

INFORMACIJA

o

aneksima ugovora za izvođenje radova na primjeni mjera energetske efikasnosti, u okviru
„Programa energetske efikasnosti u javnim zgradama“

1. Opšte Informacije

„Program energetske efikasnosti u javnim zgradama“ se realizuje po osnovu:

- Ugovora o kreditu i finansijskom doprinosu (donacije), potpisanog 23.11.2011.godine između Njemačke banke za razvoj (KfW) i Ministarstva finansija, i
- Posebnog ugovora potpisanog 22.11.2011.godine između Njemačke banke za razvoj (KfW) i Ministarstva ekonomije.

Posebним ugovorom Ministarstvo ekonomije je zaduženo da koordinira realizaciju Programa i u vezi sa tim da obrazuje Koordinacioni odbor, u čijem sastavu će biti dva predstavnika Ministarstva ekonomije (predsjednik i član), dva predstavnika Ministarstva prosvjete i predstavnik Ministarstva finansija.

Osim toga, Program energetske efikasnosti u javnim zgradama je uvršten u Operativni plan energetske efikasnosti organa državne uprave za 2015.godinu.

Ukupna vrijednost Ugovora o kreditu i finansijskom doprinosu (donaciji) iznosi 13,44 miliona eura, od čega je iznos kredita 11,5 miliona, dok je iznos finansijskog doprinosa 1,94 miliona eura. Realizacija projekta je počela u januaru 2012. godine. Rok za završetak projekta je decembar 2015. godine.

Cilj projekta je poboljšanje uslova rada, kao i unaprijeđenje energetske efikasnosti u objektima koji su u vlasništvu Ministarstva prosvjete (osnovne, srednje i specijalne škole, vrtići, studentski domovi i sl.).

2. Aktivnosti sprovedene od početka realizacije projekta

Od početka realizacije projekta (januar 2012.godine) do sada sprovedene su sledeće aktivnosti:

-Ministarstvo ekonomije je Rješenjem br. 0601-73/112 od 15.12.2011.godine, formiralo Koordinacioni odbor zadužen za praćenje realizacije „Programa energetske efikasnosti u javnim zgradama“.

-Za potrebe realizacije projekta angažovan je konsultantski tim koji čini konzorcijum Fichter GmbH&Co.KG Štuttgart (Njemačka), SEEC doo Beograd (Srbija) i Exergia S.A. (Grčka). Obaveze konsultantskog tima su: vršenje energetskih pregleda, priprema tehničke dokumentacije, priprema tenderske dokumentacije, učestvovanje u tenderskoj proceduri, evaluacija tendera, nadzor nad izvođenjem radova i verifikacija rezultata nakon izvršene rekonstrukcije. Ugovor sa Konsultantom je potpisan 28.12.2011.godine.

-Formirana je lista od 40 obrazovnih ustanova, koji su preliminarno analizirani kako bi se napravila rang lista za rekonstrukciju objekata, odnosno implementaciju mjera za poboljšanje energetske efikasnosti.

-Nakon preliminarne analize i ocjenjivanja stanja svakog od 40 objekata, izvršen je izbor 30 objekata koji će biti razmatrani u okviru ovog projekta. Ocjenjivanje stanja objekata je izvršeno na osnovu prethodno usvojene metodologije. Metodologijom za evaluaciju predviđeno je bodovanje objekata u skladu sa kriterijumima, prema kojima je najveći broj bodova dat objektima u kojima ne postoji sistem grijanja, zatim objektima u kojima je moguće uz primjenu mjera energetske efikasnosti postići uštedu od najmanje 20% i objektima u kojima termalni komfor nije na zadovoljavajućem nivou. Osim navedenog uzeta je u obzir i specifična godišnja potrošnja, broj korisnika, radno vrijeme objekta, stanje objekta, kvalitet održavanja i sl.

-Lista od 30 objekata je podjeljena na dva dijela, prvi dio čini grupa od pet objekata, koji su tretirani kao „pilot projekti“, i predstavljaju osnov za dalje definisanje kriterijuma za vršenje energetskih pregleda, pripremu projektne i tenderske dokumentacije za ostale objekte.

-U 2012. i 2013.godini, izvršeni su energetski pregledi i pripremljena projektne dokumentacija za 30 objekata. Takođe su završeni radovi na primjeni mjera energetske efikasnosti u pet škola koje spadaju u grupu „pilot projekti“ (O.Š.“Maksim Gorki“ Podgorica, O.Š.“Vlado Milić“ Podgorica, O.Š.“Njegoš“ Spuž, Danilovgrad, O.Š.“Vuk Karadžić“ Podgorica i O.Š.“Salko Aljković“ Pljevlja).

-U toku 2014.godine završeni su radovi na primjeni mjera energetske efikasnosti u osam obrazovnih ustanova, koje se nalaze u Nikšiću, Ulcinju, Herceg Novom i Kotoru (O.Š.“Jagoš Kontić“ Nikšić, O.Š.“Milija Nikčević“ Nikšić, O.Š.“Mileva Lajović Lalatović“ Nikšić, O.Š.“Braća Ribar“ Nikšić, O.Š.“Maršal Tito“ Ulcinj, S.M.Š.“Bratstvo i jedinstvo“ Ulcinj, O.Š.“Dašo Pavičić“ Herceg Novi i Studentski dom „Spasić – Masera“ Kotor).

-Sredinom februara 2014.godine, objavljen poziv za predkvalifikaciju za izbor ponuđača za tender za izvođenje radova na primjeni mjera energetske efikasnosti u osam objekata koji se nalaze u Pljevljima, Rožajama, Plavu, Bijelom Polju, Danilovgradu i Podgorici (O.Š.“Ristan Pavlović“ Pljevlja, Srednja stručna škola Pljevlja, O.Š.“Mustafa Pećanin“ Rožaje, Gimnazija „Miloje Dobrašinović“ Bijelo Polje, S.M.Š. “Bećo Bašić“ Plav, O.Š.“Branko Božović“ Podgorica, O.Š.“Oktoih“ Podgorica i O.Š.“Vuko Jovović“ Danilovgrad). U toku je evaluacija ponuda. Planirano je da izvođenje radova počne u aprilu 2015.god.

Sprovođenje tenderske procedure za izvođenje radova na primjeni mjera energetske efikasnosti i odabir izvođača radova se vrši u skladu sa pravilima Njemačke razvojne banke (KfW).

3.Obrazloženje uz anekse ugovora o izvođenju radova na primjeni mjera energetske efkasnosti u obrazovnim ustanovama iz klastera I (O.Š."Jagoš Kontić, O.Š."Milija Nikčević", O.Š."Mileva Lajović Lalatović" i O.Š."Braća Ribar" u Nikšiću) i klastera II (O.Š."Dašo Pavičić" Herceg Novi, O.Š."Maršal Tito" i S.M.Š."Bratstvo i jedinstvo" u Ulcinju i Studentski dom "Spasić-Masera" u Kotoru)

Poziv za predkvalifikaciju za klaster I i II je objavljen 16.08.2013.god, rok za dostavljanje ponuda je bio 30.09.2013.god. Kvalifikovani ponuđači su pozvani 20.12.2013.godine da otkupe tendersku dokumentaciju. Rok za dostavljanje ponuda za izvođenje radova na primjeni mjera energetske efikasnosti u objektima iz klastera I i II je bio 28.02.2014.godine.

Nakon završene evaluacije ponuda, kao prvorangirani ponuđač za oba klastera odabran je konzorcijum Roaming, koji čine preduzeća Roaming doo Nikšić, LD Gradnja doo Nikšić, Ening doo Nikšić i Ramel doo Nikšić. Ugovori o izvođenju radovasa konzorcijumom Roaming potpisani su 18.07.2014.god.

Ovim aneksima ugovora obuhvaćene su izmjene (umanjenje) ugovorene vrijednosti radova, nastale kao posledica redukcije obima posla usled limitirnog budžeta i odustajanja od izvođenja dijela radova, čije je izvođenje preuzeto od strane samih obrazovnih ustanova (moleraj u objektima je izveden u organizaciji obrazovnih ustanova). Takođe, aneksima ugovora su obuhvaćeni svi nepredviđeni radovi, za kojima se ukazala potreba tokom izvođenja radova.

Aneks ugovora za klaster I, takođe obuhvata i produžetak ugovorenog roka do 01.09.2015.godine, koji se odnosi na nepredviđene radove na sanaciji krova u O.Š."Mileva Lajović Lalatović" U Nikšiću.

Pregled ugovorenih vrijednosti radova prema ugovorima br. 06-803/26 i 06-803/27, od 18.07.2014.god i vrijednosti radova prema aneksima navedenih ugovora koji se dostavljaju na usvajanje je data u tabeli:

Red.br.		Ugovorena vrijednost radova	Vrijednost radova prema aneksu ugovora br. 1
1.	Ugovor br. 06-803/26, od 18.07.2014.god za klaster I	2.553.825,10	2.535.712,19
2.	Ugovor br. 06-803/27, od 18.07.2014.god za klaster II	2.810.595,04	2.494.688,73

Ukupno umanjenje ugovorene vrijednosti radova za klaster I iznosi 18.112,91 Eura, dok umanjenje ugovorene vrijednosti radova za klaster II iznosi 315.906,31 Eura.

Odobranje izmjena ugovorene vrijednosti radova je izvršeno u skladu sa članovima13.1, 13.2 i 13.3, Opštihuslovaugovora (Pravonaizmjene, Tehnikavrednovanja i Postupakizmjene).Sve izmjene su prethodno usvojene od strane Koordinacionog odbora za praćenje realizacije projekta. Zapisnici sa sjednica Koordinacionog odbora, na kojima su usvojene ponude za izmjene su dati u prilogima 3-6.

Na osnovu odredbi Posebnog ugovora, Ministar ekonomije je ovlašćen za potpisivanje ugovora o izvođenju radova, aneksa ugovora, kao i sve ostale prateće dokumentacije.

Prije potpisivanja, predlog aneksa ugovora, sa pratećom dokumentacijom se dostavlja Vladi na razmatranje i usvajanje.

Kako je jezik komunikacije u okviru projekta engleski, sva dokumentacija se dostavlja na engleskom jeziku. Za potrebe usvajanja aneksa ugovora je preveden na crnogorski jezik. Finalni predmjer i predračun radova, koja je sastavni dio aneksa ugovora, je na engleskom jeziku.

