inlet, Coarse and Fine Screen Structure						
b, 1-7	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			
b, 1-8	Concrete works, including: - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all openings for pipe installation and the associated works and material to provide watertight connections to pipes (new and/or existing pipes), - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all type of joints and all specific works required to provide watertight structures and connections (concrete shall be watertight, meaning all joints shall be provided with suitable waterstops), - all necessary works for the connections with adjoining concrete structures, including watertight connections of any type where needed, - all equipment pads, where necessary, - watertightness test, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - where future extensions are indicated, steel reinforcement shall be positioned such that the structural integrity will not be impacted when placing the said extension connections, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			

Bill Of Quantity
Alternative proposal

Aeratsia WWTP			Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
b,		Structure 5: Skips Slab					
b,	1-9	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		
b,	1-10	Concrete works, including: - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - openings and connection for the collection manhole - all necessary works for the connections with adjoining concrete structures, including watertight connections of any type where needed, - all equipment pads, where necessary, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - minimum slope of the top surface toward the drain: 0.5%, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		
b,	1-11	Supply et installation of a prefabricated manhole 0.5m x 0.5m, including the cast iron grating,	Base	LS	1		
b,	1-12	Protective Finishes Provide and place a concrete hardener (quartz finishing) on the upper face of the concrete slab in order to prevent damages during the loading and unloading operations of the skips.	Base	LS	1		
Lot b,2		Grit & Grease Removal (zone 103): Construct, Testing and Handing Over in good conditions in accordance with the Drawings and Specifications for the following Items:					
		Structure 1: Magmeter chamber					
b,	2-1	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		

Bill Of Quantity
Alternative proposal

Aeratsia WWTP						
		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
b, 2-2	Concrete works, including: - supply and placement of concrete of any type as required for bottom slab, walls and top slab (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - supply and placement of a removable top slab with an opening for a 600mm diameter cast iron manhole cover, including all provisions for a good clamping of the slab into the structural concrete walls, - all openings for pipe installation and the associated works and material to provide connections to the new pipes, - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - where future extensions are indicated, steel reinforcement shall be positioned such that the structural integrity will not be impacted when placing the said extension connections, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		
b, 2-3	Provide and place cast iron manhole cover, dia. 600mm, in the removable top slab	Base	LS	1		
b, 2-4	Provide and place galvanized steel ladder including fixation system (80 cm wide x 2.50 m high)	Base	LS	1		
Structure 2: Grit & Grease Removal Tank						
b, 2-5	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		
b, 2-6	Concrete works, including: - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all openings for pipe installation and the associated works and material to provide watertight connections to pipes (new and/or existing pipes), - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all type of joints and all specific works required to provide watertight structures and connections (concrete shall be watertight, meaning all joints shall be provided with suitable waterstops), - all necessary works for the connections with adjoining concrete structures, including supply and placement of watertight connections of any type where needed, - all equipment pads, where necessary, - watertightness test, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - where future extensions are indicated, steel reinforcement shall be positioned such that the structural integrity will not be impacted when placing the said extension connections, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		
b, 2-7	Supply and installation of galvanized steel pillars for deflection plate support, including the anchoring system in the concrete slab. The pillars shall be easily replaced.	Base	LS	1		
Structure 3: Skips Slab						

Bill Of Quantity
Alternative proposal



Aeratsia WWTP						
		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
b, 2-10	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		
b, 2-11	Concrete works, including: - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - openings and connection for the collection manhole - all necessary works for the connections with adjoining concrete structures, including watertight connections of any type if needed, - all equipment pads, where necessary, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - minimum slope of the top surface toward the drain: 0.5%, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		
b, 2-12	Supply et installation of a prefabricated manhole 0.5m x 0.5m, including the cast iron grating,	Base	LS	1		
b, 2-13	Protective Finishes Provide and place a concrete hardener (quartz finishing) on the upper face of the concrete slab in order to prevent damages during the loading and unloading operations of the skips.	Base	LS	1		
Structure 4: Foul Water Sump						
b, 2-15	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		
b, 2-16	Concrete works, including: - supply and placement of concrete of any type as required for bottom slab, walls and top slab (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - supply and placement of a removable top slab with an opening for a 600mm diameter cast iron manhole cover, including all provisions for a good clamping of the slab into the structural concrete walls, - all openings for pipe installation and the associated works and material to provide watertight connections to pipes (new and/or existing pipes), - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all type of joints and all specific works required to provide watertight structures and connections (concrete shall be watertight, meaning all joints shall be provided with suitable waterstops), - all equipment pads, where necessary, - watertightness test, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		
b, 2-17	Provide and place cast iron manhole cover, dia. 600mm, on the removable top slab	Base	LS	1		
b, 2-18	Provide and place galvanized steel ladder including fixation system (80 cm wide), from top to bottom	Base	LS	1		

Bill Of Quantity
Alternative proposal



Aeratsia WWTP			Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
Structure 5: Valve Chamber							
b, 2-20	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			
b, 2-21	Concrete works, including: - supply and placement of concrete of any type as required for bottom slab, walls and top slab (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - supply and placement of a removable top slab with an opening for a 600mm diameter cast iron manhole cover, including all provisions for a good clamping of the slab into the structural concrete walls, - all openings for pipe installation and the associated works and material to provide connections to pipes, - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			
b, 2-22	Provide and place cast iron manhole cover, dia. 600mm, on the removable top slab	Base	LS	1			
b, 2-23	Provide and place galvanized steel ladder including fixation system (80 cm wide), from top to bottom	Base	LS	1			
Lot b,2	Sub Total Grit & Grease Removal						
Lot b,3	Primary Settling Tanks (zone 105): Construct, Testing and Handing Over in good conditions in accordance with the Drawings and Specifications for the following Items:						
b, 3-1	Earthworks, including: - clearing, grubbing and stripping, - demolition of all existing structures in the area, as shown on Drawing MND-00-200, and disposal onsite, at a location as directed or as approved by the Engineer, - backfilling of the areas after demolition, as shown and as indicated on Drawing MND-00-300, such as to form a regular slope between the Works and the natural ground elevation, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			

Bill Of Quantity
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Aeratsia WWTP		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
b, 3-2	<p>Concrete works, including:</p> <ul style="list-style-type: none"> - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all openings for pipe installation and the associated works and material to provide watertight connections to pipes (new and/or existing pipes), - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all type of joints and all specific works required to provide watertight structures and connections (concrete shall be watertight, meaning all joints shall be provided with suitable waterstops), - all necessary works for the connections with adjoining concrete structures, including supply and placement of watertight connections of any type where needed, - all equipment pads, where necessary, - where future extensions are indicated, steel reinforcement shall be positioned such that the structural integrity will not be impacted when placing the said extension connections, - watertightness test, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and directed by the engineer. 	Base	LS	1		
Lot b,3 Sub total Primary Settling Tanks						
Lot b,4	Solids Handling Building	AP				
	New building					
b, 4-1	Demolition of the existing building	AP	LS	1		
b, 4-2	Construction of a new building designed by the Contractor for the use of the sludge treatment and able to house all the equipment listed in the following Lot c,4	AP	LS	1		
	Skips & Lime Silos Slab					
b, 4-9	<p>Earthworks, including:</p> <ul style="list-style-type: none"> - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer. 	Base	LS	1		
b, 4-10	<p>Concrete works, including:</p> <ul style="list-style-type: none"> - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - openings and connection for the collection manhole - all necessary works for the connections with adjoining concrete structures, including watertight connections of any type if needed, - all equipment pads, where necessary, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - minimum slope of the top surface toward the drain: 0.5%, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer. 	Base	LS	1		
b, 4-11	<p>Protective Finishes</p> <p>Provide and place a concrete hardener (quartz finishing) on the upper face of the concrete skips slab only in order to prevent damages during the loading and unloading operations of the skips.</p>	Base	LS	1		
	Foul Water Sump					

Bill Of Quantity
Alternative proposal



Aeratsia WWTP			Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
b, 4-13	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			
b, 4-14	Concrete works, including: - supply and placement of concrete of any type as required for bottom slab, walls and top slab (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - supply and placement of a removable top slab with an opening for a 600mm diameter cast iron manhole cover, including all provisions for a good clamping of the slab into the structural concrete walls, - all openings for pipe installation and the associated works and material to provide watertight connections to pipes (new and/or existing pipes), - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all type of joints and all specific works required to provide watertight structures and connections (concrete shall be watertight, meaning all joints shall be provided with suitable waterstops), - all equipment pads, where necessary, - watertightness test, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			
b, 4-15	Provide and place cast iron manhole cover, dia. 600mm, on the removable top slab	Base	LS	1			
b, 4-16	Provide and place galvanized steel ladder including fixation system (80 cm wide), from top to bottom	Base	LS	1			
Valve Chamber							
b, 4-17	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			
b, 4-18	Concrete works, including: - supply and placement of concrete of any type as required for bottom slab, walls and top slab (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - supply and placement of a removable top slab with an opening for a 600mm diameter cast iron manhole cover, including all provisions for a good clamping of the slab into the structural concrete walls, - all openings for pipe installation and the associated works and material to provide connections to pipes, - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			
b, 4-19	Provide and place cast iron manhole cover, dia. 600mm, on the removable top slab	Base	LS	1			
b, 4-20	Provide and place galvanized steel ladder including fixation system (80 cm wide), from top to bottom	Base	LS	1			
Lot b,4	Sub Total Solids Handling Building						

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Aeratsia WWTP			Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
Lot b,5	Service Water and New Substation Room (zone 110): Construct, Testing and Handing Over in good conditions in accordance with the Drawings and Specifications for the following Items:						
b, 5-1	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			
b, 5-2	Concrete works, including: - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all openings for pipes, doors and venting systems installation and the associated works and material to provide connections to pipes, - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all equipment pads, where necessary, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			
b, 5-3	Supply and installation of three (3) paired doors (width: 3.0m; height: 3.0m), including the frames, fixation systems, door handles, cylindrical chest locks and casement bolts,	Base	LS	1			
b, 5-4	Supply and installation of one (1) swinging door (width: 1.0m; height: 2.10m), including the frame, fixation systems, door handle, cylindrical chest lock and casement bolt,	Base	LS	1			
b, 5-5	Supply and installation of one (1) window (width: 3.0m; height: 1.40m), including the frame and fixation system,	Base	LS	1			
b, 5-6	Supply and installation of one window (width: 1.50m; height: 1.40m), including the frame and fixation systems,	Base	LS	1			
b, 5-7	Supply and installation of eight galvanized air louvers (one at the bottom of a wall and one at the top of the opposite wall for each room), including the frames and fixation systems,	Base	LS	1			
b, 5-8	Supply and installation of the steel sheets roofing system of the building, including the necessary galvanized steel frame supporting the roof top (beams, columns, struts, etc.). The roofing system shall protect the building from any stormwater infiltration, and be able to withstand all live loads such as snow loads, wind loads, etc. Insulation and all associated features shall be provided and placed below the steel sheets. This item includes all required galvanized steel fixation systems for the whole roofing system.	Base	LS	1			
b, 5-9	Protective Finishes: Provide and place a waterproofing bituminous coating on top of the low sloped concrete roof slab, including primer supply and placement and all associated works,	Base	LS	1			
Lot b,5 Sub Total Service Water and New Substation Room							
Lot b,6	Outlet Structures (zone 107): Construct, Testing and Handing Over in good conditions in accordance with the Drawings and Specifications for the following Items:						
	Structure 1: Effluent collection chamber						
b, 6-1	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1			

Bill Of Quantity
Alternative proposal

Aeratsia WWTP						
		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
b, 6-2	Concrete works, including: - supply and placement of concrete of any type as required for bottom slab, walls and top slab (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all openings for pipe installation and the associated works and material to provide watertight connections to pipes (new and/or existing pipes), - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all type of joints and all specific works required to provide watertight structures and connections (concrete shall be watertight, meaning all joints shall be provided with suitable waterstops), - where future extensions are indicated, steel reinforcement shall be positioned such that the structural integrity will not be impacted when placing the said extension connections, - watertightness test, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		
b, 6-3	Provide and place a galvanized steel ladder (80 cm wide x 2.50 m high) and a galvanized steel grating platform just above the water level, including all fixation systems	Base	LS	1		
Structure 2: Outlet connection chamber (connection to existing pipe dia.2000)						
b, 6-5	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		
b, 6-6	Concrete works, including: - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all openings for pipe installation and the associated works and material to provide watertight connections to pipes (new and/or existing pipes), - opening for the installation of a 600mm diameter cast iron manhole cover, - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all type of joints and all specific works required to provide watertight structures and connections (concrete shall be watertight, meaning all joints shall be provided with suitable waterstops), - all necessary works for the connections with adjoining concrete structures, including supply and placement of watertight connections of any type where needed, - all equipment pads, where necessary, - watertightness test, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - where future extensions are indicated, steel reinforcement shall be positioned such that the structural integrity will not be impacted when placing the said extension connections, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	Base	LS	1		
6-7	Provide and place cast iron manhole cover, dia. 600mm, in the top slab	Base	LS	1		
6-8	Provide and place galvanized steel ladder including fixation system (80 cm wide), from top to bottom	Base	LS	1		
Lot b,6	Sub Total Outlet Structures					
Lot b,7	Rehabilitation of Existing Electrical Room (zone 402)					
	Rehabilitation of Existing Electrical Room (zone 402)					

Bill Of Quantity
Alternative proposal



Aeratsia WWTP								
		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Հնդամենը		
b,	7-1	Cleaning and Rehabilitation works, including: - dismantling and disposal in a landfill approved by the Engineer, of all existing equipment, inside and outside the building, including all fixations, - dismantling and disposal in a landfill approved by the Engineer, of two metal paired doors, including the frames and fixation systems, - dismantling and disposal in a landfill approved by the Engineer, of one metal swinging door, including the frame and fixation systems, - dismantling and disposal in a landfill approved by the Engineer, of all air louvers located above the paired doors and at the bottom of the side walls, including the frames and fixation systems, - supply and installation of two new paired doors (width: 1.40m; height: 2.1m), including the frames, fixation systems, door handles, cylindrical chest locks and casement bolts, - supply and installation of one new swinging door (width: 1.0m; height: 2.1m), including the frame, fixation systems, door handles, and cylindrical chest lock, - supply and installation of new galvanized air louvers at the same location and with the same dimensions as the old ones, including the frames and fixation systems, - proper cleaning of the entire inside area (walls, roof slab, base slab), including the removal of all apparent stains - supply, preparation and placement of a smooth mortar coating, made of sulphate resisting cement, on all interior surfaces of walls, and roof slabs, - supply, preparation and placement on the base slab of a 20mm sulphate resisting cement course, including previous concrete slab preparation as necessary, - painting in white color of all apparent surfaces, except the base slab, - cleaning of the exterior building walls made of stones, including the removal of all apparent stains, - roof rehabilitation, including the removal and disposal of the existing covering steel sheets and supply and installation of new galvanized steel sheets, overlapping, allowing no stormwater infiltration inside the building, and all fixation systems and associated works, - Supply and installation of gutters and downspouts, including all fixation systems and connection to the bottom infiltration well, - supply and placement of infiltration wells, constituted of manholes with no bottom part (0.4m x 0,4m x 1,2mht) filled with gravel 20/40mm, at ground level below gutters for infiltration of stormwater from the roof and including necessary earthworks, - dismantling of the existing ventilation system on top of the roof, including disposal in a landfill approved by the Engineer, and supply and installation of a new one in lieu and place, including all fixation system and associated works, - and all material needed for workmanship.	Base	LS	1			
Lot b,7	Sub Total Rehabilitation of Existing Electrical Room							
Lot b,10	Site (roads, retaining wall, fencing,...)							
		Roads designed by he Contractor for a good access to the new sludge building: Construct, Testing and Handing Over in good conditions, in accordance with the following specifications:	AP					
b,	10-1	Clearing, grubbing and stripping where necessary, including disposal on site of surplus of material if any,	AP	LS	1			
b,	10-2	Dismantling existing roads wearing course structure, and disposal in a landfill approved by the Engineer,	AP	LS	1			
b,	10-3	Dismantling existing roads base and sub-base course structures, unless their respective elevation is below the new sub-base course bottom elevation to be provided, including disposal on site of surplus and/or rejected materials, if any,	AP	LS	1			
b,	10-4	Excavations for roadwork up to the required depth and gradient, including disposal on site of surplus and/or rejected materials, if any,	AP	LS	1			
b,	10-5	Fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the upper level of the sub-grade layer, including compaction,	AP	LS	1			
b,	10-6	Preparation of the sub-grade including dressing to designed slopes and consolidation with power roller for compaction of the upper most 300mm up to 95% of the Standard Maximum Dry Density in accordance with ASTM D698 and achieving the design level	AP	LS	1			
b,	10-7	Providing and placing non-woven geotextile $\geq 600\text{g/m}^2$	AP	LS	1			
b,	10-8	Providing and laying the Sub-Base course, 300mm thick, with Aggregates 0/50mm including compaction to the required density by approved mechanical means,	AP	LS	1			
b,	10-9	Providing and laying the Base course, 200mm thick, with Aggregates 0/25mm including compacting to the required density by approved mechanical means,	AP	LS	1			
b,	10-10	Providing and applying tack coat with asphalt emulsion using emulsion pressure distributor at the rate of 0.15 to 0.38 kg per sqm on the prepared granular base course surface cleaned with mechanical broom	AP	LS	1			
b,	10-11	Providing and laying ready mix asphalt concrete wearing course of total thickness 60mm as per the job mix formula proposed and approved by the Engineer.	AP	LS	1			
b,	10-12	Supply and placement of kerbs, both straight and curved shape as per drawings, including all associated works as necessary (excavations, foundations, alignment, joints, saw cut, etc.)	AP	LS	1			
b,	10-13	Supply and placement of gullies, both straight and curved shape as per drawings, including all associated works as necessary (excavations, foundations, alignment, joints, saw cut, etc.)	AP	LS	1			
b,	10-14	Excavation and backfilling of drainage trenches along roads as per Drawings, including all associated piping works as necessary (excavations, foundations, alignment, joints, saw cut, etc.)	AP	LS	1			
		Rockfill Retaining Wall if necessary for a good access to the new sludge building : Construct, Testing and Handing Over in good conditions in accordance with the Specifications for the following	AP					

Bill Of Quantity
Alternative proposal

Aeratsia WWTP			Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
b, 10-20	Provide and place non fractured rockfill material 500-1000kg in order to create a retaining where the difference elevation of the final cut between the new road to be built and the existing ground level is more than 2.00m. The rockfill retaining wall shall be 1.50m high above the finished road surface level and shall be founded at a minimum of 0.60m below the finished road surface level. A layer of blinding concrete of minimum 7cm in thickness shall be placed on the subgrade after compaction up to 95% of the maximum dry density in accordance with ASTM D698, before placing the rockfill materials. The width of the wall shall be at least 1.50m with a minimum of two rows of rockfill materials. Behind the retaining wall a round shape gravel 20-40mm backfill, as shown on drawings, shall be supplied and placed for drainage purposes. From the top of the retaining wall (meaning above 1.50m from the finished road surface level), the slope of the cut to reach the existing ground level shall be of a minimum of 2H/1V .	AP	LS	1			
	Fencing						
b, 10-26	Supply and installation of 4 new entrance gates (6m x 4m), including all frames, fixation systems and locking systems.	Base	No	4			
Lot b,10 Sub total Site							
Lot b,11 Yard Piping							
Inlet Pipes and treated wastewater connection Pipes between Works							
b, 11-1	Ductile Iron ND 1600 (inlet to stone pit) including watertight connections to the concrete works.	Base	ml	24			
b, 11-2	Ductile Iron ND 1200 (inlet to stone pit) including watertight connections to the concrete works.	Base	ml	23			
b, 11-3	Ductile Iron ND 1400 (outlet of screening) including watertight connections to the concrete works.	Base	ml	116			
b, 11-4	Ductile Iron ND 1400 elbow	Base	No.	2			
b, 11-5	Ductile Iron ND 1200 (inlet to grit tank) with fittings to the magmeter and to the motorized gate valves. Including watertight connections to the concrete works.	Base	ml	24			
b, 11-6	Ductile Iron ND 1000 (outlet to sedimentation tank) with expansion to ND 1200. Including watertight connections to the concrete works.	Base	LS	1			
b, 11-7	Ductile Iron ND 1200 (outlet to sedimentation tank)	Base	ml	60			
b, 11-8	Concrete ND 2000 (outlet to existing ND 2000 pipe along the street). Including watertight connections to the concrete works.	Base	ml	80			
Service Water							
b, 11-10	Well water from well to buffer tank; ND 220 Diameter; well water Service; Pressure: 3 Bar; approx. burried length: 62 m; including all connections and fittings to and from connecting Works	Base	ml	63			
b, 11-11	Well water from Buffer Tank to Sludge Building ; ND 160 Diameter; well water Service; Pressure: 1 Bar; approx. burried length: 62 m; including all connections and fittings to and from connecting Works	Base	ml	63			
b, 11-12	Service water network; 42/45 Diameter; well water Service; Pressure: 6 bar; approx. burried length: 410 m. including all yard piping, fittings, valves, water connections, as indicated on the P&IDs and the Utilities drawings. Including heat tracing on all non burried pipes to hose bib water connections .	Base	LS	1			
b, 11-13	Well water to grit removal; 42/45 Diameter; well water Service; Pressure: 6 bar; approx. burried length: 110 m; including all connections and fittings to and from connecting Works	Base	ml	110			
b, 11-14	Well water to sludge building; 42/45 Diameter; well water Service; Pressure: 6 bar; approx. burried length: 65 m; including all connections and fittings to and from connecting Works	Base	ml	65			
b, 11-16	Drinking water to polymer preparation ; ND 75 Diameter; potable water Service; Pressure: 2 bar; approx. burried length: 410 m; including all connections and fittings to and from connecting Works	Base	ml	410			
b, 11-17	Decanted water to odor treatment of Sludge building; ND 40 Diameter; Decanted water Service; Pressure: 6 bar; approx. burried length: 162 m; including all connections and fittings to and from connecting Works	Base	ml	162			
b, 11-18	Decanted water to supplying dewatering units in case of well failure; ND 120 Diameter; Decanted water Service; Pressure: 3 bar; approx. burried length: 93 m; including all connections and fittings to and from connecting Works	Base	ml	93			
b, 11-19	Decanted water distribution network to odor control unit in area 300 including all yard piping, fittings, valves, water connections, as indicated on the P&IDs and the Utilities drawings. Including heat tracing on all non burried pipes.	Base	LS	1			
Foul water							
b, 11-20	Drain from sludge storage skips to grit FW Sump; ND 200 Diameter; Foul water Service; Pressure: gravity; approx. burried length: 170 m; including all connections and fittings to and from connecting Works	Base	ml	170			
b, 11-21	Pumped drain from solids building sump to skips sump; ND 250 Diameter; Foul water Service; Pressure: 1 Bar; approx. burried length: 200 m; including all connections and fittings to and from connecting Works	Base	ml	200			

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b, 11-22		Drain water from grit classifier and grease skip to grit sump; ND350 Diameter; foul water Service; Pressure: gravity; approx. burried length: 22 m; including all connections and fittings to and from connecting Works	Base	ml	22		
b, 11-23		Drain water from grit pumps room; ND 160 Diameter; foul water Service; Pressure: gravity; approx. burried length: 1 m; including all connections and fittings to and from connecting Works	Base	LS	1		
b, 11-24		Drain from sed tank gallery sump pump to grit sump; ND 160 Diameter; foul water Service; Pressure: 1 Bar; approx. burried length: 22 m; including all connections and fittings to and from connecting Works	Base	ml	22		
b, 11-25		Drain from sed tank sludge storage drain and overflow to grit sump; ND 200 Diameter; foul water Service; Pressure: gravity; approx. burried length: 22 m; including all connections and fittings to and from connecting Works	Base	ml	22		
b, 11-26		Drain water discharge pipe from foul water sump to grit and grease removal inlet channel; ND250 Diameter; foul water Service; Pressure: 1 Bar; approx. burried length: 50 m; including all connections and fittings to and from connecting Works	Base	ml	50		
b, 11-27		All necessary prefabricated manholes with Cast iron removal cover on the foul water drainage network.	Base	LS	1		
b, 11-28		Drain from area 110 building to nearby FW network ND 100 Diameter; Foul water Service; Pressure: gravity; approx. burried length: 40 m; including all connections and fittings to and from connecting Works	Base	ml	40		
b, 11-29		Valve chamber in Grit tank entrance vicinity to the connection of the drain pipe from the Grit tanks sump and from the dewatering sump. Including check valves and all necessary accessories. Including remove cast iron cover and access ladder.	Base	LS	1		
Foul air							
b, 11-30		From Foul water Sump ; ND 80 Diameter; Foul air Service; Pressure: 1 Bar; approx. burried length: 10 m; including all connections and fittings to and from connecting Works	Base	LS	1		
b, 11-31		Fan discharge to unit; ND 300 Diameter; Foul air Service; Pressure: 1 Bar; approx. burried length: 10 m; including all connections and fittings to and from connecting Works	Base	LS	1		
Grit Water							
b, 11-35		to Grit classifier 1, 2 and 3; DN200 Diameter; grit water Service; Pressure: 1 Bar; approx. burried length: 30 m total in three // pipes of different length; including all connections and fittings to and from connecting Works	Base	LS	1		
Primary Sludge							
b, 11-40		Sludge feed to 3 dewatering units; DN150 Diameter; Primary sludge Service; Pressure: 1 Bar; approx. burried length: 160 m times three, installed in three // pipes. No 90° Elbows allowed. Including all connections and fittings to and from connecting Works	Base	ml	480		
b, 11-4							
Lot b 11		Sub total Yard Piping					
Lot b,15 Facilities, Temporary works							
b, 15-1		All site facilities as specified under specification 01000- General requirements	Base	LS	1		
b, 15-2		All temporary Works required for construction	Base	LS	1		
b, 15-3		Survey equipment	Base	LS	1		
b, 15-4		Site offices for the Engineer	Base	LS	1		
b, 15-5		Maintenance of the site offices	Base	LS	1		
b, 15-6		400KVA generator for temporary use during new substation installation	Base	LS	1		
b, 15-7		any other item required under specification -01000	Base	LS	1		
Lot b,15		Sub Total Facilities, Temporary works					
Lot b,20 Daywork							
		Labour Charges					
		Labour Charges					
		Materials					
c) SUPPLIES Մատակարարում							
All items shall be in accordance with the Drawings and Specifications							
Lot c,1	Inlet Chamber and Screening (Area 101-102).						

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		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
Equipment						
c, 1-1	101-GR-001- Grabing Hoist; large debris service ; Capacity: 500 kg; Manual Crankset. Including support and anchoring system.	Base	No.	1		
c, 1-2	101-BS-101- Automatic Coarse Screen 40 mm; raw wastewater service ; Capacity:11 500 m3/h Including support and anchoring system and all accessories	Base	No.	2		
c, 1-3	101-BS-301- Manual Bar Screen 40 mm; raw wastewater service ; Dimension:1m50 wide x 3m45 high Including support and anchoring system	Base	No.	1		
c, 1-4	101-BC-001- Belt conveyor with distributor in 2 skips; coarse screenings service ; Dimension:9,8 m long Including support and anchoring system	Base	No.	1		
c, 1-5	101-SG-101; 201; 301- Motorized Sluice Gate; raw wastewater service ; Dimension:1.50 m x 2,65m - Channel height: 2,65 Including support and anchoring system	Base	No.	2		
c, 1-6	101-SL-001- Stop Log frame and plate; raw wastewater service ; Dimension:1m 50 wide x 3m 15 high frame and 1,5 m x 2m 90 plate with lifting ring Including support and anchoring system	Base	No.	1		
c, 1-7	101-SL-002- Stop Log frame and plate; raw wastewater service ; Dimension:1m 50 wide x 2m70 high frame and 1,5 m x 1m 90 plate with lifting ring Including support and anchoring system	Base	No.	1		
c, 1-8	101-SL-003- Stop Log frame and plate; raw wastewater service ; Dimension:1m 60 wide x 3m 45 high frame and 1,8 m x 3m plate with lifting ring Including support and anchoring system	Base	No.	1		
c, 1-9	101-SL-004; -101 -201; -301 - Stop Log frame ; raw wastewater service ; Dimension:1m 50 wide x 3m 45 high frame Including support and anchoring system	Base	No.	4		
c, 1-10	101-SL-004; -101 -201; -301; 102-SL-101; -201; -301; -401;-001; -002 - Stop Log plate ; raw wastewater service ; Dimension:1,5 m x 3m15 plate with lifting ring, interchangeable for the various 1m 50 wide stop log frames	Base	No.	3		
c, 1-11	101-SK-001; -002 - skip with cover; coarse screenings service ; Capacity:25 m³	Base	No.	2		
c, 1-14	102-BS-100; -200; -300 - Automatic Fine Screen 6 mm; raw wastewater service ; Capacity:6 800 m3/h Including support and anchoring system and all accessories	Base	No.	3		
c, 1-15	102-BS-400- Manual bar screen 20 mm; raw wastewater service ; Dimension:1m50 wide x 4m20 high Including support and anchoring system	Base	No.	1		
c, 1-16	102-SW-001- Screw conveyor and compactor; fine screenings service ; Dimension:9 m long Including support and anchoring system	Base	No.	1		
c, 1-17	102-SG-101; -201; -301- motorized Sluice gate; raw wastewater service ; Dimension:1.50 m x 3 m - Channel height: 3,70m Including support and anchoring system	Base	No.	3		
c, 1-18	102-SG-401 - Sluice Gate with Manual crankset; raw wastewater service ; Dimension:1.50 m x 3 m - Channel height: 3,70m Including support and anchoring system	Base	No.	1		
c, 1-19	102-SL-101; -201; -301; -401 - Stop log frame only ; raw wastewater service ; Dimension:1m 50 wide x 3m 70 high frame Including support and anchoring system	Base	No.	4		
c, 1-20	102-SG-001/002 - Motorized Sluice Gate with Manual crankset; raw wastewater service ; Dimension:1.50 m x 1,5 m - Channel height: 4,20m; watertight joint on 4 sides Including support and anchoring system	Base	No.	2		
c, 1-21	102-SK-001; -002- skip with cover; fine screenings service ; Capacity:25 m³	Base	No.	2		
c, 1-25	102-SP-801- Submersible pump drainage sump; Foul water service ; Capacity:20 m3/h ; 3 m TDH	Base	No.	2		
Fabricated items						
c, 1-31	Galvanized Steel hand railing on the north side of the Screening channel including support and anchoring system (100 cm high) as shown on drawing MND-101-000.	Base	ml	47		
c, 1-32	Galvanized Steel hand railing for the North Chamber, East Chamber & New Bypass structure including support and anchoring system (120 cm high) as shown on drawing MND-101-000.	Base	ml	24		
c, 1-33	Two Monorail of 10 m long rails for stoplog lifting; each with hand operated hoist trolley. Self supporting structure 4 m high.	Base	LS	1		
c, 1-34	1 mobile jib crane with hand operated chain hoist for other stop logs removal to be installed on each of the fixing plates adjacent to the stop logs location. Lifting weight 850 kg. Include fixing plates at all stop log locations.	Base	LS	1		
c, 1-35	Galvanized Steel Grating access platforms to fine and coarse screens including support and anchoring system, as shown on the drawing MND-101-000	Base	LS	1		
c, 1-37	Galvanized Steel Ladder to platform including support and anchoring system (80 cm wide x 2 m high). Include handrail posts 1.2 m above top of wall in continuity with ladder's side handrails.	Base	No.	4		
c, 1-38	Galvanized Steel Ladders to platform including support and anchoring system (80 cm wide x 1 m high)	Base	No.	1		
c, 1-40	Stainless steel weir plate including all support and anchoring system with adjustable level installation on the emergency overflow weir wall	Base	ml	14		
C 1	Sub total Lot c1, Inlet Chamber and Screening					
Lot c,2	Grit & Grease Removal (Area 103 and 300). All items shall be in accordance with the Drawings and Specifications					
c, 2-1	103-FM-001- Magnetic Flowmeter; Raw wastewater service ;Diameter 1200 mm; Capacity: 1,2 to 5,6 m3/s	Base	No.	2		