4. Prilozi

Prilog 1 – Aneks ugovora br. 06-803/26, od 18.07.2014.god o izvođenju radova,sa prevodom

Prilog 2 – Aneks ugovora br. 06-803/27, od 18.07.2014.god o izvođenju radova, sa prevodom

Prilog 3 – Zapisnik sa XV sjednice Koordinacionog odbora

Prilog 4 – Zapisnik sa XVI sjednice Koordinacionog odbora

Prilog 5 – Zapisnik sa XVII sjednice Koordinacionog odbora

Prilog 6 – Zapisnik sa XVIII sjednice Koordinacionog odbora

Amendment No. 1

made on __.02.2015

to the

Contract No.06-803/26 (EEPPB - Cluster I)

dated 18.07.2014.

between

**Ministry of Economy
Directorate for Energy Efficiency
Rimski trg 46
81000 Podgorica
Montenegro
("Employer")**

and

**JV Roaming (Roaming doo Nikšić, LD Gradnja doo Nikšić, Ening doo Nikšić and
Ramel doo Nikšić)
("Contractor")**

for

**Works on reconstruction of four buildings of cluster I under the Montenegro's
Energy Efficiency Program in Public Buildings (EEPPB)
("Project")**

This Amendment to the Contract for construction works dated 18th July 2014 in regard to the performing of construction works for reconstruction of the four buildings of cluster I under the Energy Efficiency Program in Public Buildings (EEPPB) is made between the Employer and the Contractor.

It is agreed by and between all parties as follows:

1 Adjustments for Variations

Based on the Variation orders No.1-No.6, approved according to the clause 13, sub clause 13.1, 13.2 and 13.3, Contract Price shall be the total of the amounts to be paid for the Works on the basis of the main contract and the amendments.

The Contract Price to be paid to the Contractor, based on this amendment is:

In total: EUR 2.535.712,19
(two million five hundred thirty five thousand seven hundred twelve Euro and nineteen Eurocents)

The details of the changes are defined in Annex 1.

Time for completion shall be extended up to 1st September 2015.

2 Sub-clause 14.4.1 of the Particular conditions of the Contract

Due to the aforementioned the sub-clause 14.4.1 of the Particular conditions of the Contract will be replaced with:

14.4.1 Schedule for Payments

Payment for supply and delivery of the works, erection and civil engineering works will be made by the direct disbursement procedure in accordance with KfW's Guidelines for the Disbursement of Funds of Financial Co-operation with Developing Countries and Comparable Programs.

The Employer will pay to the Contractor under the terms and condition of KfW's Guidelines for the Disbursement, as follows:

For Works and Erection

EUR 383.073,76 as an advance payment against presentation of the Advance Payment Guarantee and Performance Security.

EUR 1.899.067,21 will be paid in bi-monthly instalments (i.e. every 2nd month), based on the progress of the works

EUR 253.571,22 of the contracted value shall be the amount of the retention money, which will be paid as described in 14.9

Unless specially amended in this Amendment, all other terms and conditions of the original Contract shall remain fully applicable and in force.

For and on behalf of **Ministry of Economy**:

Mr. Vladimir Kavarić
Minister of Economy

Ms. Dragica Sekulić
Director General of the
Directorate for energy efficiency

For and on behalf of **JV Roaming**:

Mr. Dalibor Milović
Project Director

Mr. Nebojša Lalatović
Legal Representative

Annex 1

Price schedule

Aneks br. 1

od __.02.2015

Ugovora br.06-803/26 (EEPPB - Klaster I)

od 18.07.2014.godine

između

**Ministarstva Ekonomije
Direktorat za energetska efikasnost
Rimski trg 46
81000 Podgorica
Montenegro
("Investitor")**

i

**JV Roaming (Roaming doo Nikšić, LD Gradnja doo Nikšić, Ening doo Nikšić and
Ramel doo Nikšić)
("Izvođač")**

za

**Izvođenje radova na adaptaciji četiri objekta iz klastera I u sklopu Programa
energetske efikasnosti u javnim zgradama" u Crnoj Gori (EEPPB)
("Naziv projekta")**

Ovaj aneks ugovora o izvođenju radova, potpisanog 18.Jula 2014.godine, a koji se odnosi na izvođenje građevinskih radova na adaptaciji četiri obrazovne ustanove iz klastera I, u okviru "Programa energetske efikasnosti u javnim zgradama" (EEPPB), je potpisan između Investitora i Izvođača.

Dogovoreno je od strane svih potpisnika sledeće:

1 Prilagođavanja usled izmjena

Na osnovu naloga za izmjene br.1-6, odobrenih u skladu sa članom 13, odnosno 13.1, 13.2 i 13.3, ugovorena cijena koja će biti plaćena Izvođaču za radove predstavlja ukupnu sumu iz osnovnog ugovora i aneksa ugovora.

Ugovorena cijena, koja će biti plaćena Izvođaču, na osnovu ovog aneksa iznosi:

Ukupno: EUR 2.535.712,19
(dva miliona petsto trideset pet hiljada sedamsto dvanaest eura i devetnaest centi)

Detalji izmjena su dati u prilogu br. 1.

Rok za izvođenje radova je produžen do 01.09.2015.godine.

2 Član 14.4.1 Posebnih uslova ugovora

Na osnovu gore navedenog, član 14.4.1 Posebnih uslova ugovora će biti zamjenjen sa:

14.4.1 Način plaćanja

Plaćanje izvođenja građevinsko zanatskih i instalaterskih radova će biti izvršeno po proceduri za direktno plaćanje u skladu sa Uputstvima Njemačke razvojne banke za isplatu fondova iz finansijske saradnje sa zemljama u razvoju i sličnim projektima.

Investitor će izvršiti isplate Izvođaču, u skladu sa uslovima datim u Uputstvima Njemačke razvojne banke, na sledeći način:

Za izvođenje radova

EUR 383.073,76 avans nakon dostavljanja avansne garancije i garancije za dobro izvođenje posla.

EUR 1.899.067,21 po dvomjesečnim situacijama, u zavisnosti od dinamike izvođenja radova

EUR 253.571,22 vrijednost zadržanih sredstava, biće plaćena kao što je opisano u članu 14.9.

Ukoliko nije drugačije navedeno u ovom aneksu, svi ostali uslovi originalnog ugovora ostaju na snazi.

Za i u ime Ministarstva ekonomije:

Gosp. Vladimir Kavarić
Ministar ekonomije

G-đa. Dragica Sekulić
Generalna direktorica
Direktorata za energetska efikasnost

Za i u ime JV Roaming:

Gosp. Dalibor Milović
Direktor

Gosp. Nebojša Lalatović
Pravni zastupnik

Prilog 1

Predmjer i predračun radova

No.		Item Description	Unit of measure	CONTRACT			AMENDMENT 1			COMMENTS				
				Quantity	Unit price (€)	Amount (€)	Quantity	Unit price (€)	Amount (€)					
GROUP A5.1.1		Investor: Ministry of Economy of Montenegro, Energy Efficiency Sector												
		Project financed by: KW ENTWICKLUNGSBANK												
		Consultant: Konsultant: FICHTNER GmbH&Co. KG												
		Sub-Consult Lokalni projekt: KOPRINING PMC, Podgorica												
		School: Objekat: P.S "Mileva Lajović Lalatović", Nikšić												
		Doc. origin: Dokumentacija: Final Architectural Design												
		Date: 16 November 2013												
I		THERMAL INSULATION OF FAÇADE WALLS												
1		Clean the facade surface from dirt, moss and dust. Undertake the cleaning mechanically or chemically. During cleaning, be careful not to damage the surface. Surface strength and absorption should be provided. Prior to this, dirty, wet and non-bearing surface should be remedied. The interior mortar and coating should set prior to commencing the works. Works to be conducted depending on the surface: *smooth surfaced furrowed, *bubbling brushed with dry brush, *wet surfaces dried and protected, *mildew and algae cleaned by using algae remover, *binding mortar cleaned and coated with flexible and cement free adhesive, *dusty surface brushed, cleaned under high pressure, washed with water and dried, *lime mortar removed and covered with equalization coating, *mortar remains mechanically removed, *joints between bricks filled with cement mortar, filled joints cleaned with foam, paint cleaned with water and dried, *metal parts covered with galvanized wire mesh for better adhesion. Calculation as per m2 of the cleaned surface.	m2	2.100,00	x	1,55 €	=	3.260,25 €	2.100,00	x	1,55 €	=	3.260,25 €	
2		Repair of damages in the facade by using repairing mortar. Damaged parts should be smashed and surface prepared. Calculation as per m2 of the plastered facade. The price includes usage of scaffold.	m2	1.034,00	x	8,07 €	=	8.347,48 €	1.034,00	x	8,07 €	=	8.347,48 €	
3		Setting up of "Demit" thermal facade. On the external side, thermal insulation of reinforced concrete (hereinafter RC) and brick facade walls will be made of expanded EPS polystyrene. Consider separate detail for joints and cracks at concrete curtain wall. having heat transfer coefficient of $\lambda_{max} = 0,037 \text{ W/mK}$, thickness $\delta_{min} = 10\text{cm}$, produced in line with the relevant EN standards. External thermal insulation composite system (ETICS) is required to have an ETAG 004 certificate. The lower part of the facade walls reaching up to the height of $h = 1,6\text{m}$ from ground floor will be treated with stiffer insulating material, XPS extruded polystyrene, thickness $d = 10\text{cm}$, resistant to mechanical damages, with heat transfer coefficient of $\lambda = 0,035 - 0,04 \text{ W/mK}$. Use EPS/XPS, thickness $d = 3\text{cm}$ to treat jambs on the external side of the openings. Thermal plates are folding, attached to facade wall by using the relevant enriched mineral adhesive, anchored with relevant dowels. Surface of the plates is protected with reinforced mortar, which is composed of the following elements: * first layer – enriched plaster based on cement binder, mineral aggregate and admixtures to improve elasticity and water repellence. Surface for this layer of mortar will be flat and smooth. Any unevenness at joints of the installed polystyrene plates will be filled with polyurethane foam. Reinforcing mesh with adequate overlapping and extra protection at the openings and corners is laid in a fresh layer of this mortar. In case of need for the additional mechanical anchoring, use impact bolt through the reinforcing mesh 24 hours after applying this layer. * reinforcing mesh * second layer of mortar , apply same procedure as with the first layer. This mortar is laid to well-settled first layer and polished with a screed afterwards. * contact coating made of the emulsion of synthetic resins and water-glass used for impregnation of the dried reinforced mortar. * top coating is made of mineral binders, water-repellent admixtures, means for improving elasticity and resistance to mildew and algae. This top layer will be made in grainy and smooth structure, painted in colour selected by a designer, while the entire procedure will be conducted in line with the design details. Before setting up the thermal plates, the following works will be conducted: * All works on the roof, including the covering and sheet metal works * Windows and doors replacement * Plastering of inside wall and ceiling surfaces * Concrete pavement * Setting up of all installations on the façade * Covering and protection of all non-treated surfaces – glass, wood, aluminium...												