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c, 2-2	103-SL-101; -201; -301; -401 - Stop Log frame only ; Raw wastewater service ; Dimension:0m90 wide x 1m90 high frame; Including anchoring system	Base	No.	4		
c, 2-3	103-SL-101; -201; -301; -401 - Stop Log plate ; Raw wastewater service ; Dimension:0m90 wide x 1,6 m high , including lifting ring;	Base	No.	1		
c, 2-4	103-SG-003- Manual Sluice Gate; Raw wastewater service ; Dimension:0m40 wide x 0m40 high ; Manual Sluice Gate ; Including anchoring system	Base	No.	1		
c, 2-5	103-PP-501- Grit pump; Grit service ; Capacity:100 m3/h ; Vortex type ; Including pipes, connections, valves and accessories	Base	No.	2		
c, 2-6	103-PP-503- Grit Pump; Grit service ; Capacity:100 m3/h ; Vortex type ; Stand by Non installed	Base	No.	1		
c, 2-7	103-BL-101 to 108 - Submerged Air Turbine; Air service ; Capacity:720 Nm3/h max at 250 mbar ; including all accessories and support system in coordination with the bridge travelling	Base	No.	8		
c, 2-8	103-BL-201 to 208- Submerged Air Turbine; Air service ; Capacity:720 Nm3/h max at 250 mbar ; including all accessories and support system in coordination with the bridge travelling	Base	No.	8		
c, 2-9	103-BL-301 to 308- Submerged Air Turbine; Air service ; Capacity:720 Nm3/h max at 250 mbar ; including all accessories and support system in coordination with the bridge travelling	Base	No.	8		
c, 2-10	103-BL-401 to 408- Submerged Air Turbine; Air service ; Capacity:720 Nm3/h max at 250 mbar ; including all accessories and support system in coordination with the bridge travelling	Base	No.	8		
c, 2-11	103-BL-501 ; -502- Air Lift ; Air service ; Capacity:55 m3/h ; including pipes, connections, valves and accessories for installation on travelling bridge	Base	No.	2		
c, 2-12	103-TB-101; -401- Traveling Bridge ; Dimensions: aprox 12 m wide (to be adjusted to wall thickness) ; Including truck, rails, wheels, motor, guidance system, scraping system (bottom and surface) and all accessories	Base	No.	2		
c, 2-13	103-GC-511; -512 -513 Grit Classifier; Grit service ;Capacity:100 m3/h ; including pipes, valves and accessories	Base	No.	3		
c, 2-15	103-SK-501; -502- Grease concentration skip; Grease and water service ; Capacity:25 m3 ; including accessories- Overflow and siphon baffle welded locally	Base	No.	2		
c, 2-16	103-SK-511; -512; -513 - Grit skip; Grit service ; Capacity:25 m3 ; including cover and all accessories	Base	No.	3		
c, 2-17	103-SP-001; -002- Submersible Pump ; Foul water service ; Capacity:250 m3/h; Including pipes, connections, valves and accessories for operation as one duty+ one standby.	Base	No.	2		
c, 2-19	103-GA-003 / -004- Gate valve; Foul water service ; Capacity:Diameter pipe 350 mm	Base	No.	2		
Pump Gallery HVAC						
c, 2-20	103-HTR-001 - Electroheater for the Pump Room, 3 kW. Including all support system.	Base	No.	1		
c, 2-21	103-FN-001- Pump Room ventilation exhaust 2-speed fan for 6000 and 2000 m3/h, including all air ducts for proper room ventilation , including support and anchoring.	Base	No.	1		
Odor treatment of the Foul water sump and Sludge Storage (Area 300)		option				
Fabricated items						
c, 2-40	Galvanized Steel hand railing whatever the position including support system (120 cm heigh) in all locations where protection in needed.	Base	ml	55		
c, 2-41	Galvanized Steel or FRP Grating access platforms at the inlet and outlet of the grit tanks as shown on the drawing MND-103-001 ; including support and anchoring system, including all penetrations for valve actuators.	Base	m2	115		
c, 2-43	Galvanized Steel Grating above all slab drains shown on the Drawings including support system.	Base	LS	1		
c, 2-44	Galvanized steel Stairs (2m 50 high, 1m 20 wide with handrails)	Base	LS	1		
c, 2-45	Galvanized steel double door with lower louvers including industrial painting, frame, fixing, handle and lock	Base	No.	1		
c, 2-46	Wall air intake louvers with weather protection in the pump room	Base	No.	2		
c, 2-47	Stainless Steel or HDPE weir troughs including support system with easily adjustable level system for flow balancing over the 6 weir troughs per tank. Dimensions as shown on drawings MND-103-105	Base	No.	18		
c, 2-48	Deflector plates (HDPE; 2500 x1500 x 20 mm) including fixation system on pillars	Base	u	56		
c, 2-49	SS Grease trough (according to drawings, 40 cm half pipe with 40 cm high straight sides) including support and anchoring system	Base	lm	25		
c, 2-50	HDPE Grit trough (according to drawings, 40 cm half pipe with 40 cm high straight sides) including support and anchoring system and heat tracing.	Base	lm	60		
c, 2-51	Soft rubber splashguard including support system (50 cm long over 15 m on each side)	Base	lm	30		
c, 2-52	1 mobile jib crane with hand operated chain hoist for other stop logs removal to be installed on each of the fixing plates adjacent to the stop logs location. Lifting weight 500 kg. Include fixing plates at all stop log locations.	Base	LS	1		
C2	Sub Total Lot c2 , Grit & Grease Removal					
Lot c,3	New primary clarifiers (Area 105). All items shall be in accordance with the Drawings and Specifications					
c, 3-1	105-SL-101 to 108 - Stop Log frame; wastewater service ; Dimension:1m wide x 1m90 high frame	Base	No.	8		
c, 3-2	105-SL-101 to 108 - Stop Log plate ; wastewater service ; Dimension:1m wide x 1m90 high with lifting ring	Base	No.	2		
c, 3-3	105-PF-101; -201; -301 ; -401- Primary Settling Tank Pickets Fence scraper; wastewater service ; Dimension:17 m diameter; 6.9 m depth (tank bottom to motor base plate)	Base	No.	4		
c, 3-4	105-WN-101; -201; -301; -401- water spray nozzle; servive water ; Dimension:2 m3/h	Base	No.	4		

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c, 3-5	105-OF-101; -201; -301; -401- overflow funnel with adjustable level; wastewater service ; Dimension:250-200 mm diameter	Base	No.	4		
c, 3-6	105-SV-501; -502; -601; -602- solenoid valves to supply air to air pinch valves; compressed air service	Base	No.	4		
c, 3-7	105-PV-501; -502; -601; -602- Sludge extraction pinch valve; primary sludge service	Base	No.	4		
c, 3-8	105-MF-501; -502; -601; -602- Magnetic Flow Meter; primary sludge service ; Capacity: 1 to 10 m3/min; Dimension: 350 mm	Base	No.	4		
c, 3-9	105-GR-501; -601- Jib crane with manual hoist for Mixer lifting	Base	No.	2		
c, 3-10	105-IM-501; -601- Immersed mixer; primary sludge service ; including all accessories and lifting rail	Base	No.	2		
c, 3-11	105-PC-701; 702; -703- Progressing cavity pump; primary sludge service ; Capacity:20 to 35 m3/hr; 150 mm; 25 m TDH; including all valves, piping and appurtenances.	Base	No.	3		
c, 3-14	105-MF-701; 702; 703- Magnetic Flow Meter; primary sludge service ; Capacity:20 to 35 m3/hr; 150 mm	Base	No.	3		
c, 3-12	105-SP-801- Submersible pump for gallery sump; Foul water / Sludge service ; Capacity:25 m3/h ; 5 m TDH	Base	No.	1		
c, 3-13	105-HT-001; -002- Pump Gallery freeze protection Electroheating, including support and anchoring.	Base	No.	2		
c, 3-14	105-FN-001- Pump Gallery ventilation exhaust 2-speed fan for 6000 and 2000 m3/h, including all air ducts for proper room ventilation , including support and anchoring.	Base	No.	1		
Decanted water as service water						
c, 3-30	105-PP-801- Decanted water Pump to sludge dewatering washing; decanted water service ; Capacity:45 m3/h, 3 Bar TDH; including two 500 microns particle filters with manual backwash (1 duty, 1 standby), and including all pipes, fittings, valves and appurtenances.	Base	No.	1		
c, 3-31	105-PP-811- Decanted water Pump to odor treatment; decanted water service ; Capacity:4 m3/h, 6 Bar TDH, including two 500 microns particle filters with manual backwash (1 duty, 1 standby), and including all pipes, fittings, valves and appurtenances.	Base	No.	1		
Pump Gallery HVAC						
c, 3-45	105-HT-001; -002- Electroheating , 6 kW , including support and anchoring sytem	Base	No.	2		
c, 3-46	105-FN-001- 2 speed Fan; ambient air service ; 6000 and 2000 m3/h; 1000 Pa maximum speed 1500 tr/min Including all appurtenances	Base	No.	1		
Fabricated items						
c, 3-40	Lammellas for each of the sedimentation tanks, including support and anchoring system	Base	LS	4		
c, 3-41	Galvanized Steel Grating access platforms for tanks access as shown on the drawing MND-105-001 ; including support and anchoring system.	Base	m2	425		
c, 3-43	Galvanized Steel Grating access platforms with handrail inside the pump gallery as shown on the drawing MND-105-003 ; including support and anchoring system; including 2 m high stairs to sludge pumps level.	Base	LS	1		
c, 3-44	Galvanized steel Stairs (3m 50 high, 1m 20 wide with handrails) for upper platform access	Base	LS	1		
c, 3-45	Galvanized Steel hand railing whatever the position including support system (120 cm high) as shown on drawing MND-105-001.	Base	ml	180		
3-46	Galvanized Steel hand railing for the Effluent Collection Chamber structure including support and anchoring system (120 cm high) as shown on drawing MND-107-001.	Base	ml	16		
c, 3-47	Galvanized Steel Access hatch ; diameter 800 ; with ladder for pump gallery emergency exit; watertight to rain water.	Base	LS	1		
c, 3-48	Galvanized Steel Mixer access hatch; dimensions : 2m by 2m	Base	LS	2		
c, 3-49	Galvanized Steel Access hatch ; diameter 800 ; with ladder for sludge storgae inspection	Base	LS	2		
c, 3-50	Galvanized Equipment installation or removal access hatch; dimensions : 3.40 m by 2m; watertight to rain water.	Base	LS	1		
c, 3-51	Galvanized Steel Wall air intake louvers with weather protection in the pump gallery	Base	No.	2		
c, 3-52	Roof Fresh air intake (Galvanized Steel) with weather protection for the sludge storage	Base	No.	2		
c, 3-53	Monorails for sludge pump lifting, 9.75 m long, including manual crankset trolley hoist and all support systems	Base	No.	2		
c, 3-54	Monorails for pump lifting, 35 m long, including manual crankset trolley hoist and all support systems	Base	No.	1		
c, 3-55	Construction of an open light steel framed rain protection roof (6m² and 2,8m high) covering the stairs down to the pump gallery, including: - supply and installation of galvanized steel frame (columns, primary and secondary beams, struts and all necessary steel works for the support of the roofing system, and including all fixation systems such as foundations plates, bolting, welding and connections). - supply and installation of corrugated galvanized steel single sheets (corrugation height: 39mm; thickness: 0.63mm; pre-lacquered upper face) or equivalent, overlapping, all fixation systems and all associated works, - supply and installation of gutters and downspouts, including fixation system and connection to the bottom infiltration well, - supply and placement of infiltration wells, constituted of manholes with no bottom part (0.4m x 0,4m x 1,2mht) filled with gravel 20/40mm, at ground level below gutters for infiltration of stormwater from the roof and including necessary earthworks, - and all material needed for workmanship.	Base	LS	1		
Pipes						
c, 3-60	All piping inside the pump gallery in accordance with the P&IDs, including all support and anchoring systems.	Base	LS	1		
C 3	Sub total Lot c,3 New primary clarifiers					

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Lot c,4						
Solids Handling (area 200)						
Polymer Preparation (Area 201)						
c, 4-1	201-BF-001- big bag emptying station with Polymer storage vibrator; bulk polymer service ; Capacity:1000 kg	Base	No.	1		
c, 4-2	201-SW-001- screw conveyor; bulk polymer service ; Capacity:200 kg/h	Base	No.	1		
c, 4-3	201-DS-001- dosing screw; bulk polymer service ; Capacity:200 kg/h	Base	No.	1		
c, 4-4	201-MX-001; -002- vertical slow mixer; liquid polymer service ; Capacity:100 rpm max	Base	No.	2		
c, 4-5	201-PC-101;-201; -301- Progressing cavity pump; liquid polymer service ; capacity:1 to 3 m3/h, Motor with gear.	Base	No.	3		
c, 4-6	201-MF-101;-201; -301- magnetic flow meter (progressive cavity pump); liquid polymer service ; capacity:0 to 3 m3/h; ND 30	Base	No.	3		
c, 4-7	201-SV-001- solenoid valve; drinking water service ;size:ND45	Base	No.	1		
c, 4-8	201-SV-101;-201; -301- solenoid valve; drinking water service ;size:ND30	Base	No.	3		
c, 4-9	201-MV-101;-201; -301 - Motorized valve for polymer dilution; drinking water service ;size:ND30	Base	No.	3		
c, 4-10	201-MF-102; -202; -302- magnetic flow meter (for dilution); drinking water service ; capacity:0 to 3 m3/h; ND 30	Base	No.	3		
c, 4-11	201-SUR-001- Surpression pump with vessel; drinking water service ; capacity:12 m3/h; 3 bars	Base	No.	1		
Dewatering (Area 202)						
c, 4-21	202-BT&FP-101; -201; 301 - Gravity belt thickener combined with Belt filter Press; primary sludge service ; capacity:belt width 2m; 28 m3/h; 1000 kg SS/h; including air compressor, washwater pump, piping, valves, and all appurtenances; including support system and floor anchors; including any necessary access platform for maintenance.	Base	No.	3		
c, 4-23	202-SW-101; -201- Screw conveyor;dewatered primary sludge service ; capacity:5 wet t/h;8 m; Ø 328 mm. Including all support and anchoring systems. Including connections to downstream and upstream equipment.	Base	No.	2		
c, 4-24	202-SW-301- Screw conveyor; primary sludge service ; capacity:5 wet t/h;13 m; Ø 328 mm. Including all support and anchoring systems. Including connections to downstream and upstream equipment.	Base	No.	1		
Sludge liming, conveying and storage (Area 203-204)						
c, 4-31	203-LB-101; 201- lime storage silo; useful volume: 50 m3; including dust filter, archbreaker of 100 to 500 kg/h and Ø 2 m; with two connections to dosing screws per silo. Including all support and anchoring systems.	Base	No.	3		
c, 4-32	203-DS-101; 301- screw dosing; 100 to 500 kg/h , Ø 70 mm	Base	No.	2		
c, 4-33	203-DS-201- screw dosing; 100 to 500 kg/h , Ø 70 mm, with connection to silo 203-LB-101 and -201 for operation on one or the other of the two silos. Including all support and anchoring systems.	Base	No.	1		
c, 4-36	203-SW-101, -301 - lime screw conveyor; 100 to 500 kg/h ,5m, ,Ø 80mm. Including all support and anchoring systems.	Base	No.	2		
c, 4-37	203-SW-201- lime screw conveyor; 100 to 500 kg/h ,8.50m, ,Ø 80mm. Including all support and anchoring systems.	Base	No.	1		
c, 4-38	203-SW-102; 202; -302 - screw injector; 100 to 500 kg/h ,1m,Ø 80mm. Including all support and anchoring systems.	Base	No.	3		
c, 4-39	203-SM-101; 201; -301- Sludge-lime mixer; lime-sludge service ; capacity:sludge 4.5 m3/h; lime:0.6 m3/h. Including all support and anchoring systems. Including connections to downstream and upstream equipment.	Base	No.	3		
c, 4-40	203-SW-001; -002- skip feeding screw conveyor; limed sludge service ; capacity:20 wet t/h; 15 m. Including all support and anchoring systems. Including connections to downstream and upstream equipment.	Base	No.	2		
c, 4-41	203-BC-001- Stand-by belt conveyor(between 203-SW-001 &002); limed sludge service ; capacity:10 wet t/h; 7 m. Including removable connections to the inlet hopper of 203-SW-001 and -002.	Base	No.	1		
c, 4-42	204-SK-001 to -006 limed sludge skips; Grit service ; Capacity:25 m3 ; including cover and all accessories	Base	No.	6		
c, 4-42	202-HT-001; -002- Liming room Electroheating; ambient air service ; Capacity:delta T= 10 oC	Base	No.	2		
Foul water sump (Area 205)						
c, 4-51	205-SP-001- Submerged sump pump; Foul water service ; capacity:200 m3/h; 10 m TDH. Including pipes, connections, valves and accessories for operation as one duty+ one standby.	Base	No.	2		
Ventilation and Odor Treatment for Sludge Building (Area 206)						
c, 4-67	HVAC equipment for proper anti-freeze heating and ventilation of the various rooms of the building.	Base	LS	1		
Solids Building HVAC (Area 200)						
c, 4-70	200-AC-001- Air conditioning unit for electrical room; ambient air service ; Capacity:100 m3/h, 10oC cooling	Base	No.	1		
c, 4-71	200-FN-001; -002- Exhaust ventilation 2-speed Fan; ambient air service ; Capacity:8000 and 2700 m3/h	Base	No.	2		
c, 4-72	200-HT-001 to -005- Solids handling room Electroheating; ambient air service ; Capacity:delta T= 10 oC; 6 kW	Base	No.	5		
Fabricated items and handling equipment for all Zone 200						

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		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
c, 4-100	Galvanized Steel Grating above all slab drains shown on the Drawings including support system.	Base	LS	1		
c, 4-101	Wall air intake louvers with weather protection	Base	No.	8		
c, 4-102	Stainless Steel plate for deflecting the limed sludge to the Belt conveyor 203-BC-001, in case the Screw Conveyor 203-SW-001 or -002 is out of order.	Base	No.	1		
c, 4-103	Palett truck for equipment handling, maintenance and repair	Base	No.	1		
c, 4-104	Electrical stacker for polymer handling	Base	No.	1		
Pipes						
c, 4-110	All piping inside the sludge handling building in accordance with the P&IDs, including all support and anchoring systems.	Base	LS	1		
C 4	Sub total C4, Solids Handling					
Lot c,5	Service Water and Substation Building (area 110 and 400)					
c, 5-1	102-SV-811 and -812; Solenoid Valves DN40 ; decanted water service	Base	No.	1		
c, 5-2	110-TK-001 and -002; Fiberglass water tank for well water ; Capacity:7,5 m3 each Including all appurtenances	Base	No.	1		
c, 5-3	110-TK-111; Fiberglass water tank for decanted water ; Capacity:7,5 m3 each Including all appurtenances	Base	No.	1		
c, 5-4	110-HW-001- Water hammer Tank; well water service ; Capacity:6 bar, 15 m3/h Including 2 supression pumps (one duty, one standby) and all appurtenances.	Base	No.	1		
c, 5-5	110-PP-011 and -021, water service centrifugal pumps	base	No.	2		
Building HVAC						
c, 5-10	200-AC-001; -002- Air conditioning unit for substation rooms; ambient air service ; Capacity:100 m3/h, 10oC cooling	Base	No.	2		
c, 5-11	Wall air intake louvers with weather protection	Base	No.	4		
Pipes						
c, 5-20	All piping inside the building in accordance with the P&IDs, including all support and anchoring systems.	Base	LS	1		
C 5	Sub Total Lot c,5 Service Water and Substation Building					
Lot c,6	Outlet structure (area 107)					
c, 6-01	107-SP-801- Submersible pump drainage sump; Foul water service ; Capacity:50 m3/h ; 1,3 m TDH	Base	No.	2		
Lot c,10	Instrumentation					
Instruments Area 101-102						
c, 10-1	101-FL-001- Float level sensor; raw wastewater service; Including all electrical and automation connections.	Base	No.	1		
c, 10-2	101-TI-001- Ultrasonic level sensor; raw wastewater service; Including all electrical and automation connections.	Base	No.	1		
c, 10-3	101-UF-002- Temperature sensor; raw wastewater service; Including all electrical and automation connections.	Base	No.	1		
c, 10-4	102-UF-001- Ultrasonic level sensor; raw wastewater service; Including all electrical and automation connections.	Base	No.	1		
c, 10-5	102-UF-002- Ultrasonic level sensor; raw wastewater service; Including all electrical and automation connections.	Base	No.	1		
Instruments Area 103						
c, 10-10	103-FL-001- Float level; Foul water service ; Including all electrical and automation connections.	Base	No.	1		
c, 10-11	103-FL-002- Float level; Foul water service ; Including all electrical and automation connections.	Base	No.	1		
c, 10-12	103-LS-001- Capacitive Level Sensor; Foul water service ; Including all electrical and automation connections.	Base	No.	1		
c, 10-13	103-LS-501- Capacitive Level Sensor; Grit water service ; Including all electrical and automation connections.	Base	No.	1		
c, 10-14	103-LS-502- Capacitive Level Sensor; Grit water service ; Including all electrical and automation connections.	Base	No.	1		
Instruments Area 105						
c, 10-20	105-FL-101; -201; 301; -401- Float Level indicator; wastewater service ; Including all electrical and automation connections.	Base	No.	4		
c, 10-21	105-SBL-101; -201; 301; -401- Sludge blanquet level Sensor; wastewater service ; Including all electrical and automation connections.	Base	No.	4		
c, 10-22	105-LS-501; -601- capacitive Level sensor; Including all electrical and automation connections.	Base	No.	2		
c, 10-23	105-FL-801- Float level sensor for alarm; Including all electrical and automation connections.	Base	No.	1		
c, 10-24	105-PI-801-Pressure Gauge; 0-10 Bar; ND 120; Including all electrical and automation connections.	Base	No.	1		
c, 10-25	105-PI-811-Pressure Gauge; 0-10 Bar; ND 40; Including all electrical and automation connections.	Base	No.	1		
Instruments Area 201						
c, 10-30	201-FL-001 to 004- Float level sensors; liquid polymer service ; Including all electrical and automation connections.	Base	No.	4		

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c, 10-31	201-FL-005- Blockage Level sensor ; polymer powder service ;Including all electrical and automation connections.	Base	No.	1		
c, 10-32	201-PI-101;-201; -301- Manometer with local pressure indication; drinking water service ; capacity:0-5 Bar, ND 30; Including all electrical and automation connections.	Base	No.	3		
Instruments Area 202						
c, 10-40	202-GDS-001, -002- Gas detector H2S; ambient air; Including all electrical and automation connections.	Base	No.	2		
c, 10-41	202-GDN-001; -002- Gas detector NH3; ambient air; Including all electrical and automation connections.	Base	No.	2		
c, 10-42	202-FL-101; -201; -301- Blockage Level sensor ; dewatered primary sludge; Including all electrical and automation connections.	Base	No.	3		
Instruments Area 203						
c, 10-45	203-GDS-001- Gas detector H2S; ambient air ; Including all electrical and automation connections.	Base	No.	1		
c, 10-46	203-GDN-001- Gas detector NH3; ambient air ; Including all electrical and automation connections.	Base	No.	1		
c, 10-47	203-FL-101; -201; -301- Blockage Level sensor ; limed sludge; Including all electrical and automation connections.	Base	No.	3		
Instruments Area 205						
c, 10-50	205-LS-001- Capacitive level sensor; Foul water service; Including all electrical and automation connections.	Base	No.	1		
c, 10-51	205-FL-001- Float level sensor; Foul water service; Including all electrical and automation connections.	Base	No.	2		
Instruments Area 110						
c, 10-60	110-FL-101, -102, -103 Float level sensor for well water tank 1; Including all electrical and automation connections.	Base	No.	3		
c, 10-61	110-FL-201, -202, -203 Float level sensor for well water tank 2; Including all electrical and automation connections.	Base	No.	3		
c, 10-62	110-FL-111, -112, -113 Float level sensor for decanted water tank; Including all electrical and automation connections.	Base	No.	3		
C 10	Sub Total Lot c,10, Instrumentation					
Lot c,11	Electrical Equipment					
Electrical equipments Area 400						
c, 11-01	Diversion and burying of the existing line MT to feed the main substation including	Base	Ls	1		
c, 11-02	Transformer 6kV/0,4kV 800kVA	Base	No.	2		
c, 11-03	MV arrival cell	Base	No.	1		
c, 11-04	MV departure cell	Base	No.	1		
c, 11-05	MV metering cell	Base	No.	1		
c, 11-06	MV general circuit breaker cell	Base	No.	1		
c, 11-07	MV transformer protection cell	Base	No.	2		
c, 11-08	Reactive power compensation capacitor for cos Phi > 0,97	Base	No.	1		
c, 11-09	LV General Cupboard, including all components, departure protections, relays, internal cabling, accessories, etc...	Base	Ls	1		
c, 11-10	LV cable from the general cupboard to all concerned equipments in accordance at the corresponding single line diagram.	Base	Ls	1		
c, 11-11	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete including all accessories, fixing brackets, connection to pump, suspensions, drilling and cutting to form a complete installation (the resistance shall not exceed five ohm).	Base	Ls	1		
c, 11-12	Ceiling surface mounted weather proof lighting fixture (IP-54) including 2X36 W fluorescent day light lamp including flat prismatic diffuser completed including electronic ballast, mounting brackets, wires, cables, raceways and accessories. (the level of illumination must be at least equal to 300 luxes)	Base	Ls	1		
c, 11-13	One way, one-gang and two-gang 10/16A lighting switch completed including wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-14	2pole including earth single socket of 16A, 240V, height 110cm AFFL completed including wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-15	Exit sign emergency lighting fixture of 1X8W fluorescent lamp supplied with self-contained nickel cadmium battery for 3 hours duration completed including wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-16	Outdoor hot dipped galvanized steel lighting post of height 6 m equipped with junction box, with one flood lighting fixtures, each completed with 150 watt high-pressure sodium to be protected by a MCB of 6 Amp for the external lighting along the new ways. (the level of illumination must be at least equal to 20 luxes)	Base	Ls	1		
c, 11-17	Safety equipment for transformer station.	Base	Ls	1		
c,	Electrical equipments Area 401					
c, 11-20	MV cable for connecting the new main sub-station at the existing sub-station.	Base	m	130		
c, 11-21	Temporary gas-oil generator 400V 400kVA for supply the existing installation during the diversion of the MV cable, including all connections at the existing general cupboard, supply and temporary stockage of the gas-oil and all accesories.	Base	Ls	1		

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Electrical equipments Area 402						
c, 11-25	Screening divisional cupboard, including all components, departure protections, relays, internal cabling, accessories, etc...	Base	Ls	1		
c, 11-26	LV cable from the divisional cupboard to all concerned equipments in accordance with the corresponding single line diagram.	Base	Ls	1		
c, 11-27	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete with all accessories, fixing brackets, connection to pump, suspensions, drilling and cutting to form a complete installation (the resistance shall not exceed five ohm).	Base	Ls	1		
c, 11-28	Ceiling surface mounted weather proof lighting fixture (IP-54) with 2X36 W fluorescent day light lamp with flat prismatic diffuser complete with electronic ballast, mounting brackets, wires, cables, raceways and accessories. (the level of illumination must be at least equal to 300 luxes)	Base	Ls	1		
c, 11-29	One way, one-gang and two-gang 10/16A lighting switch complete including wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-30	2pole with earth single socket of 16A, 240V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-31	Exit sign emergency lighting fixture of 1X8W fluorescent lamp supplied with self-contained nickel cadmium battery for 3 hours duration complete with wires, cables, raceways and accessories.	Base	Ls	1		
Electrical equipments Area 101						
c, 11-35	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete with all accessories, fixing brackets, connection to pump, suspensions, drilling and cutting to form a complete installation (the resistance shall not exceed five ohm).	Base	Ls	1		
Electrical equipments Area 102						
c, 11-40	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete with all accessories, fixing brackets, connection to pump, suspensions, drilling and cutting to form a complete installation (the resistance shall not exceed five ohm).	Base	Ls	1		
Electrical equipments Area 103						
c, 11-45	GG removal tank and primary settling tank divisional cupboard, including all components, departure protections, relays, internal cabling, accessories, etc...	Base	Ls	1		
c, 11-46	LV cable from the divisional cupboard to all concerned equipments in accordance with the corresponding single line diagram.	Base	Ls	1		
c, 11-47	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete with all accessories, fixing brackets, connection to pump, suspensions, drilling and cutting to form a complete installation (the resistance shall not exceed five ohm).	Base	Ls	1		
c, 11-48	Ceiling surface mounted weather proof lighting fixture (IP-54) with 2X36 W fluorescent day light lamp with flat prismatic diffuser completed with electronic ballast, mounting brackets, wires, cables, raceways and accessories. (the level of illumination must be at least equal to 300 luxes)	Base	Ls	1		
c, 11-49	One way, one-gang and two-gang 10/16A lighting switch completed with wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-50	2pole including earth single socket of 16A, 240V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-51	Three phase including earth weather proof single socket of 32A, 400V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-52	Exit sign emergency lighting fixture of 1X8W fluorescent lamp supplied with self-contained nickel cadmium battery for 3 hours duration complete including wires, cables, raceways and accessories.	Base	Ls	1		
Electrical equipments Area 105						
c, 11-55	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete including all accessories, fixing brackets, connection to pump, suspensions, drilling and cutting to form a complete installation (the resistance shall not exceed five ohm).	Base	Ls	1		
c, 11-56	Ceiling surface mounted weather proof lighting fixture (IP-54) with 2X36 W fluorescent day light lamp with flat prismatic diffuser complete including electronic ballast, mounting brackets, wires, cables, raceways and accessories. (the level of illumination must be at least equal to 300 luxes)	Base	Ls	1		
c, 11-57	One way, one-gang and two-gang 10/16A lighting switch complete including wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-58	2pole with earth single socket of 16A, 240V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-59	Three phase with earth weather proof single socket of 32A, 400V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
c, 11-60	Exit sign emergency lighting fixture of 1X8W fluorescent lamp supplied with self-contained nickel cadmium battery for 3 hours duration complete including wires, cables, raceways and accessories.	Base	Ls	1		
Electrical equipments Area 107						
c, 11-65	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete including all accessories, fixing brackets, connection to pump, suspensions, drilling and cutting to form a complete installation (the resistance shall not exceed five ohm).	Base	Ls	1		
Electrical equipments Area 200						
c, 11-70	LV cable for connecting the new main sub-station at the Sludge Building divisional cupboard.	Base	Ls	1		
c, 11-71	LV cable from the divisional cupboard to all concerned equipments in accordance with the corresponding single line diagram.	Base	Ls	1		
c, 11-72	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete including all accessories, fixing brackets, connection to pump, suspensions, drilling and cutting to form a complete installation (the resistance shall not exceed five ohm).	Base	Ls	1		
c, 11-73	Screening, Grit removal and Primary settling tank divisional cupboard, including all components, departure protections, relays, internal cabling, accessories, etc...	Base	Ls	1		