No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
	*Control and testing of the existing facility surface: Use impregnation- basic coating at the most critical points of the facility. When the basic coating sets, place the EPS cube of 5x5x5 cm using polystyrene adhesive. Once the adhesive has completely settled, minimum 3 days if working conditions are adequate, try to separate the cube manually.									
	If in the process of separating polystyrene only the adhesive separates and not parts of the basis- the basis is sufficiently strong, solid and stable. If in the process of separating polystyrene, the adhesive remains, or if part of the adhesive remains on the wall and part on the polystyrene - it means that the adhesive is adequate and strong. If in the process of separating polystyrene, part of the glue and cradling is separated - it means that the basis is not strong enough and it will withstand a new layer of thermal insulation.									
	Use the reinforcing mesh or corner profiles for the window corners and jambs. To complete the facade along the plinth, use reinforced layer or install U profile of the batten adjusted to thickness of a thermal boards.									
	At heights exceeding 8 meters, plates need additional anchoring with appropriate bolts.									
	During installation of facade, cradling, mortar and adhesive, temperature of air must not drop below +5°C or be above +25°C. Mortars must not be applied in case of strong wind, rain or fog.									
	The price includes the purchase, installation of entire material, preparatory works, surface preparation, installation of thermal façade according to described layers and installation of the required scaffolding. Calculation is based on m2 of the installed facade.									
	NOTE: Processing of jambs is included in the price, it won't be calculated separately. The planned facade systems should be aligned with the appropriate EN standards.									
	External thermal insulation composite system (ETICS) is required to have an ETAG 004 certificate. ETA certificate (European Technical Approval) is a certificate issued by the European Organization for Technical Approval, which confirms that the thermal insulation system is in compliance with the parameters laid down by this organization - mechanical resistance and stability, safety in the event of fire, hygiene, health and environmental sustainability, safety of use, noise protection, energy efficiency and heat retention.									
1.1.	EPS 10cm	m2	1.390,24	x 20,18 € =	28.058,52 €		1.390,24	x 20,18 € =	28.058,52 €	
1.2.	XPS 10cm	m2	227,63	x 25,36 € =	5.772,13 €		227,63	x 25,36 € =	5.772,13 €	
1.3.	Pressed mineral wool A1 d=10cm	m2	487,60	x 22,05 € =	10.749,39 €		487,60	x 22,05 € =	10.749,39 €	
4	Treating the facade surfaces with decorative ready-mixed lime-cement based render, "Bavalit" type or similar with the equivalent or better technical characteristics, where the installation of thermal plates has not been planned (boiler room, flues, transformer substation, etc).									
	Type and colour will be selected by the Designer. The facade surface should be sound and dry. Surface should be cleaned and impregnated with insulation mass to achieve a better joining. Apply one layer with a painting brush, if the surface absorbs it quickly, apply it twice. To prepare the surface, apply a layer of adhesive with a mesh. Apply other layers following the same procedure as in the previous item.									
	* contact coating made of the emulsion of synthetic resins and water-glass used for impregnation of the set reinforced mortar.									
	* top coating is made of mineral binders, water-repellent admixtures, means for improving elasticity and resistance to mildew and algae. This top layer will be made in grainy and smooth structure: in colour determined by the Designer, while the entire procedure will be conducted under the design details.									
	The openings should be protected with PVC foil.									
	Use angle profiles to treat corners and window jambs.									
	Price includes the purchase, installation of complete material, preparatory works, surface preparation and installation of the scaffolding. Calculation is per m2 of the installed façade.	m2	92,20	x 12,21 € =	1.126,04 €		92,20	x 12,21 € =	1.126,04 €	
5	Setting up of the facade plinth with decorative ready mixed marble based mortar, created on grain ("Kulie") as splash guard as indicated on drawings.									
	On the external side, facade plinth (45 cm height) thermal insulation of reinforced concrete (hereinafter RC) and brick facade walls will be made of XPS extruded polystyrene, thickness d=10cm, resistant to mechanical damages, with heat transfer coefficient of $\lambda=0,035-0,04$ W/mK.									

No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
	Thermal plates are folding, attached to facade wall by using the relevant enriched mineral adhesive, anchored with relevant dowels. Surface of the plates is protected with reinforced mortar, which is composed of the following elements:									
	*first layer – enriched plaster based on cement binder, mineral aggregate and admixtures to improve elasticity and water repellence. Surface for this layer of mortar will be flat and smooth. Any unevenness at joints of the installed polystyrene plates will be filled with polyurethane foam.									
	Reinforcing mesh with adequate overlapping and extra protection at the openings and corners is laid in a fresh layer of this mortar. In case of need for the additional mechanical anchoring, use impact bolt through the reinforcing mesh 24 hours after applying this layer.									
	* reinforcing mesh									
	* second layer of mortar, apply same procedure as with the first layer. This mortar is laid to well-settled first layer and polished with a screed afterwards.									
	* contact coating made of the emulsion of synthetic resins and water-glass used for impregnation of the dried reinforced mortar.									
	*top coat of the facade plinth with decorative ready mixed marble based mortar, created on grain ("Kulie") as splash guard. Surface should be cleaned, washed and sprinkled with acrylic base with granulate, color of the base by the color chart of the manufacturer. Render should be applied on cleaned and dried surface by manufacturer's instruction. The color should be determined by the Employer / Employer's representative, according to the color chart of manufacturer.									
	Calculation per m2	m2	187.17	x 29.81 €	= 5.579,16 €		187.17	x 29.81 €	= 5.579,16 €	
TOTAL FOR THERMAL INSULATION OF FACADE WALLS					62.892,97 €				62.892,97 €	
II	REPLACEMENT OF FACADE JOINERY									
1	Dismantling of façade joinery and all its elements and mechanisms. Transportation to the town landfill or hand-over to the Employer/Employer's Representative (according to the agreement) for storing. Calculation as per piece of dismantled joinery.									
	dim.265/300cm	pcs	3,00	x 18,90 €	= 56,70 €		3,00	x 18,90 €	= 56,70 €	
	dim.285/170cm	pcs	9,00	x 10,50 €	= 94,50 €		9,00	x 10,50 €	= 94,50 €	
	dim.110/120cm	pcs	20,00	x 3,15 €	= 63,00 €		20,00	x 3,15 €	= 63,00 €	
	dim.275/90cm	pcs	8,00	x 7,35 €	= 58,80 €		8,00	x 7,35 €	= 58,80 €	
	dim.178/90cm	pcs	1,00	x 5,25 €	= 5,25 €		1,00	x 5,25 €	= 5,25 €	
	dim.480/310cm	pcs	4,00	x 31,50 €	= 126,00 €		4,00	x 31,50 €	= 126,00 €	
	dim.235/310cm	pcs	1,00	x 15,75 €	= 15,75 €		1,00	x 15,75 €	= 15,75 €	
	dim.385/310cm	pcs	1,00	x 31,50 €	= 31,50 €		1,00	x 31,50 €	= 31,50 €	
	dim.480/230cm	pcs	3,00	x 21,00 €	= 63,00 €		3,00	x 21,00 €	= 63,00 €	
	dim.290/230cm	pcs	2,00	x 15,75 €	= 31,50 €		2,00	x 15,75 €	= 31,50 €	
	dim.195/310cm	pcs	1,00	x 15,75 €	= 15,75 €		1,00	x 15,75 €	= 15,75 €	
	dim.180/180cm	pcs	3,00	x 10,50 €	= 31,50 €		3,00	x 10,50 €	= 31,50 €	
	dim.100/300cm	pcs	1,00	x 8,40 €	= 8,40 €		1,00	x 8,40 €	= 8,40 €	
	dim.120/235cm	pcs	1,00	x 8,40 €	= 8,40 €		1,00	x 8,40 €	= 8,40 €	
	dim.200/235cm	pcs	1,00	x 10,50 €	= 10,50 €		1,00	x 10,50 €	= 10,50 €	
	dim.185/90+185/300+185/90cm	pcs	1,00	x 21,00 €	= 21,00 €		1,00	x 21,00 €	= 21,00 €	
	dim.95/310cm	pcs	1,00	x 10,50 €	= 10,50 €		1,00	x 10,50 €	= 10,50 €	
	glass panel P=45m2	pcs	1,00	x 105,00 €	= 105,00 €		1,00	x 105,00 €	= 105,00 €	
	glass panel P=66m2	pcs	1,00	x 157,50 €	= 157,50 €		1,00	x 157,50 €	= 157,50 €	
	dim.240/110cm	pcs	3,00	x 6,30 €	= 18,90 €		3,00	x 6,30 €	= 18,90 €	
	dim.285/230cm	pcs	152,00	x 21,00 €	= 3.192,00 €		152,00	x 21,00 €	= 3.192,00 €	
	dim.360/315cm	pcs	1,00	x 31,50 €	= 31,50 €		1,00	x 31,50 €	= 31,50 €	
	dim.160/310cm	pcs	5,00	x 10,50 €	= 52,50 €		5,00	x 10,50 €	= 52,50 €	
	dim.300/290cm	pcs	6,00	x 21,00 €	= 126,00 €		6,00	x 21,00 €	= 126,00 €	
	dim.580/300cm	pcs	3,00	x 42,00 €	= 126,00 €		3,00	x 42,00 €	= 126,00 €	
	dim.480/300cm	pcs	2,00	x 31,50 €	= 63,00 €		2,00	x 31,50 €	= 63,00 €	
	dim.500/300cm	pcs	2,00	x 42,00 €	= 84,00 €		2,00	x 42,00 €	= 84,00 €	
	dim.380/230cm	pcs	4,00	x 21,00 €	= 84,00 €		4,00	x 21,00 €	= 84,00 €	
	dim.100/325cm	pcs	1,00	x 10,50 €	= 10,50 €		1,00	x 10,50 €	= 10,50 €	
	dim.465/230cm	pcs	1,00	x 31,50 €	= 31,50 €		1,00	x 31,50 €	= 31,50 €	
	dim.100/490cm	pcs	1,00	x 10,50 €	= 10,50 €		1,00	x 10,50 €	= 10,50 €	
	dim.130/140cm	pcs	2,00	x 5,25 €	= 10,50 €		2,00	x 5,25 €	= 10,50 €	
	dim.130/380cm	pcs	1,00	x 10,50 €	= 10,50 €		1,00	x 10,50 €	= 10,50 €	
					4.765,95 €				4.765,95 €	
2	Production and installation of the facade PVC joinery. The price includes everything from description: - Production and assembling - 6-chamber PVC profiles reinforced on the inside with galvanized steel U profiles, no thermal bridge - Non-recycled PVC to be used - Heat transfer coefficient Umax = 1,5 W/m,K - Minimal required solar energy transmittance factor for glazed surfaces is g565%. - Glass - double-glazed 4+16+4 mm low emission with argon or some other inert gas between glass panels - Fittings: required set for hanging and closing - Opening - as shown on the drawings annexed - The item should include external galvanized plastic-laminated steel metal sheet sill d=0.7mm (window bench) of required width. No internal sill required. - Profile colour: white.									
	Measures to be taken onsite. Calculation per piece of installed joinery fully in line with the description.									