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c, 11-74		Base	Ls	1		
Ceiling surface mounted weather proof lighting fixture (IP-54) with 2X36 W fluorescent day light lamp with flat prismatic diffuser complete including electronic ballast, mounting brackets, wires, cables, raceways and accessories. (the level of illumination must be at least equal to 300 luxes)						
c, 11-75		Base	Ls	1		
One way, one-gang and two-gang 10/16A lighting switch complete including wires, cables, raceways and accessories.						
c, 11-76		Base	Ls	1		
2pole with earth single socket of 16A, 240V, height 110cm AFFL complete including wires, cables, raceways and accessories.						
c, 11-77		Base	Ls	1		
Exit sign emergency lighting fixture of 1X8W fluorescent lamp supplied with self-contained nickel cadmium battery for 3 hours duration complete including wires, cables, raceways and accessories.						
C 11		Sub Total Lot c,11, Electrical equipment				
Lot c,12		Automation				
		Automation equipments Control Center Room				
c, 12-01		Base	Ls	1		
RTU 1 according to description in the specification and drawing including all accessories.						
c, 12-02		Base	U	1		
Ethernet / Fiber optic switch.						
c, 12-03		Base	Ls	1		
Industrial PC with Armenian keyboard and optical mouse.						
c, 12-04		Base	U	1		
Screen 23 inches						
c, 12-05		Base	Ls	1		
Colour printer including cartridges						
c, 12-06		Base	Ls	1		
Uninterruptable power supply (UPS) at 4 hours, (240V) of rating 1 kVA complete including all necessary accessories and ancillary materials required for complete installation.						
c, 12-07		Base	Ls	1		
Software and licenses						
c, 12-08		Base	Ls	1		
Control / command cupboard for integration of the RTU ; including all accessories equipments (light, relays, switch, etc...)						
c,		Base	Ls	1		
Automation equipments in Plant						
c, 12-10		Base	m	400		
Fiber optic cable						
c,		Automation equipments Area 400				
c, 12-15		Base	Ls	1		
RTU 4 according to description in the specification and drawing including all accessories.						
c, 12-16		Base	Ls	1		
Control / command cupboard for integration of the RTU ; including all accessories equipments (light, relays, switch, etc...)						
c, 12-17		Base	Ls	1		
Uninterruptable power supply (UPS) at 4 hours, (240V) of rating 1 kVA complete including all necessary accessories and ancillary materials required for complete installation.						
c,		Automation equipments Areas 101 - 102 & 402				
c, 12-20		Base	Ls	1		
RTU 2 according to description in the specification and drawing including all accessories.						
c, 12-21		Base	Ls	1		
Control / command cupboard for integration of the RTU and all accessories equipments (light, relays, switch, etc...)						
c, 12-22		Base	Ls	1		
Uninterruptable power supply (UPS) at 4 hours, (240V) of rating 1 kVA complete with all necessary accessories and ancillary materials required for complete installation.						
c,		Automation equipments Area 103-105				
c, 12-25		Base	Ls	1		
RTU 3 according to description in the specification and drawing including all accessories.						
c, 12-26		Base	Ls	1		
Control / command cupboard for integration of the RTU and all accessories equipments (light, relays, switch, etc...)						
c, 12-27		Base	Ls	1		
Uninterruptable power supply (UPS) at 4 hours, (240V) of rating 1 kVA complete with all necessary accessories and ancillary materials required for complete installation.						
c,		Automation equipments Area 200				
c, 12-30		Base	Ls	1		
RTU 5 according to description in the specification and drawing including all accessories.						
c, 12-31		Base	Ls	1		
Control / command cupboard for integration of the RTU and all accessories equipments (light, relays, switch, etc...)						
c, 12-32		Base	Ls	1		
Uninterruptable power supply (UPS) at 4 hours, (240V) of rating 1 kVA complete with all necessary accessories and ancillary materials required for complete installation.						
C 12		Sub Total Lot c,12, Automation				
d) INSTALLATION		Մոնտաժային աշխատանքներ				
Lot d,1		Inlet Chamber and Screening (Area 101-102).				
		Equipment				
d, 1-1		Base	No.	1		
101-GR-001- Grabing Hoist; large debris service ; Capacity: 500 kg; Manual Crankset. Including support and anchoring system.						
d, 1-2		Base	No.	2		
101-BS-101- Automatic Coarse Screen 40 mm; raw wastewater service ; Capacity:11 500 m3/h Including support and anchoring system and all accessories						
d, 1-3		Base	No.	1		
101-BS-301- Manual Bar Screen 40 mm; raw wastewater service ; Dimension:1m50 wide x 3m45 high						
d, 1-4		Base	No.	1		
101-BC-001- Belt conveyor with distributor in 2 skips; coarse screenings service ; Dimension:9,8 m long						
d, 1-5		Base	No.	2		
101-SG-101; 201; 301- Motorized Sluice Gate; raw wastewater service ; Dimension:1.50 m x 2,65m - Channel height: 2,65						
d, 1-6		Base	No.	1		
101-SL-001- Stop Log frame and plate; raw wastewater service ; Dimension:1m 50 wide x 3m 15 high frame and 1,5 m x 2m 90 plate with lifting ring						
d, 1-7		Base	No.	1		
101-SL-002- Stop Log frame and plate; raw wastewater service ; Dimension:1m 50 wide x 2m70 high frame and 1,5 m x 1m 90 plate with lifting ring						
d, 1-8		Base	No.	1		
101-SL-003- Stop Log frame and plate; raw wastewater service ; Dimension:1m 60 wide x 3m 45 high frame and 1,8 m x 3m plate with lifting ring						
d, 1-9		Base	No.	4		
101-SL-004; -101 -201; -301 - Stop Log frame ; raw wastewater service ; Dimension:1m 50 wide x 3m 45 high frame						
d, 1-10		Base	No.	3		
101-SL-004; -101 -201; -301; 102-SL-101; -201; -301; -401;-001; -002 - Stop Log plate ; raw wastewater service ; Dimension:1,5 m x 3m15 plate with lifting ring, interchangeable for the various						

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d, 1-11	101-SK-001; -002 - skip with cover; coarse screenings service ; Capacity:25 m³	Base	No.	2		
d, 1-14	102-BS-100; -200; -300 - Automatic Fine Screen 6 mm; raw wastewater service ; Capacity:6 800 m³/h	Base	No.	3		
d, 1-15	102-BS-400- Manual bar screen 20 mm; raw wastewater service ; Dimension:1m50 wide x 4m20 high Including support and anchoring system	Base	No.	1		
d, 1-16	102-SW-001- Screw conveyor and compactor; fine screenings service ; Dimension:9 m long Including support and anchoring system	Base	No.	1		
d, 1-17	102-SG-101; -201; -301- motorized Sluice gate; raw wastewater service ; Dimension:1.50 m x 3 m - Channel height: 3,70m	Base	No.	3		
d, 1-18	102-SG-401 - Sluice Gate with Manual crankset; raw wastewater service ; Dimension:1.50 m x 3 m - Channel height: 3,70m	Base	No.	1		
d, 1-19	102-SL-101; -201; -301; -401 - Stop log frame only ; raw wastewater service ; Dimension:1m 50 wide x 3m 70 high frame	Base	No.	4		
d, 1-20	102-SG-001/002 - Motorized Sluice Gate with Manual crankset; raw wastewater service ; Dimension:1.50 m x 1,5 m - Channel height: 4,20m; watertight joint on 4 sides	Base	No.	2		
d, 1-21	102-SK-001; -002- skip with cover; fine screenings service ; Capacity:25 m³	Base	No.	2		
Fabricated items						
d, 1-31	Galvanized Steel hand railing on the north side of the Screening channel including support and anchoring system (100 cm high) as shown on drawing MND-101-000.	Base	ml	47		
d, 1-32	Galvanized Steel hand railing for the North Chamber, East Chamber & New Bypass structure including support and anchoring system (120 cm high) as shown on drawing MND-101-000.	Base	ml	24		
d, 1-33	Two Monorail of 10 m long rails for stoplog lifting; each with hand operated hoist trolley. Self supporting structure 4 m high.	Base	LS	1		
d, 1-34	1 mobile jib crane with hand operated chain hoist for other stop logs removal to be installed on each of the fixing plates adjacent to the stop logs location. Lifting weight 850 kg. Include fixing plates at all stop log locations.	Base	LS	1		
d, 1-35	Galvanized Steel Grating access platforms to fine and coarse screens including support and anchoring system, as shown on the drawing MND-101-000	Base	LS	1		
d, 1-37	Galvanized Steel Ladder to platform including support and anchoringsystem (80 cm wide x 2 m high). Include handrail posts 1.2 m above top of wall in continuity with ladder's side handrails.	Base	No.	4		
d, 1-38	Galvanized Steel Ladders to platform including support and anchoring system (80 cm wide x 1 m high)	Base	No.	1		
d, 1-40	Stainless steel weir plate including all support and anchoring system with adjustable level installation on the emergency overflow weir wall	Base	ml	14		
d, 1	Sub Total Lot d1, Inlet chamber & screening					
Lot d,2						
Grit & Grease Removal (Area 103 and 300). All items shall be in accordance with the Drawings and Specifications						
d, 2-1	103-FM-001- Magnetic Flowmeter; Raw wastewater service ;Diameter 1200 mm; Capacity: 1,2 to 5,6 m³/s	Base	No.	2		
d, 2-2	103-SL-101; -201; -301; -401 - Stop Log frame only ; Raw wastewater service ; Dimension:0m90 wide x 1m90 high frame; Including anchoring system	Base	No.	4		
d, 2-3	103-SL-101; -201; -301; -401 - Stop Log plate ; Raw wastewater service ; Dimension:0m90 wide x 1,6 m high , including lifting ring;	Base	No.	1		
d, 2-4	103-SG-003- Manual Sluice Gate; Raw wastewater service ; Dimension:0m40 wide x 0m40 high ; Manual Sluice Gate ; Including anchoring system	Base	No.	1		
d, 2-5	103-PP-501- Grit pump; Grit service ; Capacity:100 m³/h ; Vortex type ; Including pipes, connections, valves and accessories	Base	No.	2		
d, 2-6	103-PP-503- Grit Pump; Grit service ; Capacity:100 m³/h ; Vortex type ; Stand by Non installed	Base	No.	1		
d, 2-7	103-BL-101 to 108 - Submerged Air Turbine; Air service ; Capacity:720 Nm³/h max at 250 mbar ; including all accessories and support system in coordination with the bridge travelling	Base	No.	8		
d, 2-8	103-BL-201 to 208- Submerged Air Turbine; Air service ; Capacity:720 Nm³/h max at 250 mbar ; including all accessories and support system in coordination with the bridge travelling	Base	No.	8		
d, 2-9	103-BL-301 to 308- Submerged Air Turbine; Air service ; Capacity:720 Nm³/h max at 250 mbar ; including all accessories and support system in coordination with the bridge travelling	Base	No.	8		
d, 2-10	103-BL-401 to 408- Submerged Air Turbine; Air service ; Capacity:720 Nm³/h max at 250 mbar ; including all accessories and support system in coordination with the bridge travelling	Base	No.	8		
d, 2-11	103-BL-501 ; -502- Air Lift ; Air service ; Capacity:55 m³/h ; including pipes, connections, valves and accessories for installation on travelling bridge	Base	No.	2		
d, 2-12	103-TB-101; -401- Traveling Bridge ; Dimensions: aprox 12 m wide (to be adjusted to wall thickness) ; Including truck, rails, wheels, motor, guidance system, scraping system (bottom and surface) and all accessories	Base	No.	2		
d, 2-13	103-GC-511; -512 -513 Grit Classifier; Grit service ;Capacity:100 m³/h ; including pipes, valves and accessories	Base	No.	3		
d, 2-15	103-SK-501; -502- Grease concentration skip; Grease and water service ; Capacity:25 m³ ; including accessories- Overflow and siphon baffle welded locally	Base	No.	2		
d, 2-16	103-SK-511; -512; -513 - Grit skip; Grit service ; Capacity:25 m³ ; including cover and all accessories	Base	No.	3		
d, 2-17	103-SP-001; -002- Submersible Pump ; Foul water service ; Capacity:250 m³/h; Including pipes, connections, valves and accessories for operation as one duty+ one standby.	Base	No.	2		
d, 2-19	103-GA-003 / -004- Gate valve; Foul water service ; Capacity:Diameter pipe 350 mm	Base	No.	2		

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		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
Pump Gallery HVAC						
d, 2-20	103-HTR-001 - Electroheater for the Pump Room, 3 kW. Including all support system.	Base	No.	1		
d, 2-21	103-FN-001- Pump Room ventilation exhaust 2-speed fan for 6000 and 2000 m3/h, including all air ducts for proper room ventilation , including support and anchoring.	Base	No.	1		
Odor treatment of the Foul water sump and Sludge Storage (Area 300)		option				
Fabricated items						
d, 2-40	Galvanized Steel hand railing whatever the position including support system (120 cm high) in all locations where protection is needed.	Base	ml	55		
d, 2-41	Galvanized Steel or FRP Grating access platforms at the inlet and outlet of the grit tanks as shown on the drawing MND-103-001 ; including support and anchoring system, including all penetrations for	Base	m2	115		
d, 2-43	Galvanized Steel Grating above all slab drains shown on the Drawings including support system.	Base	LS	1		
d, 2-44	Galvanized steel Stairs (2m 50 high, 1m 20 wide with handrails)	Base	LS	1		
d, 2-45	Galvanized steel double door with lower louvers including industrial painting, frame, fixing, handle and lock	Base	No.	1		
d, 2-46	Wall air intake louvers with weather protection in the pump room	Base	No.	2		
d, 2-47	Stainless Steel or HDPE weir troughs including support system with easily adjustable level system for flow balancing over the 6 weir troughs per tank. Dimensions as shown on drawings MND-103-105	Base	No.	18		
d, 2-48	Deflector plates (HDPE; 2500 x1500 x 20 mm) including fixation system on pillars	Base	u	56		
d, 2-49	SS Grease trough (according to drawings, 40 cm half pipe with 40 cm high straight sides) including support and anchoring system	Base	lm	25		
d, 2-50	HDPE Grit trough (according to drawings, 40 cm half pipe with 40 cm high straight sides) including support and anchoring system and heat tracing.	Base	lm	60		
d, 2-51	Soft rubber splashguard including support system (50 cm long over 15 m on each side)	Base	lm	30		
d, 2-52	1 mobile jib crane with hand operated chain hoist for other stop logs removal to be installed on each of the fixing plates adjacent to the stop logs location. Lifting weight 500 kg. Include fixing plates at all stop log locations.	Base	LS	1		
d 2	Sub Total Lot c2 , Grit & Grease Removal					
Lot d,3	New primary clarifiers (Area 105). All items shall be in accordance with the Drawings and Specifications					
d, 3-1	105-SL-101 to 108 - Stop Log frame; wastewater service ; Dimension:1m wide x 1m90 high frame	Base	No.	8		
d, 3-2	105-SL-101 to 108 - Stop Log plate ; wastewater service ; Dimension:1m wide x 1m90 high with lifting ring	Base	No.	2		
d, 3-3	105-PF-101; -201; -301 ; -401- Primary Settling Tank Pickets Fence scraper; wastewater service ; Dimension:17 m diameter; 6.9 m depth (tank bottom to motor base plate)	Base	No.	4		
d, 3-4	105-WN-101; -201; -301; -401- water spray nozzle; servive water ; Dimension:2 m3/h	Base	No.	4		
d, 3-5	105-OF-101; -201; -301; -401- overflow funnel with adjustable level; wastewater service ; Dimension:250-200 mm diameter	Base	No.	4		
d, 3-6	105-SV-501; -502; -601; -602- solenoid valves to supply air to air pinch valves; compressed air service	Base	No.	4		
d, 3-7	105-PV-501; -502; -601; -602- Sludge extraction pinch valve; primary sludge service	Base	No.	4		
d, 3-8	105-MF-501; -502; -601; -602- Magnetic Flow Meter; primary sludge service ; Capacity: 1 to 10 m3/min; Dimension: 350 mm	Base	No.	4		
d, 3-9	105-GR-501; -601- Jib crane with manual hoist for Mixer lifting	Base	No.	2		
d, 3-10	105-IM-501; -601- Immersed mixer; primary sludge service ; including all accessories and lifting rail	Base	No.	2		
d, 3-11	105-PC-701; 702; -703- Progressing cavity pump; primary sludge service ; Capacity:20 to 35 m3/hr; 150 mm; 25 m TDH; including all valves, piping and appurtenances.	Base	No.	3		
d, 3-14	105-MF-701; 702; 703- Magnetic Flow Meter; primary sludge service ; Capacity:20 to 35 m3/hr; 150 mm	Base	No.	3		
d, 3-12	105-SP-801- Submersible pump for gallery sump; Foul water / Sludge service ; Capacity:25 m3/h ; 5 m TDH	Base	No.	1		
d, 3-13	105-HT-001; -002- Pump Gallery freeze protection Electroheating, including support and anchoring.	Base	No.	2		
d, 3-14	105-FN-001- Pump Gallery ventilation exhaust 2-speed fan for 6000 and 2000 m3/h, including all air ducts for proper room ventilation , including support and anchoring.	Base	No.	1		
Decanted water as service water						
d, 3-30	105-PP-801- Decanted water Pump to sludge dewatering washing; decanted water service ; Capacity:45 m3/h, 3 Bar TDH; including two 500 microns particle filters with manual backwash (1	Base	No.	1		
d, 3-31	105-PP-811- Decanted water Pump to odor treatment; decanted water service ; Capacity:4 m3/h, 6 Bar TDH, including two 500 microns particle filters with manual backwash (1 duty, 1 standby), and	Base	No.	1		