No.	Item Description	measure	Quantity		Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
	Note: Depending on the size of the opening, where it is necessary, big windows/doors elements should have additional reinforcement/stiffening of the profiles.										
	POS 2 - glass panel 265/200cm	pcs	1,00	x	745,50 €	745,50 €		1,00	745,50 €	745,50 €	
	sill width=20cm, length 2,65m	pcs	1,00	x	57,75 €	57,75 €		1,00	57,75 €	57,75 €	
	strip trimming	m1	9,30	x	3,68 €	34,18 €		9,30	3,68 €	34,18 €	
	POS 3 - glass panel 265/200cm	pcs	1,00	x	745,50 €	745,50 €		1,00	745,50 €	745,50 €	
	window sill width=20cm, length 2,65m	pcs	1,00	x	57,75 €	57,75 €		1,00	57,75 €	57,75 €	
	strip trimming	m1	9,30	x	3,68 €	34,18 €		9,30	3,68 €	34,18 €	
	POS 4 - glass panel 285/170cm	pcs	8,00	x	661,50 €	5.292,00 €		8,00	661,50 €	5.292,00 €	
	window sill width=20cm, length 2,85m	pcs	8,00	x	57,75 €	462,00 €		8,00	57,75 €	462,00 €	
	strip trimming	m1	72,80	x	3,68 €	267,54 €		72,80	3,68 €	267,54 €	
	POS 4 - - glass panel 285/170cm	pcs	1,00	x	661,50 €	661,50 €		1,00	661,50 €	661,50 €	
	window sill width=20cm, length 2,85m	pcs	1,00	x	57,75 €	57,75 €		1,00	57,75 €	57,75 €	
	strip trimming	m1	9,10	x	3,68 €	33,44 €		9,10	3,68 €	33,44 €	
	POS 5 -window 120/110cm	pcs	18,00	x	194,25 €	3.496,50 €		18,00	194,25 €	3.496,50 €	
	window sill width=20cm, length 1,2m	pcs	18,00	x	31,50 €	567,00 €		18,00	31,50 €	567,00 €	
	lever	pcs	18,00	x	52,50 €	945,00 €		18,00	52,50 €	945,00 €	
	strip trimming	m1	79,20	x	3,68 €	291,06 €		79,20	3,68 €	291,06 €	
	POS 6 -window 275/90cm	pcs	8,00	x	351,75 €	2.814,00 €		8,00	351,75 €	2.814,00 €	
	window sill width=20cm, length 2,75m	pcs	8,00	x	57,75 €	462,00 €		8,00	57,75 €	462,00 €	
	lever	pcs	16,00	x	52,50 €	840,00 €		16,00	52,50 €	840,00 €	
	strip trimming	m1	58,40	x	3,68 €	214,62 €		58,40	3,68 €	214,62 €	
	POS 7 -window 178/90cm	pcs	1,00	x	225,75 €	225,75 €		1,00	225,75 €	225,75 €	
	window sill width=20cm, length 1,78m	pcs	1,00	x	42,00 €	42,00 €		1,00	42,00 €	42,00 €	
	lever	pcs	2,00	x	52,50 €	105,00 €		2,00	52,50 €	105,00 €	
	strip trimming	m1	5,36	x	3,68 €	19,70 €		5,36	3,68 €	19,70 €	
	POS 8- glass panel 480/200cm	pcs	2,00	x	1.386,00 €	2.772,00 €		2,00	1.386,00 €	2.772,00 €	
	window sill width=20cm, length 4,8m	pcs	3,00	x	110,25 €	330,75 €		3,00	110,25 €	330,75 €	
	lever	pcs	4,00	x	52,50 €	210,00 €		4,00	52,50 €	210,00 €	
	strip trimming	m1	27,20	x	3,68 €	99,96 €		27,20	3,68 €	99,96 €	
	POS -8- glass panel 480/200cm	pcs	1,00	x	1.386,00 €	1.386,00 €		1,00	1.386,00 €	1.386,00 €	
	window sill width=20cm, length 4,8m	pcs	1,00	x	110,25 €	110,25 €		1,00	110,25 €	110,25 €	
	lever	pcs	2,00	x	52,50 €	105,00 €		2,00	52,50 €	105,00 €	
	strip trimming	m1	13,60	x	3,68 €	49,98 €		13,60	3,68 €	49,98 €	
	POS 9- glass panel 235/200cm	pcs	1,00	x	672,00 €	672,00 €		1,00	672,00 €	672,00 €	
	window sill width=20cm, length 2,35m	pcs	1,00	x	84,00 €	84,00 €		1,00	84,00 €	84,00 €	
	strip trimming	m1	8,70	x	3,68 €	31,97 €		8,70	3,68 €	31,97 €	
	POS 11- glass panel 385/200cm	pcs	1,00	x	1.365,00 €	1.365,00 €		1,00	1.365,00 €	1.365,00 €	
	window sill width=20cm, length 3,85m	pcs	1,00	x	84,00 €	84,00 €		1,00	84,00 €	84,00 €	
	lever	pcs	1,00	x	52,50 €	52,50 €		1,00	52,50 €	52,50 €	
	strip trimming	m1	11,70	x	3,68 €	43,00 €		11,70	3,68 €	43,00 €	
	POS 12- glass panel 480/230cm	pcs	3,00	x	1.554,00 €	4.662,00 €		3,00	1.554,00 €	4.662,00 €	
	window sill width=20cm, length 4,8m	pcs	3,00	x	105,00 €	315,00 €		3,00	105,00 €	315,00 €	
	strip trimming	m1	42,60	x	3,68 €	156,56 €		42,60	3,68 €	156,56 €	
	POS 13- glass panel 290/230cm	pcs	2,00	x	955,50 €	1.911,00 €		2,00	955,50 €	1.911,00 €	
	window sill width=20cm, length 2,9m	pcs	2,00	x	68,25 €	136,50 €		2,00	68,25 €	136,50 €	
	strip trimming	m1	20,80	x	3,68 €	76,44 €		20,80	3,68 €	76,44 €	
	POS 15 -window 120/110cm	pcs	2,00	x	200,55 €	401,10 €		2,00	200,55 €	401,10 €	
	window sill width=20cm, length 1,2m	pcs	2,00	x	31,50 €	63,00 €		2,00	31,50 €	63,00 €	
	roller blind	pcs	2,00	x	52,50 €	105,00 €		2,00	52,50 €	105,00 €	
	strip trimming	m1	9,20	x	3,68 €	33,81 €		9,20	3,68 €	33,81 €	
	POS 16 -window 180/180cm	pcs	3,00	x	441,00 €	1.323,00 €		3,00	441,00 €	1.323,00 €	
	window sill width=20cm, length 1,2m	pcs	3,00	x	42,00 €	126,00 €		3,00	42,00 €	126,00 €	
	roller blind	pcs	3,00	x	52,50 €	157,50 €		3,00	52,50 €	157,50 €	
	strip trimming	m1	21,60	x	3,68 €	79,38 €		21,60	3,68 €	79,38 €	
	POS 24- glass panel 240/110cm	pcs	3,00	x	378,00 €	1.134,00 €		3,00	378,00 €	1.134,00 €	
	window sill width=20cm, length 2,4m	pcs	3,00	x	52,50 €	157,50 €		3,00	52,50 €	157,50 €	
	lever	pcs	6,00	x	52,50 €	315,00 €		6,00	52,50 €	315,00 €	
	strip trimming	m1	21,00	x	3,68 €	77,18 €		21,00	3,68 €	77,18 €	
	POS 17- door with fanlight 100/300cm	pcs	1,00	x	430,50 €	430,50 €		1,00	430,50 €	430,50 €	
	strip trimming	m1	7,00	x	3,68 €	25,73 €		7,00	3,68 €	25,73 €	
	lever	pcs	1,00	x	52,50 €	52,50 €		1,00	52,50 €	52,50 €	
	POS 25- glass panel 285/230cm	pcs	84,00	x	924,00 €	77.616,00 €		84,00	924,00 €	77.616,00 €	
	window sill width=20cm, length 2,85m	pcs	84,00	x	63,00 €	5.292,00 €		84,00	63,00 €	5.292,00 €	
	strip trimming	m1	865,20	x	3,68 €	3.179,61 €		865,20	3,68 €	3.179,61 €	
	POS 25- glass panel 285/95cm	pcs	56,00	x	924,00 €	51.744,00 €		56,00	924,00 €	51.744,00 €	
	window sill width=20cm, length 2,85m	pcs	56,00	x	63,00 €	3.528,00 €		56,00	63,00 €	3.528,00 €	
	lever	pcs	56,00	x	52,50 €	2.940,00 €		56,00	52,50 €	2.940,00 €	
	strip trimming	m1	420,00	x	3,68 €	1.543,50 €		420,00	3,68 €	1.543,50 €	
	POS 25- -glass panel 285/230cm	pcs	12,00	x	903,00 €	10.836,00 €		12,00	903,00 €	10.836,00 €	
	window sill width=20cm, length 2,85m	pcs	12,00	x	63,00 €	756,00 €		12,00	63,00 €	756,00 €	
	strip trimming	m1	123,60	x	3,68 €	454,23 €		123,60	3,68 €	454,23 €	
	POS 27 - glass panel 160/230cm	pcs	5,00	x	535,50 €	2.677,50 €		5,00	535,50 €	2.677,50 €	
	window sill width=20cm, length 1,6m	pcs	5,00	x	42,00 €	210,00 €		5,00	42,00 €	210,00 €	
	strip trimming	m1	39,00	x	3,68 €	143,33 €		39,00	3,68 €	143,33 €	
	POS 28 - glass panel 300/230cm	pcs	4,00	x	960,75 €	3.843,00 €		4,00	960,75 €	3.843,00 €	
	window sill width=20cm, length 3m	pcs	4,00	x	68,25 €	273,00 €		4,00	68,25 €	273,00 €	
	strip trimming	m1	42,40	x	3,68 €	155,82 €		42,40	3,68 €	155,82 €	
	POS 28' - glass panel 300/190cm	pcs	1,00	x	955,50 €	955,50 €		1,00	955,50 €	955,50 €	
	window sill width=20cm, length 3m	pcs	1,00	x	68,25 €	68,25 €		1,00	68,25 €	68,25 €	
	strip trimming	m1	9,80	x	3,68 €	36,02 €		9,80	3,68 €	36,02 €	
	POS 29 - glass panel 200/200+180/310+201/200cm	pcs	1,00	x	1.911,00 €	1.911,00 €		1,00	1.911,00 €	1.911,00 €	
	window sill width=20cm, length 2m	pcs	2,00	x	47,25 €	94,50 €		2,00	47,25 €	94,50 €	
	lever	pcs	1,00	x	52,50 €	52,50 €		1,00	52,50 €	52,50 €	
	strip trimming	m1	16,00	x	3,68 €	58,80 €		16,00	3,68 €	58,80 €	
	mechanism for autom. closing	pcs	1,00	x	57,75 €	57,75 €		1,00	57,75 €	57,75 €	
	POS 30 - glass panel 200/200cm	pcs	1,00	x	588,00 €	588,00 €		1,00	588,00 €	588,00 €	
	window sill width=20cm, length 2m	pcs	1,00	x	47,25 €	47,25 €		1,00	47,25 €	47,25 €	
	strip trimming	m1	8,00	x	3,68 €	29,40 €		8,00	3,68 €	29,40 €	
	POS 31 - glass panel 480/230cm	pcs	2,00	x	1.585,50 €	3.171,00 €		2,00	1.585,50 €	3.171,00 €	
	window sill width=20cm, length 4,8m	pcs	2,00	x	105,00 €	210,00 €		2,00	105,00 €	210,00 €	
	strip trimming	m1	42,60	x	3,68 €	156,56 €		42,60	3,68 €	156,56 €	
	POS 32 - glass panel 500/230cm	pcs	2,00	x	1.653,75 €	3.307,50 €		2,00	1.653,75 €	3.307,50 €	