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		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
Pump Gallery HVAC						
d, 3-45	105-HT-001; -002- Electroheating , 6 kW , including support and anchoring sytem	Base	No.	2		
d, 3-46	105-FN-001- 2 speed Fan; ambient air service ; 6000 and 2000 m3/h; 1000 Pa maximum speed 1500 tr/min	Base	No.	1		
Fabricated items						
d, 3-40	Lammellas for each of the sedimentation tanks, including support and anchoring system	Base	LS	4		
d, 3-41	Galvanized Steel Grating access platforms for tanks access as shown on the drawing MND-105-001 ; including support and anchoring system.	Base	m2	425		
d, 3-43	Galvanized Steel Grating access platforms with handrail inside the pump gallery as shown on the drawing MND-105-003 ; including support and anchoring system; including 2 m high stairs to sludge	Base	LS	1		
d, 3-44	Galvanized steel Stairs (3m 50 high, 1m 20 wide with handrails) for upper platform access	Base	LS	1		
d, 3-45	Galvanized Steel hand railing whatever the position including support system (120 cm high) as shown on drawing MND-105-001.	Base	ml	180		
d, 3-46	Galvanized Steel hand railing for the Effluent Collection Chamber structure including support and anchoring system (120 cm high) as shown on drawing MND-107-001.	Base	ml	16		
d, 3-47	Galvanized Steel Access hatch ; diameter 800 ; with ladder for pump gallery emergency exit; watertight to rain water.	Base	LS	1		
d, 3-48	Galvanized Steel Mixer access hatch; dimensions : 2m by 2m	Base	LS	2		
d, 3-49	Galvanized Steel Access hatch ; diameter 800 ; with ladder for sludge storgae inspection	Base	LS	2		
d, 3-50	Galvanized Equipment installation or removal access hatch; dimensions : 3.40 m by 2m; watertight to rain water.	Base	LS	1		
d, 3-51	Galvanized Steel Wall air intake louvers with weather protection in the pump gallery	Base	No.	2		
d, 3-52	Roof Fresh air intake (Galvanized Steel) with weather protection for the sludge storage	Base	No.	2		
d, 3-53	Monorails for sludge pump lifting, 9.75 m long, including manual crankset trolley hoist and all support systems	Base	No.	2		
d, 3-54	Monorails for pump lifting, 35 m long, including manual crankset trolley hoist and all support systems	Base	No.	1		
d, 3-55	Construction of an open light steel framed rain protection roof (6m ² and 2,8m high) covering the stairs down to the pump gallery, including:	Base	LS	1		
Pipes						
d, 3-60	All piping inside the pump gallery in accordance with the P&IDs, including all support and anchoring systems.	Base	LS	1		
d 3	Sub Total d,3 New Primary Settling Tanks					
Lot d,4 Solids Handling (area 200)						
Polymer Preparation (Area 201)						
d, 4-1	201-BF-001- big bag emptying station with Polymer storage vibrator; bulk polymer service ; Capacity:1000 kg	Base	No.	1		
d, 4-2	201-SW-001- screw conveyor; bulk polymer service ; Capacity:200 kg/h	Base	No.	1		
d, 4-3	201-DS-001- dosing screw; bulk polymer service ; Capacity:200 kg/h	Base	No.	1		
d, 4-4	201-MX-001; -002- vertical slow mixer; liquid polymer service ; Capacity:100 rpm max	Base	No.	2		
d, 4-5	201-PC-101;-201; -301- Progressing cavity pump; liquid polymer service ; capacity:1 to 3 m3/h, Motor with gear.	Base	No.	3		
d, 4-6	201-MF-101;-201; -301- magnetic flow meter (progressive cavity pump); liquid polymer service ; capacity:0 to 3 m3/h; ND 30	Base	No.	3		
d, 4-7	201-SV-001- solenoid valve; drinking water service ;size:ND45	Base	No.	1		
d, 4-8	201-SV-101;-201; -301- solenoid valve; drinking water service ;size:ND30	Base	No.	3		
d, 4-9	201-MV-101;-201; -301 - Motorized valve for polymer dilution; drinking water service ;size:ND30	Base	No.	3		
d, 4-10	201-MF-102; -202; -302- magnetic flow meter (for dilution); drinking water service ; capacity:0 to 3 m3/h; ND 30	Base	No.	3		
d, 4-11	201-SUR-001- Surpression pump with vessel; drinking water service ; capacity:12 m3/h; 3 bars	Base	No.	1		

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Dewatering (Area 202)						
d, 4-21	202-BT&FP-101; -201; 301 - Gravity belt thickener combined with Belt filter Press; primary sludge service ; capacity:belt width 2m; 28 m ³ /h; 1000 kg SS/h; including air compressor, washwater pump, piping, valves, and all appurtenances; including support system and floor anchors; including any necessary access platform for maintenance.	Base	No.	3		
d, 4-23	202-SW-101; -201- Screw conveyor;dewatered primary sludge service ; capacity:5 wet t/h;8 m; Ø 328 mm. Including all support and anchoring systems. Including connections to downstream and upstream equipment.	Base	No.	2		
d, 4-24	202-SW-301- Screw conveyor; primary sludge service ; capacity:5 wet t/h;13 m; Ø 328 mm. Including all support and anchoring systems. Including connections to downstream and upstream equipment.	Base	No.	1		
Sludge liming, conveying and storage (Area 203-204)						
d, 4-31	203-LB-101; 201- lime storage silo; useful volume: 50 m ³ ; including dust filter, archbreaker of 100 to 500 kg/h and Ø 2 m; with two connections to dosing screws per silo. Including all support and	Base	No.	3		
d, 4-32	203-DS-101; 301- screw dosing; 100 to 500 kg/h , Ø 70 mm	Base	No.	2		
d, 4-33	203-DS-201- screw dosing; 100 to 500 kg/h , Ø 70 mm, with connection to silo 203-LB-101 and -201 for operation on one or the other of the two silos. Including all support and anchoring systems.	Base	No.	1		
d, 4-36	203-SW-101, -301 - lime screw conveyor; 100 to 500 kg/h ,5m, ,Ø 80mm. Including all support and anchoring systems.	Base	No.	2		
d, 4-37	203-SW-201- lime screw conveyor; 100 to 500 kg/h ,8.50m, ,Ø 80mm. Including all support and anchoring systems.	Base	No.	1		
d, 4-38	203-SW-102; 202; -302 - screw injector; 100 to 500 kg/h ,1m,Ø 80mm. Including all support and anchoring systems.	Base	No.	3		
d, 4-39	203-SM-101; 201; -301- Sludge-lime mixer; lime-sludge service ; capacity:sludge 4.5 m ³ /h; lime:0.6 m ³ /h. Including all support and anchoring systems. Including connections to downstream and	Base	No.	3		
d, 4-40	203-SW-001; -002- skip feeding screw conveyor; limed sludge service ; capacity:20 wet t/h; 15 m. Including all support and anchoring systems. Including connections to downstream and upstream	Base	No.	2		
d, 4-41	203-BC-001- Stand-by belt conveyor(between 203-SW-001 &002); limed sludge service ; capacity:10 wet t/h; 7 m. Including removable connections to the inlet hopper of 203-SW-001 and -002.	Base	No.	1		
d, 4-42	204-SK-001 to -006 limed sludge skips; Grit service ; Capacity:25 m ³ ; including cover and all accessories	Base	No.	6		
d, 4-42	202-HT-001; -002- Liming room Electroheating; ambient air service ; Capacity:delta T= 10 oC	Base	No.	2		
Foul water sump (Area 205)						
d, 4-51	205-SP-001- Submerged sump pump; Foul water service ; capacity:200 m ³ /h; 10 m TDH. Including pipes, connections, valves and accessories for operation as one duty+ one standby.	Base	No.	2		
Ventilation and Odor Treatment for Sludge Building (Area 206)						
d, 4-67	HVAC equipment for proper anti-freeze heating and ventilation of the various rooms of the building.	Base	LS	1		
Solids Building HVAC (Area 200)						
d, 4-70	200-AC-001- Air conditioning unit for electrical room; ambient air service ; Capacity:100 m ³ /h, 10oC cooling	Base	No.	1		
d, 4-71	200-FN-001; -002- Exhaust ventilation 2-speed Fan; ambient air service ; Capacity:8000 and 2700 m ³ /h	Base	No.	2		
d, 4-72	200-HT-001 to -005- Solids handling room Electroheating; ambient air service ; Capacity:delta T= 10 oC; 6 kW	Base	No.	5		
Fabricated items and handling equipment for all Zone 200						
d, 4-100	Galvanized Steel Grating above all slab drains shown on the Drawings including support system.	Base	LS	1		
d, 4-101	Wall air intake louvers with weather protection	Base	No.	8		
d, 4-102	Stainless Steel plate for deflecting the limed sludge to the Belt conveyor 203-BC-001, in case the Screw Conveyor 203-SW-001 or -002 is out of order.	Base	No.	1		
Pipes						
d, 4-110	All piping inside the sludge handling building in accordance with the P&IDs, including all support and anchoring systems.	Base	LS	1		
d 4	Sub Total d4, Solids handling					

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Lot d,5		Service Water and Substation Building (area 110 and 400)				
d, 5-1	102-SV-811 and -812; Solenoid Valves DN40 ; decanted water service	Base	No.	1		
d, 5-2	110-TK-001 and -002; Fiberglass water tank for well water ; Capacity:7,5 m3 each Including all appurtenances	Base	No.	1		
d, 5-3	110-TK-111; Fiberglass water tank for decanted water ; Capacity:7,5 m3 each Including all appurtenances	Base	No.	1		
d, 5-4	110-HW-001- Water hammer Tank; well water service ; Capacity:6 bar, 15 m3/h Including 2 supression pumps (one duty, one standby) and all appurtenances.	Base	No.	1		
Building HVAC						
d, 5-10	200-AC-001; -002- Air conditioning unit for substation rooms; ambient air service ; Capacity:100 m3/h, 10oC cooling	Base	No.	2		
d, 5-11	Wall air intake louvers with weather protection	Base	No.	4		
Pipes						
d, 5-20	All piping inside the building in accordance with the P&IDs, including all support and anchoring systems.	Base	LS	1		
d 5	Sub Total d5, Service water and new substation					
Lot d,6		Outlet structure (area 107)				
d, 6-01	107-SP-801- Submersible pump drainage sump; Foul water service ; Capacity:50 m3/h ; 1,3 m TDH	Base	No.	2		
Lot d,10		Instrumentation				
Instruments Area 101-102						
d, 10-1	101-FL-001- Float level sensor; raw wastewater service; Including all electrical and automation connections.	Base	No.	1		
d, 10-2	101-TI-001- Ultrasonic level sensor; raw wastewater service; Including all electrical and automation connections.	Base	No.	1		
d, 10-3	101-UF-002- Temperature sensor; raw wastewater service; Including all electrical and automation connections.	Base	No.	1		
d, 10-4	102-UF-001- Ultrasonic level sensor; raw wastewater service; Including all electrical and automation connections.	Base	No.	1		
d, 10-5	102-UF-002- Ultrasonic level sensor; raw wastewater service; Including all electrical and automation connections.	Base	No.	1		
Instruments Area 103						
d, 10-10	103-FL-001- Float level; Foul water service ; Including all electrical and automation connections.	Base	No.	1		
d, 10-11	103-FL-002- Float level; Foul water service ; Including all electrical and automation connections.	Base	No.	1		
d, 10-12	103-LS-001- Capacitive Level Sensor; Foul water service ; Including all electrical and automation connections.	Base	No.	1		
d, 10-13	103-LS-501- Capacitive Level Sensor; Grit water service ; Including all electrical and automation connections.	Base	No.	1		
d, 10-14	103-LS-502- Capacitive Level Sensor; Grit water service ; Including all electrical and automation connections.	Base	No.	1		
Instruments Area 105						
d, 10-20	105-FL-101; -201; 301; -401- Float Level indicator; wastewater service ; Including all electrical and automation connections.	Base	No.	4		
d, 10-21	105-SBL-101; -201; 301; -401- Sludge blanquet level Sensor; wastewater service ; Including all electrical and automation connections.	Base	No.	4		
d, 10-22	105-LS-501; -601- capacitive Level sensor; Including all electrical and automation connections.	Base	No.	2		
d, 10-23	105-FL-801- Float level sensor for alarm; Including all electrical and automation connections.	Base	No.	1		
d, 10-24	105-PI-801-Pressure Gauge; 0-10 Bar; ND 120; Including all electrical and automation connections.	Base	No.	1		
d, 10-25	105-PI-811-Pressure Gauge; 0-10 Bar; ND 40; Including all electrical and automation connections.	Base	No.	1		
Instruments Area 201						
d, 10-30	201-FL-001 to 004- Float level sensors; liquid polymer service ; Including all electrical and automation connections.	Base	No.	4		
d, 10-31	201-FL-005- Blockage Level sensor ; polymer powder service ;Including all electrical and automation connections.	Base	No.	1		
d, 10-32	201-PI-101;-201; -301- Manometer with local pressure indication; drinking water service ; capacity:0-5 Bar, ND 30; Including all electrical and automation connections.	Base	No.	3		

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Instruments Area 202						
d, 10-40	202-GDS-001, -002- Gas detector H2S; ambient air; Including all electrical and automation connections.	Base	No.	2		
d, 10-41	202-GDN-001; -002- Gas detector NH3; ambient air; Including all electrical and automation connections.	Base	No.	2		
d, 10-42	202-FL-101; -201; -301- Blockage Level sensor ; dewatered primary sludge; Including all electrical and automation connections.	Base	No.	3		
Instruments Area 203						
d, 10-45	203-GDS-001- Gas detector H2S; ambient air ; Including all electrical and automation connections.	Base	No.	1		
d, 10-46	203-GDN-001- Gas detector NH3; ambient air ; Including all electrical and automation connections.	Base	No.	1		
d, 10-47	203-FL-101; -201; -301- Blockage Level sensor ; limed sludge; Including all electrical and automation connections.	Base	No.	3		
Instruments Area 205						
d, 10-50	205-LS-001- Capacitive level sensor; Foul water service; Including all electrical and automation connections.	Base	No.	1		
d, 10-51	205-FL-001- Float level sensor; Foul water service; Including all electrical and automation connections.	Base	No.	2		
Instruments Area 110						
d, 10-60	110-FL-101, -102, -103 Float level sensor for well water tank 1; Including all electrical and automation connections.	Base	No.	3		
d, 10-61	110-FL-201, -202, -203 Float level sensor for well water tank 2; Including all electrical and automation connections.	Base	No.	3		
d, 10-62	110-FL-111, -112, -113 Float level sensor for decanted water tank; Including all electrical and automation connections.	Base	No.	3		
d 10	Sub total d 10, Instrumentation					
Lot d,11	Electrical Equipment					
Electrical equipments Area 400						
d, 11-01	Diversion and burying of the existing line MT to feed the main substation including	Base	Ls	1		
d, 11-02	Transformer 6kV/0,4kV 800kVA	Base	No.	2		
d, 11-03	MV arrival cell	Base	No.	1		
d, 11-04	MV departure cell	Base	No.	1		
d, 11-05	MV metering cell	Base	No.	1		
d, 11-06	MV general circuit breaker cell	Base	No.	1		
d, 11-07	MV transformer protection cell	Base	No.	2		
d, 11-08	Reactive power compensation capacitor for cos Phi > 0,97	Base	No.	1		
d, 11-09	LV General Cupboard, including all components, departure protections, relays, internal cabling, accessories, etc...	Base	Ls	1		
d, 11-10	LV cable from the general cupboard to all concerned equipments in accordance at the corresponding single line diagram.	Base	Ls	1		
d, 11-11	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete	Base	Ls	1		
d, 11-12	Ceiling surface mounted weather proof lighting fixture (IP-54) including 2X36 W fluorescent day light lamp including flat prismatic diffuser completed including electronic ballast, mounting brackets, wires,	Base	Ls	1		
d, 11-13	One way, one-gang and two-gang 10/16A lighting switch completed including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-14	2pole including earth single socket of 16A, 240V, height 110cm AFFL completed including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-15	Exit sign emergency lighting fixture of 1X8W fluorescent lamp supplied with self-contained nickel cadmium battery for 3 hours duration completed including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-16	Outdoor hot dipped galvanized steel lighting post of height 6 m equipped with junction box, with one flood lighting fixtures, each completed with 150 watt high-pressure sodium to be protected by a MCB	Base	Ls	1		
d, 11-17	Safety equipment for transformer station.	Base	Ls	1		
Electrical equipments Area 401						
d, 11-20	MV cable for connecting the new main sub-station at the existing sub-station.	Base	m	130		