No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
	window sill width=20cm, length 5m	pcs	2,00	x 105,00 €	= 210,00 €		2,00	x 105,00 €	= 210,00 €	
	strip trimming	m1	43,80	x 3,68 €	= 160,97 €		43,80	x 3,68 €	= 160,97 €	
	POS 33 - glass panel 380/230cm	pcs	3,00	x 1.270,50 €	= 3.811,50 €		3,00	x 1.270,50 €	= 3.811,50 €	
	window sill width=20cm, length 3,8m	pcs	3,00	x 84,00 €	= 252,00 €		3,00	x 84,00 €	= 252,00 €	
	strip trimming	m1	12,20	x 3,68 €	= 44,84 €		12,20	x 3,68 €	= 44,84 €	
	POS 34 - glass panel 100/325cm	pcs	1,00	x 504,00 €	= 504,00 €		1,00	x 504,00 €	= 504,00 €	
	window sill width=20cm, length 1m	pcs	1,00	x 26,25 €	= 26,25 €		1,00	x 26,25 €	= 26,25 €	
	strip trimming	m1	8,50	x 3,68 €	= 31,24 €		8,50	x 3,68 €	= 31,24 €	
	POS 35 - glass panel 580/230cm	pcs	2,00	x 1.921,50 €	= 3.843,00 €		2,00	x 1.921,50 €	= 3.843,00 €	
	window sill width=20cm, length 5,8m	pcs	2,00	x 136,50 €	= 273,00 €		2,00	x 136,50 €	= 273,00 €	
	strip trimming	m1	32,40	x 3,68 €	= 119,07 €		32,40	x 3,68 €	= 119,07 €	
	POS 36 - glass panel 380/120	pcs	1,00	x 645,75 €	= 645,75 €		1,00	x 645,75 €	= 645,75 €	
	window sill width=20cm, length 3,8m	pcs	2,00	x 84,00 €	= 168,00 €		2,00	x 84,00 €	= 168,00 €	
	strip trimming	m1	10,00	x 3,68 €	= 36,75 €		10,00	x 3,68 €	= 36,75 €	
	POS 37 - glass panel 465/230cm	pcs	1,00	x 1.475,25 €	= 1.475,25 €		1,00	x 1.475,25 €	= 1.475,25 €	
	window sill width=20cm, length 4,65m	pcs	1,00	x 105,00 €	= 105,00 €		1,00	x 105,00 €	= 105,00 €	
	strip trimming	m1	13,90	x 3,68 €	= 51,08 €		13,90	x 3,68 €	= 51,08 €	
	POS 38 - glass panel 100/490	pcs	1,00	x 724,50 €	= 724,50 €		1,00	x 724,50 €	= 724,50 €	
	window sill width=20cm, length 1m	pcs	1,00	x 26,25 €	= 26,25 €		1,00	x 26,25 €	= 26,25 €	
	strip trimming	m1	11,80	x 3,68 €	= 43,37 €		11,80	x 3,68 €	= 43,37 €	
	POS 39 - glass panel 120/95	pcs	1,00	x 168,00 €	= 168,00 €		1,00	x 168,00 €	= 168,00 €	
	window sill width=20cm, length 1,2m	pcs	1,00	x 26,25 €	= 26,25 €		1,00	x 26,25 €	= 26,25 €	
	strip trimming	m1	4,40	x 3,68 €	= 16,17 €		4,40	x 3,68 €	= 16,17 €	
3	Production and installation of the facade aluminium joinery . The price includes everything from the description:									
	* Production and assembling									
	* Self-closing mechanism									
	* Profiles- aluminium, with thermal break									
	* Infill: double-glass panel 4+16+4 mm, with argon or some other inert gas between the panels, with one glass as low-emission or infill: aluminium sandwich panel with polyurethane as infill									
	* Heat transfer coefficient Umax = 3.0 W/m ² K									
	* Solar energy transmittance factor g<65%									
	* Fittings: required set for hanging and closing									
	* Knob - chrome plated - mate									
	* Fit rubber door stoppers on the floor									
	* Opening as shown in the drawings annexed									
	* Profile colour - natural aluminium.									
	Measures to be taken onsite. Calculation per piece of installed joinery, fully in line with the description.									
	General note on aluminium joinery (items 3-8): Depending on the size of the opening, where it is necessary, big windows/doors elements should have additional reinforcement/stiffening of the profiles.									
	POS 1 - glass panel 265/300cm	pcs	1,00	x 2.436,00 €	= 2.436,00 €		1,00	x 2.436,00 €	= 2.436,00 €	
	closing mechanisms	pcs	1,00	x 110,25 €	= 110,25 €		1,00	x 110,25 €	= 110,25 €	
	strip trimming	m1	8,85	x 3,68 €	= 32,52 €		8,85	x 3,68 €	= 32,52 €	
	POS 10 - glass panel 480/310cm	pcs	1,00	x 2.535,75 €	= 2.535,75 €		1,00	x 2.535,75 €	= 2.535,75 €	
	emergency door handle	pcs	2,00	x 110,25 €	= 220,50 €		2,00	x 110,25 €	= 220,50 €	
	hydraulic closing mechanisms	pcs	2,00	x 52,50 €	= 105,00 €		2,00	x 52,50 €	= 105,00 €	
	strip trimming	m1	11,00	x 3,68 €	= 40,43 €		11,00	x 3,68 €	= 40,43 €	
	lever	pcs	2,00	x 52,50 €	= 105,00 €		2,00	x 52,50 €	= 105,00 €	
	door pin stopper	pcs	2,00	x 26,25 €	= 52,50 €		2,00	x 26,25 €	= 52,50 €	
	POS 10 a- glass panel 480/310cm	pcs	1,00	x 2.535,75 €	= 2.535,75 €		1,00	x 2.535,75 €	= 2.535,75 €	
	emergency door handle	pcs	2,00	x 110,25 €	= 220,50 €		2,00	x 110,25 €	= 220,50 €	
	hydraulic closing mechanisms	pcs	2,00	x 52,50 €	= 105,00 €		2,00	x 52,50 €	= 105,00 €	
	strip trimming	m1	11,00	x 3,68 €	= 40,43 €		11,00	x 3,68 €	= 40,43 €	
	door pin stopper	pcs	2,00	x 26,25 €	= 52,50 €		2,00	x 26,25 €	= 52,50 €	
	lever	pcs	2,00	x 52,50 €	= 105,00 €		2,00	x 52,50 €	= 105,00 €	
	POS 10 b- glass panel 235/310cm	pcs	1,00	x 1.228,50 €	= 1.228,50 €		1,00	x 1.228,50 €	= 1.228,50 €	
	strip trimming	m1	8,55	x 3,68 €	= 31,42 €		8,55	x 3,68 €	= 31,42 €	
	POS 14- glass panel 195/310cm	pcs	1,00	x 1.023,75 €	= 1.023,75 €		1,00	x 1.023,75 €	= 1.023,75 €	
	hydraulic closing mechanism	pcs	1,00	x 52,50 €	= 52,50 €		1,00	x 52,50 €	= 52,50 €	
	lever	pcs	1,00	x 52,50 €	= 52,50 €		1,00	x 52,50 €	= 52,50 €	
	strip trimming	m1	8,15	x 3,68 €	= 29,95 €		8,15	x 3,68 €	= 29,95 €	
	POS 26- glass panel 180/316cm	pcs	1,00	x 913,50 €	= 913,50 €		1,00	x 913,50 €	= 913,50 €	
	hydraulic closing mechanism	pcs	1,00	x 52,50 €	= 52,50 €		1,00	x 52,50 €	= 52,50 €	
	lever	pcs	1,00	x 52,50 €	= 52,50 €		1,00	x 52,50 €	= 52,50 €	
	strip trimming	m1	8,10	x 3,68 €	= 29,77 €		8,10	x 3,68 €	= 29,77 €	
4	Production and installation of facade aluminium joinery, made of aluminium profiles coated in plastic layer, without thermal break, with panel infill. The Employer / Employer's Representative will determine the colour of the profiles.									
	Measures to be taken onsite. Calculation per piece of installed joinery, fully in line with the description.									
	POS 18 - Single leaf doors 120/235cm	pcs	1,00	x 467,25 €	= 467,25 €		1,00	x 467,25 €	= 467,25 €	
5	Production and installation of facade aluminium joinery, made of aluminium profiles coated in plastic layer, without thermal break, with panel infill and jalousie fitted into both leaves, in the lower and upper zones. The Employer / Employer's Representative will determine the colour of the profiles.									
	Measures to be taken onsite. Calculation per piece of installed joinery, fully in line with the description.									
	POS 19 - double-leaf doors 200/235cm	pcs	1,00	x 750,75 €	= 750,75 €		1,00	x 750,75 €	= 750,75 €	

No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
6	Production and installation of facade aluminium joinery, consisting of double-leaf doors made of aluminium profiles coated in plastics, without thermal break with panel infill and six openings with jalousie as infill and a fan in one field. The Employer / Employer's Representative determines the colour of the profiles.									
	Measures to be taken onsite. Calculation per piece of installed joinery, fully in line with the description.									
	POS 20 - glass panel 186/91+186/301+186/91cm	pcs	1,00	x 1.475,25 €	= 1.475,25 €		1,00	x 1.475,25 €	= 1.475,25 €	
7	Production and installation of facade aluminium joinery, consisting of single-leaf doors with opening above doors, made of aluminium profiles coated in plastic layer, without thermal break, with panel infill and above door opening with infill in form of panels with fan. The Employer / Employer's Representative determines the colour of the profiles.									
	POS 21- glass panel 95/300cm	pcs	1	x 456,75 €	= 456,75 €		1	x 456,75 €	= 456,75 €	
8	Production and installation PVC glass panel made of hard highly resilient 6-chamber PVC profile reinforced with steel stainless-steel profiles, tightening system with EPDM rubber as shown in the joinery schemes and details, fitted with high quality mechanism for joinery opening, fittings and hinges, fitted on steel substructure - blind frame. Double low emission glass 4+16+4mm with heat transfer coefficient U=1.5 W/m² K and solar factor g=65%, with hermetically sealed argon or dry air between two glass panels, is used as infill. Epoxy rubber is used for permanent tightening. Box AL profiles 30x20 mm are fitted on the inside at clear distance of 17 cm. The Employer / Employer's Representative determines the colour of the profiles.									
	Measures to be taken onsite. Calculation per piece of installed joinery, fully in line with the description.									
	POS 22- glass panel 865/220+865/285+1150/220	pcs	1,00	x 456,75 €	= 456,75 €		1,00	x 456,75 €	= 456,75 €	
	mechanism for automatic door closing	pcs	1,00	x 110,25 €	= 110,25 €		1,00	x 110,25 €	= 110,25 €	
	emergency door handle	pcs	1,00	x 52,50 €	= 52,50 €		1,00	x 52,50 €	= 52,50 €	
	rope for opening	pcs	4,00	x 52,50 €	= 210,00 €		4,00	x 52,50 €	= 210,00 €	
	window sill d=20cm length=3m	pcs	1,00	x 63,00 €	= 63,00 €		1,00	x 63,00 €	= 63,00 €	
	window sill d=20cm length=9m	pcs	1,00	x 199,50 €	= 199,50 €		1,00	x 199,50 €	= 199,50 €	
	Al boxes 20*30mm	m1	120,00	x 10,50 €	= 1.260,00 €		120,00	x 10,50 €	= 1.260,00 €	
	Al strip trimming	m1	38,00	x 3,68 €	= 139,65 €		38,00	x 3,68 €	= 139,65 €	
	door pin stopper	pcs	1,00	x 26,25 €	= 26,25 €		1,00	x 26,25 €	= 26,25 €	
	POS 23- glass panel 865/220+865/285+1150/220cm	pcs	1,00	x 11.849,25 €	= 11.849,25 €		1,00	x 11.849,25 €	= 11.849,25 €	
	rope	pcs	10,00	x 52,50 €	= 525,00 €		10,00	x 52,50 €	= 525,00 €	
	window sill d=20cm length=8,65m	pcs	2,00	x 194,25 €	= 388,50 €		2,00	x 194,25 €	= 388,50 €	
	window sill d=20cm length=11,5m	pcs	1,00	x 252,00 €	= 252,00 €		1,00	x 252,00 €	= 252,00 €	
	Al boxes 20*30mm	m1	259,95	x 10,50 €	= 2.729,48 €		259,95	x 10,50 €	= 2.729,48 €	
	Al strip trimming	m1	57,50	x 3,68 €	= 211,31 €		57,50	x 3,68 €	= 211,31 €	
9	Production and installation of protective mesh for windows in the basement and ground floor. The mesh is made of steel box profiles 60*60mm which form frame, with external dimensions 298*212cm, two vertical poles in the field made of box profiles 40*40mm and mesh (stretched metal of approximate dimensions of a rhomb cca 85*35mm) as infill. The mesh is welded to angle profiles L30*30 and then fitted into the frame so that L profile is visible on the external side. Joinery prepared in such way is attached with bolts to previously fitted U profile welded to steel pillars. The entire structure is anchored, appropriately protected and painted in some of the standard colours, selected by the Employer / Employer's Representative.									
	Measures to be taken on site. Calculation per piece of installed joinery, fully in line with the description.									
	POS m - 298/212cm	pcs	9,00	x 478,80 €	= 4.309,20 €	5	0	x 478,80 €	=	OFV 48, approved by Client on 31/10/2014.
	POS m - 298/152cm	pcs	9,00	x 373,80 €	= 3.364,20 €	5	0	x 373,80 €	=	OFV 48, approved by Client on 31/10/2014.
	TOTAL for FACADE JOINERY REPLACEMENT				277.140,29 €				269.466,89 €	
III	NON-EE AND ANCILLARY WORKS ARISING FROM IMPLEMENTATION OF EE MEASURES									
1	Dismantling of vertical gutters round cross-section Ø10cm made of galvanized sheet metal with its dumping at landfill. The price to include all the work, material and transport.									
	Calculation per m ¹ .	m1	256,00	x 1,04 €	= 264,96 €		256,00	x 1,04 €	= 264,96 €	
2	Dismantling of vertical iron gutters, round cross-section Ø10cm with its dumping at landfill. The price to include all the work, material and transport.									
	Calculation per m ¹ .	m1	31,00	x 1,04 €	= 32,09 €		31,00	x 1,04 €	= 32,09 €	

No.	Item Description	measure	Quantity		Unit price (€)	=	Amount (€)	VO	Quantity		Unit price (€)	=	Amount (€)	COMMENTS
3	Dismantling of existing reflector brackets with reflectors, brackets with earth antennas and satellite dishes, cameras and such. Dismantled elements need to be recorded and handed over to the Employer / Employer's Representative for storing, and after installation of the new facade, reinstalled on the building. Note: If it turns out that smoke sensors are ionizing sensors, these need to be removed in an appropriate manner, wrapped and taken to a location set out by municipal agency, in line with valid regulations.													
	Calculation as per piece													
3.1.	brackets with reflectors with reflectors, as well as brackets for earth antennas and satellite dishes, and these antennas	pcs	2,00	x	60,03 €	=	120,06 €		2,00	x	60,03 €	=	120,06 €	
3.2.	cameras	pcs	2,00	x	60,03 €	=	120,06 €		2,00	x	60,03 €	=	120,06 €	
3.3.	antennas	pcs	2,00	x	60,03 €	=	120,06 €		2,00	x	60,03 €	=	120,06 €	
4	Disconnecting, dismantling and dumping at landfill existing coaxial cables.													
	Calculation per m ¹ .	m1	100,00	x	0,72 €	=	72,45 €		100,00	x	0,72 €	=	72,45 €	
5	Dismantling of fixed ladder for climbing the boiler room chimney. The item should include all the work, tools and transportation to a landfill. Fixed ladders and cca 2 m long.													
	Calculation per piece	pcs	1,00	x	31,05 €	=	31,05 €		1,00	x	31,05 €	=	31,05 €	
6	Bricking up door opening, closing part of the opening for narrowing the opening and construction of parapet wall at the part of the glass panel opening, using with gas concrete d=20 cm ("ytong" or equivalent with similar or better characteristics) cm and 12cm laid in lime-cement mortar 1:2:6 with required concrete belt course. Calculation per m2 complete with belt courses and reinforcement.													
6.1.	bricking up walls in the ground floor 1,1*1,7m using with gas concrete d=20 cm ("ytong" or equivalent with similar or better characteristics)	m2	1,87	x	64,58 €	=	120,77 €		1,87	x	64,58 €	=	120,77 €	
6.2.	construction of parapet wall at the ground floor, at the entrance section h=1,1m, with gas concrete d=20 cm ("ytong" or equivalent with similar or better characteristics)	m2	29,70	x	64,58 €	=	1.918,14 €		29,70	x	64,58 €	=	1.918,14 €	
6.3.	bricking up part of glass panel at the ground floor towards the atrium using with gas concrete d=20 cm ("ytong" or equivalent with similar or better characteristics)	m2	9,38	x	64,58 €	=	605,80 €		9,38	x	64,58 €	=	605,80 €	
6.4.	bricking up part of the door glass panel at the ground floor 1,7*3,15m using brick=20cm	m2	5,36	x	64,58 €	=	345,85 €		5,36	x	64,58 €	=	345,85 €	
6.5.	construction of parapet wall at level -1.8 with gas concrete d=20 cm ("Ytong" or equivalent with similar or better characteristics)	m2	6,16	x	64,58 €	=	397,84 €		6,16	x	64,58 €	=	397,84 €	
6.6.	construction of parapet wall at the levels ±0,00, +1,86, +3,66, +4,59, 7,32, 9,18 section h=1,35m, with gas concrete bricks d=20 cm ("Ytong" or equivalent with similar or better characteristics).	m2	215,46	x	64,58 €	=	13.915,27 €		215,46	x	64,58 €	=	13.915,27 €	
6.7.	bricking up openings which remained on the roof on steel beam of the staircase area (from beam to beam, and from column to column) brick=12cm	m2	17,35	x	51,13 €	=	887,19 €		17,35	x	51,13 €	=	887,19 €	
6.8.	bricking up opening to build parapet wall h=1,1m on steel beam of the staircase area and in section of the corridor leading towards the atrium using brick=12cm	m2	21,56	x	51,13 €	=	1.102,34 €		21,56	x	51,13 €	=	1.102,34 €	
6.9.	bricking up part of the corridor on the first floor leading to the secretary and accountant's office on steel beam using brick=12cm	m2	5,70	x	51,13 €	=	291,44 €		5,70	x	51,13 €	=	291,44 €	
6.10.	bricking up opening in the roof from steel beam to steel beam and from steel column to steel column using brick=12cm	m2	10,50	x	51,13 €	=	536,85 €		10,50	x	51,13 €	=	536,85 €	
7	Purchase and installation of profiled standard flexible expansion joints at wall-to-wall contact for dilatation width of 5 cm, fully in line with technology of the manufacturer.													
	Calculation per m1	m1	24,00	x	21,74 €	=	521,64 €		24,00	x	21,74 €	=	521,64 €	
8	Production and installation of the vertical gutters of 120/120mm square section, made of ready-made, painted, galvanized and plastic coated sheet, colour will be selected by the Designer. Gutters should be installed with all required anchors and flanges with the necessary binding and joining material.													
	Calculation per m ¹ .	m1	240,00	x	15,11 €	=	3.626,64 €		240,00	x	15,11 €	=	3.626,64 €	
9	Repair of damages in the parapet walls d=20cm and more, caused by dismantling of the joinery. Surfaces should be treated with cement mortar 1:3, to prepare the item for installation of new PVC joinery with a blind frame, plastic-laminated galvanized steel metal sheets and PVC sills. The price includes all works and materials, including possible skimming and painting, to bring the jambs in previous condition.													
	Calculation per m ¹ .	m1	48,00	x	6,73 €	=	322,92 €		48,00	x	6,73 €	=	322,92 €	