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		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
d, 11-21	Temporary gas-oil generator 400V 400kVA for supply the existing installation during the diversion of the MV cable, including all connections at the existing general cupboard, supply and temporary	Base	Ls	1		
	Electrical equipments Area 402					
d, 11-25	Screening divisional cupboard, including all components, departure protections, relays, internal cabling, accessories, etc...	Base	Ls	1		
d, 11-26	LV cable from the divisional cupboard to all concerned equipments in accordance with the corresponding single line diagram.	Base	Ls	1		
d, 11-27	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete	Base	Ls	1		
d, 11-28	Ceiling surface mounted weather proof lighting fixture (IP-54) with 2X36 W fluorescent day light lamp with flat prismatic diffuser complete with electronic ballast, mounting brackets, wires, cables,	Base	Ls	1		
d, 11-29	One way, one-gang and two-gang 10/16A lighting switch complete including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-30	2pole with earth single socket of 16A, 240V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-31	Exit sign emergency lighting fixture of 1X8W fluorescent lamp supplied with self-contained nickel cadmium battery for 3 hours duration complete with wires, cables, raceways and accessories.	Base	Ls	1		
	Electrical equipments Area 101					
d, 11-35	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete	Base	Ls	1		
	Electrical equipments Area 102					
11-40	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete	Base	Ls	1		
	Electrical equipments Area 103					
d, 11-45	GG removal tank and primary settling tank divisional cupboard, including all components, departure protections, relays, internal cabling, accessories, etc...	Base	Ls	1		
d, 11-46	LV cable from the divisional cupboard to all concerned equipments in accordance with the corresponding single line diagram.	Base	Ls	1		
d, 11-47	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete	Base	Ls	1		
d, 11-48	Ceiling surface mounted weather proof lighting fixture (IP-54) with 2X36 W fluorescent day light lamp with flat prismatic diffuser completed with electronic ballast, mounting brackets, wires, cables,	Base	Ls	1		
d, 11-49	One way, one-gang and two-gang 10/16A lighting switch completed with wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-50	2pole including earth single socket of 16A, 240V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-51	Three phase including earth weather proof single socket of 32A, 400V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-52	Exit sign emergency lighting fixture of 1X8W fluorescent lamp supplied with self-contained nickel cadmium battery for 3 hours duration complete including wires, cables, raceways and accessories.	Base	Ls	1		
	Electrical equipments Area 105					
d, 11-55	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete	Base	Ls	1		
d, 11-56	Ceiling surface mounted weather proof lighting fixture (IP-54) with 2X36 W fluorescent day light lamp with flat prismatic diffuser complete including electronic ballast, mounting brackets, wires, cables,	Base	Ls	1		
d, 11-57	One way, one-gang and two-gang 10/16A lighting switch complete including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-58	2pole with earth single socket of 16A, 240V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-59	Three phase with earth weather proof single socket of 32A, 400V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-60	Exit sign emergency lighting fixture of 1X8W fluorescent lamp supplied with self-contained nickel cadmium battery for 3 hours duration complete including wires, cables, raceways and accessories.	Base	Ls	1		
	Electrical equipments Area 107					
d, 11-65	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete	Base	Ls	1		
	Electrical equipments Area 200					
d, 11-70	LV cable for connecting the new main sub-station at the Sludge Building divisional cupboard.	Base	Ls	1		
d, 11-71	LV cable from the divisional cupboard to all concerned equipments in accordance with the corresponding single line diagram.	Base	Ls	1		
d, 11-72	Complete protective earthing system including earthing pits, earthing electrodes, test links and distribution busbars, earth continuity conductors, earthing conductor to switchboards, .etc. complete	Base	Ls	1		
d, 11-73	Screening, Grit removal and Primary settling tank divisional cupboard, including all components, departure protections, relays, internal cabling, accessories, etc...	Base	Ls	1		
d, 11-74	Ceiling surface mounted weather proof lighting fixture (IP-54) with 2X36 W fluorescent day light lamp with flat prismatic diffuser complete including electronic ballast, mounting brackets, wires, cables,	Base	Ls	1		
d, 11-75	One way, one-gang and two-gang 10/16A lighting switch complete including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-76	2pole with earth single socket of 16A, 240V, height 110cm AFFL complete including wires, cables, raceways and accessories.	Base	Ls	1		
d, 11-77	Exit sign emergency lighting fixture of 1X8W fluorescent lamp supplied with self-contained nickel cadmium battery for 3 hours duration complete including wires, cables, raceways and accessories.	Base	Ls	1		
d 11	Sub total d 11, Electrical equipments					

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Aeratsia WWTP						
		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
Lot d,12 Automation						
Automation equipments Control Center Room						
d, 12-01	RTU 1 according to description in the specification and drawing including all accessories.	Base	Ls	1		
d, 12-02	Ethernet / Fiber optic switch.	Base	U	1		
d, 12-03	Industrial PC with Armenian keyboard and optical mouse.	Base	Ls	1		
d, 12-04	Screen 23 inches	Base	U	1		
d, 12-05	Colour printer including cartridges	Base	Ls	1		
d, 12-06	Uninterruptable power supply (UPS) at 4 hours, (240V) of rating 1 kVA complete including all necessary accessories and ancillary materials required for complete installation.	Base	Ls	1		
d, 12-07	Software and licenses	Base	Ls	1		
d, 12-08	Control / command cupboard for integration of the RTU ; including all accessories equipments (light, relays, switch, etc...)	Base	Ls	1		
Automation equipments in Plant		Base	Ls	1		
d, 12-10	Fiber optic cable	Base	m	400		
Automation equipments Area 400						
d, 12-15	RTU 4 according to description in the specification and drawing including all accessories.	Base	Ls	1		
d, 12-16	Control / command cupboard for integration of the RTU ; including all accessories equipments (light, relays, switch, etc...)	Base	Ls	1		
d, 12-17	Uninterruptable power supply (UPS) at 4 hours, (240V) of rating 1 kVA complete including all necessary accessories and ancillary materials required for complete installation.	Base	Ls	1		
Automation equipments Areas 101 - 102 & 402						
d, 12-20	RTU 2 according to description in the specification and drawing including all accessories.	Base	Ls	1		
d, 12-21	Control / command cupboard for integration of the RTU and all accessories equipments (light, relays, switch, etc...)	Base	Ls	1		
d, 12-22	Uninterruptable power supply (UPS) at 4 hours, (240V) of rating 1 kVA complete with all necessary accessories and ancillary materials required for complete installation.	Base	Ls	1		
Automation equipments Area 103-105						
d, 12-25	RTU 3 according to description in the specification and drawing including all accessories.	Base	Ls	1		
d, 12-26	Control / command cupboard for integration of the RTU and all accessories equipments (light, relays, switch, etc...)	Base	Ls	1		
d, 12-27	Uninterruptable power supply (UPS) at 4 hours, (240V) of rating 1 kVA complete with all necessary accessories and ancillary materials required for complete installation.	Base	Ls	1		
Automation equipments Area 200						
d, 12-30	RTU 5 according to description in the specification and drawing including all accessories.	Base	Ls	1		
d, 12-31	Control / command cupboard for integration of the RTU and all accessories equipments (light, relays, switch, etc...)	Base	Ls	1		
d, 12-32	Uninterruptable power supply (UPS) at 4 hours, (240V) of rating 1 kVA complete with all necessary accessories and ancillary materials required for complete installation.	Base	Ls	1		
d 12	Sub total d 12, Automation					
e) TECHNICAL ASSISTANCE						
1	Operator's Personnel training on the equipment maintenance	Base	LS	1		
2	O&M manual training	Base	LS	1		
f) MAINTENANCE SERVICES Պահպանման ծառայություն						
g) INTERNATIONAL TRANSPORT Միջազգային տեղափոխում(տրանսպորտ)						
Lot g,1 Contractor to detail as needed:						
1	...	Base				
2	...	Base				
h) LOCAL TRANSPORTS Տեղական տեղափոխում (տրանսպորտ)						
Lot h,1 Contractor to detail as needed:						
1	...	Base				

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Aeratsia WWTP		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
2	...	Base				
i) INSURANCES Ապահովագրություն						
Lot i,1		Contractor to detail as needed:				
1	...	Base				
2	...	Base				
j) OTHER (Contractor to detail) այլ (մանրամասները շինարարի կողմից)						
Lot j,1						
Lot j,2						

SUMMARY TABLE		Sub Total	TOTAL [in EUR] Ընդամենը
a) ENGINEERING STUDIES			
	a1 preparation phase		
	a2 project closing phase		
b) CIVIL WORKS			
	b1, inlet chamber & screening		
	b2, grit & grease removal		
	b3, PST		
	b4, Sludge building		
	b5, service water & new substation room		
	b6, outlet structures		
	b7, Rehabilitation of electrical room		
	b10, Site		
	b11, yard piping		
	b15, mobilisation & temporary works		
c) SUPPLIES			
	c1, inlet chamber & screening		
	c2, grit & grease removal		
	c3, PST		
	c4, Sludge building		
	c5, service water & new substation room		
	c10, instrumentation		
	c11, electrical equipment		
	c12, automation		
d) INSTALLATION			
	d1, inlet chamber & screening		
	d2, grit & grease removal		
	d3, PST		
	d4, Sludge building		
	d5, service water & new substation room		
	d10, instrumentation		
	d11, electrical equipment		
	d12, automation		
e) TECHNICAL ASSISTANCE			
f) MAINTENANCE SERVICES			
g) INTERNATIONAL TRANSPORT			
h) LOCAL TRANSPORTS			
i) INSURANCES			
j) OTHER			
TOTAL			

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Instructions to bidders: the Bidders shall provide a cost for all items. The ID number of items listed below shall not be modified.

Aeratsia WWTP						
		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
TOTAL (contract)						
a) ENGINEERING STUDIES Ինժեներական ուսումնասիրություններ						
Lot a,1	Preparation Phase					
Lot a,2	Project Closing Phase					
1-5	O&M manual translated in Armenian	Option	LS	1		
b) CIVIL WORKS Ընդհանուր շինարարական աշխատանքներ						
Lot b,1	Inlet Chamber and Screening (zones 101 & 102): Construct, Testing and Handing Over in good conditions in accordance with the Drawings and Specifications for the following Items:					
	Structure 6: Shed over the skips slab					
b, 1-15	Construction of an open light steel framed shaded area (200m ² and 5m high) covering the skips, and allowing for its normal operation with trucks loading and unloading in particular, including: - supply and installation of galvanized steel frame (columns, primary and secondary beams, struts and all necessary steel works for the support of the roofing system, and including all fixation systems such as foundations plates, bolting, welding and connections). - supply and installation of corrugated galvanized steel single sheets (corrugation height: 39mm; thickness: 0.63mm; pre-lacquered upper face) or equivalent, overlapping, all fixation systems and all associated works, - supply and installation of gutters and downspouts, including fixation system and connection to the bottom infiltration well, - supply and placement of infiltration wells, constituted of manholes with no bottom part (0.4m x 0,4m x 1,2mht) filled with gravel 20/40mm, at ground level below gutters for infiltration of stormwater from the roof and including necessary earthworks, - and all material needed for workmanship.	Option	LS	1		
Lot b,2	Grit & Grease Removal (zone 103): Construct, Testing and Handing Over in good conditions in accordance with the Drawings and Specifications for the following Items:					
	Structure 7: Shed over the grit skips					
b, 2-30	Construction of an open light steel framed shaded area (100m ²) covering the grit skips only, and allowing for its normal operation with trucks loading and unloading in particular, including: - supply and installation of galvanized steel frame (columns, primary and secondary beams, struts and all necessary steel works for the support of the roofing system, and including all fixation systems such as foundations plates, bolting, welding and connections). - supply and installation of corrugated galvanized steel single sheets (corrugation height: 39mm; thickness: 0.63mm; pre-lacquered upper face) or equivalent, overlapping, all fixation systems and all associated works, - supply and installation of gutters and downspouts, including fixation system and connection to the bottom infiltration well, - supply and placement of infiltration wells, constituted of manholes with no bottom part (0.4m x 0,4m x 1,2mht) filled with gravel 20/40mm, at ground level below gutters for infiltration of stormwater from the roof and including necessary earthworks, - and all material needed for workmanship.	Option	LS	1		

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Aeratsia WWTP		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
Lot b,4	Solids Handling Building (zone 200)					
	Shed over the sludge skips					
b, 4-12	Construction of an open light steel framed shaded area (200m ²) covering the skips, and allowing for its normal operation with trucks loading and unloading in particular, including: - supply and installation of galvanized steel frame (columns, primary and secondary beams, struts and all necessary steel works for the support of the roofing system, and including all fixation systems such as foundations plates, bolting, welding and connections). - supply and installation of corrugated galvanized steel single sheets (corrugation height: 39mm; thickness: 0.63mm; pre-lacquered upper face) or equivalent, overlapping, all fixation systems and all associated works, - supply and installation of gutters and downspouts, including fixation system and connection to the bottom infiltration well, - supply and placement of infiltration wells, constituted of manholes with no bottom part (0.4m x 0,4m x 1,2mht) filled with gravel 20/40mm, at ground level below gutters for infiltration of stormwater from the roof and including necessary earthworks, - and all material needed for workmanship.	Option	LS	1		
b, 5	Odor Treatment (biofilters) Slab					
b, 5.1	Earthworks, including: - clearing, grubbing and stripping, - demolition of existing structures or part of structures of any type, if any and as necessary, and disposal onsite, at a location approved by the Engineer, - excavation in all type of soil up to the level reported on drawings, including all necessary support and retaining structures during the works to ensure the stability of the excavation, and dispose on site of surplus of material if any and as directed by the Engineer, - dewatering and all necessary works for keeping the excavations dry during the works, - fills and/or backfills with selected excavated material or material from borrow areas upon the Engineer's approval up to the levels reported on drawings, including compaction, - foundation subgrade preparation or substitution, as necessary, including compaction up to 95% of the maximum dry density in accordance with ASTM D698, - compaction testing, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	option	LS	1		
b, 5.2	Concrete works, including: - supply and placement of concrete of any type as required (blinding concrete, grout and finishing concrete, mass concrete, structural concrete), - vibrating, curing, striking, - concrete testing, - all construction, expansion and contraction joints, as necessary according to the applicable Standards, - all necessary works for the connections with adjoining concrete structures, including watertight connections of any type if needed, - all equipment pads, where necessary, - shuttering, formwork, - steel reinforcement (supply and placement), including all bending, cutting and assembling activities, - steel reinforcement testing, - coordination with all equipment installation works. Some equipment require cast-in-place positioning (railings, frames, etc.) - minimum slope of the top surface toward the finished ground level: 0.5%, - and all material needed for workmanship, according to drawings, specifications, conditions and as directed by the Engineer.	option	LS	1		
b, 5	Sub Total Odor Treatment (biofilters) Slab					
Lot b,10	Site (roads, retaining wall, fencing, handling equipment,...)					
	Roads					
b, 10-15	Provide and paint road marking as per the Technical Specifications	Option	ml	1		
	Fencing					