No.	Item Description	measure	Quantity		Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
10	Repair of jamb damages d=20cm, caused by dismantling the joinery. Surfaces should be treated with lime cement mortar 1:2:6, previously sprinkled with low density cement mortar, to prepare the item for installing a new PVC joinery with a blind frame, plastic-laminated galvanized steel metal sheets and PVC sills. The price includes all works and materials, including possible skimming and painting, to bring the jambs in previous condition.										
	Calculation per lump sum m ¹ .	m1	102,06	x	6,73 €	= 686,61 €		102,06	x 6,73 €	= 686,61 €	
11	Production and installation of facade flashings, beneath existing roof flashings, over facade made of galvanized sheet metal d=0.7mm, colour will be selected by the Designer from the standard RAL pallet of colors. Developed width 25cm and 33cm. The item includes surface preparation and complete binding following the regulations. The entire process should be carried out in line with the design, and sample selected by the Designer.										
	Calculation per m1 d.w.=25cm	m1	92,00	x	13,04 €	= 1.199,77 €		92,00	x 13,04 €	= 1.199,77 €	
	Calculation per m1 d.w.=33cm	m1	10,00	x	13,04 €	= 130,41 €		10,00	x 13,04 €	= 130,41 €	
12	Correction of protective paint of the steel structure that got damaged during dismantling and remantling of joinery with previous base preparation. The estimation is made lump sum. The item needs to include all the material and work.										
	Calculation per m2	m2	104,33	x	7,45 €	= 777,45 €		104,33	x 7,45 €	= 777,45 €	
13	Mechanical plastering of internal walls using gypsum mortar ratio 1:3:9 d=2cm. Plastered surfaces must be flat and smooth without waves or dents with sharp edges.										
	Calculation per m2	m2	323,06	x	8,07 €	= 2.608,06 €		323,06	x 8,07 €	= 2.608,06 €	
14	Treatment of walls with "interior" coating applied on previously skimmed surface, using two layers of "gletofix" mass, colour same as existing (yellow).										
	Calculation per m2	m2	323,06	x	2,38 €	= 769,04 €		323,06	x 2,38 €	= 769,04 €	
15	Preparation and installation of flashings on the connection between the roof and parapet wall using galvanized sheet metal d=0.7mm, colour will be selected by the Designer from the standard RAL pallet of colours. Developed width 50cm. The item includes surface preparation and complete binding following the regulations with previous dismantling of existing flashings. The entire process should be carried out in line with the design, and sample selected by the Designer.										
	Calculation per m1 width=50cm	m1	22,00	x	15,11 €	= 332,44 €		22,00	x 15,11 €	= 332,44 €	
16	Installation of fixed ladder for climbing, with fittings (protection during climbing), for the boiler room chimney. Ladder and the fittings should be mounted in line with Occupational Safety and Health Law of Montenegro (Article 45). Total height of the ladder is 200cm.										
	Calculation as per piece of complete ladder with fittings	pcs	1,00	x	201,83 €	= 201,83 €		1,00	x 201,83 €	= 201,83 €	
	TOTAL FOR NON-EE AND ANCILLARY WORKS ARISING FROM IMPLEMENTATION OF EE MEASURES					32.059,03 €				32.059,03 €	
IV	MEASURES TO ENABLE HIGHER COMFORT AND BETTER WORKING CONDITIONS										
1	Tiling floor in the boiler room with the class I anti-slip, acid proof tiles. The size, colour and tone of the tiles will be selected by the Designer and approved sample by the Employer/Employer's Representative. Line the tiles in the waterproof adhesive layer joint bonding manner, by using pointing plaster.										
	Calculation per m2 of fully treated position with 10 cm plinth along the sides of the room.	m2	38,60	x	22,25 €	= 858,95 €		38,60	x 22,25 €	= 858,95 €	
2	Flashing of the lower side of eaves and upper side of eaves of the substation using plastic coated profiled sheet metal in the same colour as existing roof sheet metal by putting vertical flashing of the eaves under existing roof flashing. Height of vertical flashing is cca 30cm. Eaves are made of wood. The price includes all required material, tools, work and scaffold. Calculation per m2 of the eaves.										
	Calculation per m2 of the eaves.	m2	10,00	x	15,11 €	= 151,11 €		10,00	x 15,11 €	= 151,11 €	
3	Scraping of the old paint from the walls in the corridors and classrooms, removal and loading of the debris onto a truck and its transportation to a landfill up to 5 km distance. The item includes all pre-works for new painting, and usage of scaffold. Calculation as per m2 of scraped painted area.										
	Calculation as per m2 of scraped painted area.	m2	10.080,00	x	0,31 €	= 3.129,84 €	3	1.155,43	x 0,31 €	= 358,76 €	Facade walls and bricked up areas only (communication 01/08/2014).
4	Polishing of internal walls in the corridors and classrooms. Skimming should be applied in required number of layers until completely flat surface is achieved. This item includes scraping, plastering, neutralization, impregnating. Calculation as per m2, including all material, work and required scaffolding.										
	Calculation as per m2, including all material, work and required scaffolding.	m2	10.080,00	x	2,38 €	= 23.995,44 €	3	1.155,43	x 2,38 €	= 2.790,50 €	Facade walls and bricked up areas only (communication 01/08/2014).

No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
5	Painting of internal walls. Employer / Employer's representative will select the colour of semi dispersed distemper. Painting shall be done in the classrooms and corridors of the school building-ceiling and the walls in the area between 1,5 m level and the ceiling level. This item includes pre-painting, and correction with the toned dispersive filler or pointing plaster. Final layer of paint should be applied twice		6.340,00	1,66 €	10.499,04 €	3	524,50	1,66 €	868,57 €	Facade walls, bricked up areas and boiler house only (communication 01/08/2014).
	Calculation as per m2, including all material, work and required scaffolding.									
6	Painting of internal walls with oil based paint. Employer / Employer's representative will select the colour of greasy paint. Painting shall be done in the classrooms and corridors of the school building-the walls in the area beneath 1,5 m level, in the gym-beneath 2,20 m level, locker rooms the walls in the area beneath 1,5 m level, also painting of the newly build walls in the color and the manner of painting as the existing walls. This item includes pre-painting, and correction with the toned dispersive filler or pointing plaster. Final layer of paint should be applied twice									
	Painting of visible pipes,instalations in bright child friendly colors (red, blue, yellow, green) and painting of hydrant and switch boxes determined by Employer / Employer's representative									
	Calculation as per m2, including all material, work and required scaffolding.	m2	3.740,00	x 3,36 € =	12.580,43 €	3	852,51	x 3,36 € =	2.867,8 €	Facade walls and bricked up areas only (communication 01/08/2014).
7	Replacement of defect interior wooden door wings approx. 90 cm wide and 2.1 m high by a heavy duty wooden unit with smooth surface. This position includes the repair of the door frame, an exactly adapted new laminated tubular chip board door leaf, the change of the door lock, the door handle set, the locking plate, the hinges (min. 3 units) and coating of frame and edge of the wing (process: filling and grinding, primer, grinding, two layers of synthetic resin paint). All materials shall be first quality. The doors to be treated shall be determined by the Employer/Employer's Representative.									
	Calculated as per piece	pcs	75,00	x 257,51 € =	19.313,10 €	3	0	x 257,51 € =	0	Excluded by Client (communication 01/08/2014)
8	Replacement of plasterboards on the modular suspended ceiling similar to "Armstrong" with new boards in line with the existing one.									
		m2	850,00	x 18,32 € =	15.571,58 €	3	0	x 18,32 € =	0	Excluded by Client (communication 01/08/2014)
9	Supply and installation of metal blinds from white coated aluminium, following the attached scheme. Blinds should be made of sturdy quality material, mounted on a metal substructure. The substructure shall consist of two metal bars which shall be attached with stainless steel crews to the window frame. Blinds shall be fixed mounted with a slight slope, corresponding to the position of the best protection from the sun during the day and considering the orientation of the window. The blinds shall allow easy maintenance of the window, especially the cleaning of the panes. The blinds shall be sampled and approved by the Employer/Employer's Representative. Measures shall be taken on-site, adapted to each window frame.									
	Position of the metal blinds is presented in the drawings (MLL-01-ARH-018)									
	Calculation per m2	m2	31,88	x 89,25 € =	2.845,29 €	3	0	x 89,25 € =	0	Excluded by Client (communication 01/08/2014)
10	Painting the metal structures and handrails of all staircases. Entire structure shall be cleaned, treated with protective paint and finished with minimum two layers of oil based paint. Colours shall be standard ones, determined by the Employer / Employer's Representative.									
		lump sum	1,00	1.552,50 € =	1.552,50 €	3	0	1.552,50 € =	0	Excluded by Client (communication 01/08/2014)
11	Supply and installation of wall padding for the metal columns in the gym. Wall padding features an 18 mm thick wafer board base onto which the padding foam is bonded. Pads upholstered with closed-cell expanded polyethylene and coated with vinyl fabric. The finishing material needs to be flexible, highly resistant against moisture and bacteria, and easy to maintain. Installation with appropriate connection to the wall. Dimensions are 2.0 m x approx. 1.0 linear m around the steel beam, and approx. 30mm thickness. The material and color scheme shall be sampled and approved by the Employer/Employer's Representative. Calculation as per piece.									
		pcs	18,00	x 54,86 € =	987,39 €	3	0	x 54,86 € =	0	Excluded by Client (communication 01/08/2014)

No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
12	Repairing of the existing parquet floor. Machine sanding and varnishing of the parquet . Conduct these procedures three times by using color free lacquer. Before varnishing, thoroughly clean the surface from dust. Conduct varnishing with a brush, to avoid bubbles. The item includes processing of the angular parquet batten.									
	Calculation per m2	m2	100,00	x 19,25 € =	1.925,10 €	3	0	x 19,25 € =	0	Excluded by Client (communication 01/08/2014)
13	Removal of the existing, damaged floors and parquets and all their layers up to the existing cement screed. Taking out, loading and transportation to a certain location, up to 5 km away. This item includes possible removal of the parquet batten and it won't be charged separately.									
	Calculation per m2	m2	100,00	x 3,62 € =	362,25 €	3	0	x 3,62 € =	0	Excluded by Client (communication 01/08/2014)
14	Purchase and applying self leveling mass in certain classrooms. Before applying the mass thoroughly clean the surface from dust.									
	Calculation per m2	m2	100,00	x 8,38 € =	838,35 €	3	0	x 8,38 € =	0	Excluded by Client (communication 01/08/2014)
15	Purchase and applying of Vinyl floor. Adhesive shall be adequate for this type of floor. Before applying the adhesive thoroughly clean the surface from dust .									
	Calculation per m2	m2	100,00	x 20,39 € =	2.038,95 €	3	0	x 20,39 € =	0	Excluded by Client (communication 01/08/2014)
16	Purchase and applying of the Vinyl floor stripe on the room edges.									
	Calculation per m1	m1	60,00	x 7,25 € =	434,70 €	3	0	x 7,25 € =	0	Excluded by Client (communication 01/08/2014)
17	Planting lime (Tilia sp.) tree or some similar species, in accordance with Employer / Employer's representative. 3m height in the school yard between the gym and the main building. Trees shall be planted on min. 5m distance and min. 4 m distance from the buildings. Dig a pit for planting, throw out debris and dirt from the pit. Perform the planting by mixture of humus, fertilizer and sand in the ratio 6:3:1. During planting cover 2/3 of the depth of the pit with mentioned mixture and 1/3 with the addition of peat enriched fertilizer with 3 kg per tree. Having completed the planting of the seedlings trees shall be well watered.									
	Calculation per piece	pcs	10,00	x 51,75 € =	517,50 €	3	0	x 51,75 € =	0	Excluded by Client (communication 01/08/2014)
18	Supply and installation in existing wooden fanlight frame of a manual operated glass louver unit with metal structure elements; including removal of existing fixed glazing, all fastening material and making good of the adjacent frame by skimming/smoothing and oil coating. Operating lever to be placed in the lower part, for easy handling; size: approx. 90 cm wide and 1.0 m high; transparent float glass 4 mm thick.									
	Calculated as per piece	pcs	30,00	x 264,55 € =	7.936,38 €	3	0	x 264,55 € =	0	Excluded by Client (communication 01/08/2014)
	GENERAL NOTE: If certain internal hindering items have be removed, they have to be re-installed or replaced by new ones and these costs shall be included in the respective line items (e.g. curtain rails, sports wall equipment in sport halls, etc.).									
TOTAL FOR MEASURES TO ENABLE HIGHER COMFORT AND BETTER WORKING CONDITIONS					105.537,89 €				7.855,52 €	
V	LIST OF SPARE PARTS									
1	Purchase and delivery of the spare window handle.									
	Calculated as per piece	pcs	3,00	x 7,25 € =	21,74 €		3,00	x 7,25 € =	21,74 €	
2	Purchase and delivery of the spare internal door handle.									
	Calculated as per piece	pcs	1,00	x 20,18 € =	20,18 €		1,00	x 20,18 € =	20,18 €	
3	Purchase and delivery mounted door rubber stopper.									
	Calculated as per piece	pcs	2,00	x 5,18 € =	10,35 €		2,00	x 5,18 € =	10,35 €	
4	Purchase and delivery of push bar mechanism to the floor, to keep external doors open.									
	Calculated as per piece	pcs	2,00	x 31,05 € =	62,10 €		2,00	x 31,05 € =	62,10 €	
5	Purchase and delivery of rope operated opening mechanism for the windows at high.									
	Calculated as per piece	pcs	2,00	x 6,21 € =	12,42 €		2,00	x 6,21 € =	12,42 €	
TOTAL FOR SPARE PARTS					126,79 €				126,79 €	
	NOTE Spare parts shall be submitted to school representatives in the presence of Employer / Employer's representative, followed up by signing hand over document.									
SUMMARY OF COSTS I-V										
I	THERMAL INSULATION OF FAÇADE WALLS				62.892,97 €				62.892,97 €	
II	REPLACEMENT OF FAÇADE JOINERY				277.140,29 €				269.466,89 €	
III	NON-EE AND ANCILLARY WORKS ARISING FROM IMPLEMENTATION OF EE MEASU				32.059,03 €				32.059,03 €	