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Aeratsia WWTP			Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
b, 10-25		Fencing works shall include: Supply and fixation of galvanized iron stakes of a C-shaped section (angular) 50 x 50 x 5 mm, measuring height of 1.80m off the ground, which will be fixed in a C12/15 concrete base, measuring 0.40 x 0.40 x 0.50m. Galvanized iron stakes shall be placed every 3m along the required fencing length and in combination with a wire netting featuring loops that measure 5cm x 5cm, 1.80m height and 2.2mm thickness. The wire netting shall be fixed onto three wire rails running along the fencing.	Option	lm	430		
b 10	Sub total b10 Site						
Lot b,11	Yard Piping						
	Primary Sludge						
b, 11-41		Sludge feed to future dewatering unit 4; DN150 Diameter; Primary sludge Service; Pressure: 1 Bar; approx. buried length: 160 m. Including all connections and fittings to and from connecting Works	Option	ml	160		
b, 11-42		Access prefabricated manholes with Cast iron removal cover for future connection to and from the digestion facilities, as indicated on the drawings	Option	LS	2		
b 11	Sub Total b11, Yard piping						
Lot b,20	Daywork						
	Labour Charges						
b, 20-1		Unskilled Labour	Option	hr	0		
b, 20-2		Semi-skilled Labour	Option	hr	0		
b, 20-3		Skilled Labour	Option	hr	0		
b, 20-4		Operator for light general equipment	Option	hr	0		
b, 20-5		Operator for heavy general equipment	Option	hr	0		
	Labour Charges						
b, 20-10		Compressor 5 m³/hr max	Option	hr	0		
b, 20-11		Compressor 5/15 m³/hr	Option	hr	0		
b, 20-12		Compressor 15/30 m³/hr	Option	hr	0		
b, 20-13		Mobile crane 5 tons max	Option	hr	0		
b, 20-14		Mobile crane 5/20 tons	Option	hr	0		
b, 20-15		Mobile crane 20/40 tons	Option	hr	0		
b, 20-16		Dumper 4/6 tons pay load	Option	hr	0		
b, 20-17		Dumper 4/6 tons pay load	Option	hr	0		
b, 20-18		Dumper 10/20 tons pay load	Option	hr	0		
b, 20-19		Dumper 20/40 tons pay load	Option	hr	0		
b, 20-20		Excavator 50 hp max	Option	hr	0		
b, 20-21		Excavator 50/100 hp	Option	hr	0		
b, 20-22		Excavator 100/400 hp	Option	hr	0		
b, 20-23		Excavator 200/400 hp	Option	hr	0		
b, 20-24		Lorry 1,5 ton max pay load	Option	hr	0		
b, 20-25		Lorry 1,5/5 tons pay load	Option	hr	0		
b, 20-26		Lorry 5/15 tons pay load	Option	hr	0		
b, 20-27		Lorry 15/35 tons pay load	Option	hr	0		
b, 20-28		Concrete mixer 500 litres max	Option	hr	0		
b, 20-29		Concrete mixer greater than 500 litres	Option	hr	0		
b, 20-30		Water pump 3 kw max	Option	hr	0		
b, 20-31		Water pump 3/8 kw	Option	hr	0		
b, 20-32		Water pump 8/20 kw	Option	hr	0		
b, 20-33		Mechanical hammer	Option	hr	0		
b, 20-34		Compactor 5 hp max	Option	hr	0		

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		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
b, 20-35	Compactor 15/40 hp	Option	hr	0		
b, 20-36	Compactor 40/100 hp	Option	hr	0		
b, 20-37	Compactor 100/200 hp	Option	hr	0		
b, 20-38	Tractor type Cat D4 or similar (with doze and ripper)	Option	hr	0		
b, 20-39	Tractor type Cat D5 or similar (with doze and ripper)	Option	hr	0		
b, 20-40	Tractor type Cat D6 or similar (with doze and ripper)	Option	hr	0		
b, 20-41	Tractor type Cat D7 or similar (with doze and ripper)	Option	hr	0		
b, 20-42	Tractor type Cat D8 or similar (with doze and ripper)	Option	hr	0		
b, 20-43	Showel loader 150 hp	Option	hr	0		
b, 20-44	Showel loader 270 hp	Option	hr	0		
b, 20-45	Grader 150 hp max	Option	hr	0		
b, 20-46	Grader more than 150 hp	Option	hr	0		
b, 20-47	Generator 5 kVA max	Option	hr	0		
b, 20-48	Generator 5/25 kVA	Option	hr	0		
b, 20-49	Generator 25/50 kVA	Option	hr	0		
b, 20-50	Generator more than 50 kVA	Option	hr	0		
	Materials					
b, 20-55	Sand	Option	m3	0		
b, 20-56	Gravel	Option	m3	0		
b, 20-57	90/100 for substitution	Option	m3	0		
c) SUPPLIES Մատակարարում						
All items shall be in accordance with the Drawings and Specifications						
Lot c,1	Inlet Chamber and Screening (Area 101-102).					
	Equipment					
c, 1-12	101-NZ-001; 002; Air Nozzle flush; compressed air service ; Capacity:1.5 l/s	Option	No.	2		
c, 1-13	101-SV-001- Solenoid Valve; compressed air service ; Capacity:1.5 l/s	Option	No.	1		
c, 1-22	102-BL-001- Air Compressor; air service ; Capacity:3 l/s free air delivery Including support and anchoring system and all accessories	Option	No.	1		
c, 1-23	102-NZ-001; -002- Air Nozzle flush; compressed air service ; Capacity:1.5 l/s; including all air piping to air compressor	Option	No.	2		
c, 1-24	101-SV-001- Solenoid Valve; compressed air service ; Capacity:3 l/s	Option	No.	1		
	Fabricated items					
c, 1-36	Replace Galvanized Steel grating by GRP Grating access platforms to fine and coarse screens including support and anchoring system, as shown on the drawing MND-101-000	Option	LS	1		
c, 1-39	Replace all Galvanized Steel Ladders to platform by GRP ladders. Including support and anchoring system (80 cm wide x 1 m high)	Option	LS	1		
Lot c1	Sub total c1, inlet chamber and screening					
Lot c,2	Grit & Grease Removal (Area 103 and 300). All items shall be in accordance with the Drawings and Specifications					
c, 2-14	103-GC-513- Grit Classifier; Grit service ;Capacity:100 m3/h ; including pipes, valves and accessories	Option	No.	1		
c, 2-18	103-GA-504/505/507/508/510 - Gate Valves - Grit and water service ; Diameter 150mm ; used to select the grit classifier in operation	Option	No.	5		
	Odor treatment of the Foul water sump and Sludge Storage (Area 300)					

Bill Of Quantity
Options for Alternative Proposal



Aeratsia WWTP						
		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
c, 2-25	300-AV-001; -002 - Air Regulating Valve for sludge storage 1 and 2; Foul air service; Dimension:DN250	Option	LS	1		
c, 2-26	300-AV-003- Air Regulating Valve for foul water pit; Foul air service ;Dimension:DN80	Option	LS	1		
c, 2-27	300-FN-001- 2 speed Fan; Foul air service ; Capacity:DN 300, 3100 and 2100 m3/h; 1000 Pa maximum speed 1500 tr/min Including all appurtenances	Option	LS	1		
c, 2-28	300-HT-001- Heater; Foul air service ; Capacity:2100 m3/h , Air temperature increase 10 degrees C. Including all appurtenances	Option	LS	1		
c, 2-29	300-TK-001- Biofilter with Thermal insulation and air diffusion and water sprinkler systems; Foul air service ; Capacity:3100 m3/h, 550 m/h air flow speed; Media bed 1,05 m deep Including all appurtenances	Option	LS	1		
	Fabricated items					
c, 2-42	Replace Galvanized Steel Grating by GRP grating access platforms at the inlet and outlet of the grit tanks as shown on the drawing MND-103-001 ; including support and anchoring system, including all penetrations for valve actuators.	Option	m2	115		
	Pipes					
c, 2-76	All DN 200 piping for grit water service within the pump room and to 2 grit classifiers, including all valves, fittings, and accessories. The price indicated shall be the difference with the base bid (piping to 3 classifiers)	Option	LS	1		
Lot c2	Sub total, Grit&grease removal					
Lot c,3	New primary clarifiers (Area 105). All items shall be in accordance with the Drawings and Specifications					
	Fabricated items					
c, 3-42	Replace Galvanized Steel grating by GRP Grating access platforms for tanks access as shown on the drawing MND-105-001 ; including support and anchoring system.	Option	m2	425		
Lot c,4	Solids Handling (area 200)					
	Sludge liming, conveying and storage (Area 203-204)					
c, 4-34	203-LB-301- lime storage silo; useful volume: 50 m3; including dust filter, archbreaker of 100 to 500 kg/h and Ø 2 m; with two connections to dosing screws. Including all support and anchoring systems.	Option	No.	1		
c, 4-35	203-DS-201- screw dosing; 100 to 500 kg/h , Ø 70 mm, with connection to silo 203-LB-201 only. Including all support and anchoring systems.	Option	No.	1		
	Ventilation and Odor Treatment for Sludge Building (Area 206)					
c, 4-61	206-AV-001; -002; -003 Air Regulating Valves for dewatering Unit 1, 2 and 3; Foul air service; Dimension:DN40	Option	LS	1		
c, 4-62	206-AV-004- Air Regulating Valve for liming room; Foul air service ;Dimension:DN400	Option	LS	1		
c, 4-63	206-AV-005- Air Regulating Valve for foul water pit; Foul air service ;Dimension:DN80	Option	LS	1		
c, 4-64	206-FN-001- 2-speed Fan; Foul air service ; Capacity:DN 400, 8600 & 2800 m3/h; 1000 Pa Including all appurtenances	Option	LS	1		
c, 4-65	206-TK-001- Biofilter with air diffusion and water sprinkler systems; Foul air service ; Capacity:8600 m3/h, 550 m/h air flow speed; Media bed 1,05 m deep Including all appurtenances	Option	LS	1		
c, 4-66	All air piping including Air suction pipes from dewatering units, lime-mixer units, main collector for dewatering room, main collector for liming room, piping to and from the Fan to the biofilter, piping from the biofilter cover to the outside. Include all fittings necessary and an air outlet louver	Option	LS	1		
Lot c4	Sub total, solids handling					
d) INSTALLATION Մոնտաժային աշխատանքներ						
Lot d,1	Inlet Chamber and Screening (Area 101-102).					
	Equipment					

Bill Of Quantity Options for Alternative Proposal

Aeratsia WWTP						
		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
d, 1-12	101-NZ-001; 002; Air Nozzle flush; compressed air service ; Capacity:1.5 l/s	Option	No.	2		
d, 1-13	101-SV-001- Solenoid Valve; compressed air service ; Capacity:1.5 l/s	Option	No.	1		
d, 1-22	102-BL-001- Air Compressor; air service ; Capacity:3 l/s free air delivery Including support and anchoring system and all accessories	Option	No.	1		
d, 1-23	102-NZ-001; -002- Air Nozzle flush; compressed air service ; Capacity:1.5 l/s; including all air piping to air compressor	Option	No.	2		
d, 1-24	101-SV-001- Solenoid Valve; compressed air service ; Capacity:3 l/s	Option	No.	1		
Fabricated items						
d, 1-36	Replace Galvanized Steel grating by GRP Grating access platforms to fine and coarse screens including support and anchoring system, as shown on the drawing MND-101-000	Option	LS	1		
d, 1-39	Replace all Galvanized Steel Ladders to platform by GRP ladders. Including support and anchoring system (80 cm wide x 1 m high)	Option	LS	1		
Lot d1	Sub total c1, inlet chamber and screening					
Lot d,2						
Grit & Grease Removal (Area 103 and 300). All items shall be in accordance with the Drawings and Specifications						
d, 2-14	103-GC-513- Grit Classifier; Grit service ;Capacity:100 m3/h ; including pipes, valves and accessories	Option	No.	1		
d, 2-18	103-GA-504/505/507/508/510 - Gate Valves - Grit and water service ; Diameter 150mm ; used to select the grit classifier in operation	Option	No.	5		
Odor treatment of the Foul water sump and Sludge Storage (Area 300)						
d, 2-25	300-AV-001; -002 - Air Regulating Valve for sludge storage 1 and 2; Foul air service; Dimension:DN250	Option	LS	1		
d, 2-26	300-AV-003- Air Regulating Valve for foul water pit; Foul air service ;Dimension:DN80	Option	LS	1		
d, 2-27	300-FN-001- 2 speed Fan; Foul air service ; Capacity:DN 300, 3100 and 2100 m3/h; 1000 Pa maximum speed 1500 tr/min	Option	LS	1		
d, 2-28	300-HT-001- Heater; Foul air service ; Capacity:2100 m3/h , Air temperature increase 10 degrees C. Including all appurtenances	Option	LS	1		
d, 2-29	300-TK-001- Biofilter with Thermal insulation and air diffusion and water sprinkler systems; Foul air service ; Capacity:3100 m3/h, 550 m/h air flow speed; Media bed 1,05 m deep	Option	LS	1		
Fabricated items						
d, 2-42	Replace Galvanized Steel Grating by GRP grating access platforms at the inlet and outlet of the grit tanks as shown on the drawing MND-103-001 ; including support and anchoring system, including all	Option	m2	115		
Pipes						
d, 2-76	All DN 200 piping for grit water service within the pump room and to 2 grit classifiers, including all valves, fittings, and accessories. The price indicated shall be the difference with the base bid (piping	Option	LS	1		
Lot d 2	Sub total d2, grit& grease removal					
Lot d,3						
New primary clarifiers (Area 105). All items shall be in accordance with the Drawings and Specifications						
Fabricated items						
d, 3-42	Replace Galvanized Steel grating by GRP Grating access platforms for tanks access as shown on the drawing MND-105-001 ; including support and anchoring system.	Option	m2	425		
Lot d,4						
Solids Handling (area 200)						
Sludge liming, conveying and storage (Area 203-204)						

Bill Of Quantity Options for Alternative Proposal



Aeratsia WWTP		Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը
d, 4-34	203-LB-301- lime storage silo; useful volume: 50 m3; including dust filter, archbreaker of 100 to 500 kg/h and Ø 2 m; with two connections to dosing screws. Including all support and anchoring systems.	Option	No.	1		
d, 4-35	203-DS-201- screw dosing; 100 to 500 kg/h , Ø 70 mm, with connection to silo 203-LB-201 only. Including all support and anchoring systems.	Option	No.	1		
Ventilation and Odor Treatment for Sludge Building (Area 206)						
d, 4-61	206-AV-001; -002; -003 Air Regulating Valves for dewatering Unit 1, 2 and 3; Foul air service; Dimension:DN40	Option	LS	1		
d, 4-62	206-AV-004- Air Regulating Valve for liming room; Foul air service ;Dimension:DN400	Option	LS	1		
d, 4-63	206-AV-005- Air Regulating Valve for foul water pit; Foul air service ;Dimension:DN80	Option	LS	1		
d, 4-64	206-FN-001- 2-speed Fan; Foul air service ; Capacity:DN 400, 8600 & 2800 m3/h; 1000 Pa Including all appurtenances	Option	LS	1		
d, 4-65	206-TK-001- Biofilter with air diffusion and water sprinkler systems; Foul air service ; Capacity:8600 m3/h, 550 m/h air flow speed; Media bed 1,05 m deep	Option	LS	1		
d, 4-66	All air piping including Air suction pipes from dewatering units, lime-mixer units, main collector for dewatering room, main collector for liming room, piping to and from the Fan to the biofilter, piping from	Option	LS	1		
d,4	Sub total, solids handling					
e) TECHNICAL ASSISTANCE						
f) MAINTENANCE SERVICES Պահպանման ծառայություն						
1	Check screen and screws operation after 1 year	Option	LS	1		
2	Check dewatering equipment operation after 6 months and 1 year	Option	LS	1		
3	Check liming equipment operation after 6 months and 1 year	Option	LS	1		
4	Check traveling bridge equipment operation after 6 months	Option	LS	1		
g) INTERNATIONAL TRANSPORT Միջազգային տեղափոխում(տրանսպորտ)						
Lot g,1	Contractor to detail as needed:					
h) LOCAL TRANSPORTS Տեղական տեղափոխում (տրանսպորտ)						
Lot h,1	Contractor to detail as needed:					
i) INSURANCES Ապահովագրություն						
Lot i,1	Contractor to detail as needed:					
j) OTHER (Contractor to detail) այլ (մանրամասները շինարարի կողմից)						
Lot j,1						
Lot j,2						

Bill Of Quantity
Options for Alternative Proposal



Aeratsia WWTP						
	Base / Option	Unit Միավոր	Quantity	Unit Price	TOTAL [in EUR] Ընդամենը	
SUMMARY TABLE - OPTIONS					TOTAL [in EUR] Ընդամենը	
Shed over skips: lots b1 + b2 + b4						
Odour treatment slabs: lot b5						
Site options: lot b10						
Yard piping: lot b11						
Inlet chamber and screening options : c1 +d1						
Grit and grease removal options (including Odour treatment): c2 +d2						
New primary clarifiers: c3 + d3						
Solids handling (including Odour treatment): c 4 +d 4						
TOTAL of Options						
ODOUR TREATMENT (subtotal)						
Odour treatment of the grit and grease removal (c 2-25 to c 2-29 + d 2-25 to d 2-29)						
Odour treatment of the Sludge building (c 4-61 to c4-66 + d 4-61 to d 4-66)						