No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
IV	MEASURES TO ENABLE HIGHER COMFORT AND BETTER WORKING CONDITIONS				105.537,89 €				7.855,52 €	
V	SPARE PARTS				126,79 €				126,79 €	
	TOTAL PRICE, VAT EXCLUDED:				477.756,96 €				372.401,20 €	
	TOTAL PRICE WITH 3% DISCOUNT				463.424,26 €				361.229,16 €	
	VAT (19%):				88.050,61 €				68.633,54 €	
I-V	TOTAL PRICE (WITH DISCOUNT), VAT INCLUDED:				551.474,86 €				429.862,70 €	
VI	ADDITIONAL WORKS									
1	Bricking up opening in corridor on steel beam of the staircase area (from beam to beam, and from column to column) Ytong brick=15cm Price taken from MLL ARH BoQ III - 6.7 11.39€/m2	m2	4	14,65	x	51,13 €	=		749,05 €	OFV 06, approved by Client on 23/09/2014.
2	Purchase of the material and installation of demit façade (EPS 10cm with final plaster layer) on upper part of the new wall - half is under the roof. Price taken from MLL ARH BoQ I - 1.1 20.18€/m2	m2	4	7,32	x	20,18 €	=		147,72 €	OFV 06, approved by Client on 23/09/2014.
3	Plastering the internal side of new Ytong wall. Price taken from MLL ARH BoQ III - 13 8.07€/m2	m2	4	14,65	x	8,07 €	=		118,23 €	OFV 06, approved by Client on 23/09/2014.
4	Skimming the internal side of new Ytong wall. Price taken from MLL ARH BoQ IV - 4 2.33€/m2	m2	4	14,65	x	2,33 €	=		34,13 €	OFV 06, approved by Client on 23/09/2014.
5	Painting the internal side of new Ytong wall with semidispersive paint. Price taken from MLL ARH BoQ IV - 5 1.66€/m2	m2	4	7,32	x	1,66 €	=		12,15 €	OFV 06, approved by Client on 23/09/2014.
6	Painting the internal side of new Ytong wall with oil paint. Price taken from MLL ARH BoQ IV - 6 3.36€/m2	piece	4	7,32	x	3,36 €	=		24,60 €	OFV 06, approved by Client on 23/09/2014.
7	Purchase of the material, installation thermal insulation EPS d=10cm on the parapet walls inside of the roof. Price from Wolfin deviation list task 5- 10.67€/m2	m2	4	13,13	x	10,67 €	=		140,10 €	OFV 06, approved by Client on 23/09/2014.
8	Purchase of the material and installation of wall of cardboards on metal substructure with mineral wool 10cm as infill on staircase area between ground and first floor. Price from offer n01 for Cluster II- Marsal Tito 26.95€/m2 - 6.25€ because of one layer of card boards= 20.7€/m2	m2	4	6,50	x	20,70 €	=		134,55 €	OFV 06, approved by Client on 23/09/2014.
9	Skimming the internal side of new cardboard wall. Price taken from MLL ARH BoQ IV - 4 2.33€/m2	m2	4	6,50	x	2,33 €	=		15,15 €	OFV 06, approved by Client on 23/09/2014.
10	Dismantling of window fix in the staircase area on first floor dimensions 320x460cm, loading and transport to the town landfill. MLL ARH BoQ II - 1 31.5€/m2	piece	4	1,00	x	31,50 €	=		31,50 €	OFV 06, approved by Client on 23/09/2014.
11	Dismantling of window fix in the staircase area on first floor dimensions 150x430cm, loading and transport to the town landfill. MLL ARH BoQ II - 1 21€/m2	piece	4	1,00	x	21,00 €	=		21,00 €	OFV 06, approved by Client on 23/09/2014.
12	Painting the internal side of new cardboard wall with semidispersive paint. Price taken from MLL ARH BoQ IV - 5 1.66€/m2	m2	4	6,50	x	1,66 €	=		10,79 €	OFV 06, approved by Client on 23/09/2014.
13	Production and installation of the vertical gutters of 120/120mm square section, made of ready-made, painted, galvanized and plastic coated sheet, colour will be selected by the Designer. Gutters should be installed with all required anchors and flanges with the necessary binding and joining material. In original BoQ it was 240m, on site 363.9m1-additional 123.9m1. Price from MLL BoQ ARH III 8- 15.11€	m1	4	123,90	x	15,11 €	=		1.872,13 €	OFV 14, approved by Client on 23/09/2014.
14	Production and installation of facade flashings, beneath existing roof flashings, over facade made of galvanized sheet metal d=0.7mm, colour will be selected by the Designer from the standard RAL pallet of colors. Developed width 25cm. The item includes surface preparation and complete binding following the regulations. The entire process should be carried out in line with the design, and sample selected. In original BoQ it was 92m, on site 116.65m1-additional 24.65m1. Price from MLL BoQ ARH III 11- 13.04€	m1	4	24,65	x	13,04 €	=		321,44 €	OFV 14, approved by Client on 23/09/2014.
15	Production and installation of facade flashings, beneath existing roof flashings, over facade made of galvanized sheet metal d=0.7mm, colour will be selected by the Designer from the standard RAL pallet of colors. Developed width 33cm. The item includes surface preparation and complete binding following the regulations. The entire process should be carried out in line with the design, and sample selected. In original BoQ it was 10m, on site 28.3m1-additional 18.3m1. Price from MLL BoQ ARH III 11- 13.04€	m1	4	18,30	x	13,04 €	=		238,63 €	OFV 14, approved by Client on 23/09/2014.

No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
16	Production and installation of facade drips, on the parts of denivelation because of bricking of the existing openings on facade made of galvanized sheet metal d=0.7mm, colour will be selected by the Designer from the standard RAL pallet of colors. Developed width 33cm. The item includes surface preparation and complete binding following the regulations. The entire process should be carried out in line with the design, and sample selected. Price from Daso Pavicic BoQ ARH1.07-14.6e/m1	m1				4	208,35 x 14,60 € =	3.041,91€	OFV 14, approved by Client on 23/09/2014.	
17	Replacement of plasterboards on the modular suspended ceiling similar to "Armstrong" with new boards in line with the existing one. Price: Cluster I Mileva Lajovic ARH- IV 8-18.32e/m2	m2				5	150,00 x 18,32 € =	2.748,00€	OFV 16, approved by Client on 23/09/2014.	
18	Skimming of the replaced boards of suspended ceilings. Price: Cluster I Mileva Lajovic ARH- IV 4-2.38e/m2	m2				5	150,00 x 2,38 € =	357,00€	OFV 16, approved by Client on 23/09/2014.	
19	Painting of the replaced boards of suspended ceilings with semi dispersive color. Price: Cluster I Mileva Lajovic ARH- IV 5-1.66e/m2	m2				5	150,00 x 1,66 € =	249,00€	OFV 16, approved by Client on 23/09/2014.	
20	Polishing and painting of steel structure-metal columns on walls with new joinery in the classrooms and in the corridors. Price: Cluster I Mileva Lajovic ARH-III 12-7.45e/m2	m2				5	212,11 x 7,45 € =	1.580,22€	OFV 17, approved by Client on 31/10/2014.	
21	Skimming of the replaced boards of suspended ceilings. Price: Cluster I Mileva Lajovic ARH- IV 4-2.38e/m2	m2				5	116,00 x 2,38 € =	276,08€	OFV 17, approved by Client on 31/10/2014.	
22	Dismantling of existing old glass panel window in the gym - the one with the roof on the other side- dimensions - Price: Cluster I Mileva Lajovic ARH- II 1-105e	piece				5	1,00 x 105,00 € =	105,00€	OFV 17, approved by Client on 31/10/2014.	
23	Bricking up the widow in the gym with Ytong blocks Price: Cluster I Mileva Lajovic ARH- III 6.10-51.13e/m2	m2				5	10,00 x 51,13 € =	511,30€	OFV 17, approved by Client on 31/10/2014.	
24	Plastering new bricked Ytong wall from one side - Price: Cluster I Mileva Lajovic ARH- III 13-8.07e/m2	m2				5	10,00 x 8,07 € =	80,70€	OFV 17, approved by Client on 31/10/2014.	
25	Skimming new bricked Ytong wall from one side Price: Cluster I Mileva Lajovic ARH- IV 4 -2.38e/m2	m2				5	10,00 x 2,38 € =	23,80€	OFV 17, approved by Client on 31/10/2014.	
26	Painting new bricked Ytong wall from one side with semi dispersive color Price: Cluster I Mileva Lajovic ARH - IV 4 -1.66e/m2	m2				5	10,00 x 1,66 € =	16,60€	OFV 17, approved by Client on 31/10/2014.	
27	Supply and installation of EPS boards d=10 cm on the exterior side of new bricked wall. Price: Cluster II Spasic Masera ARH - I 1.13 d=8cm 8.1e/ m2 +2e	m2				5	10,00 x 10,10 € =	101,00€	OFV 17, approved by Client on 31/10/2014.	
28	Supply of the material, assembling and installation of aluminum windshield porter's room including a lockable entrance door . Dimensions of a windshield are 380x310cm (11.478m2) Price: Cluster I Braca Ribar ARH-III 4 B-700x320cm 5292e - our position is half of B-2646e	piece				5	1,00 x 2.646,00 € =	2.646,00€	OFV 18, approved by Client on 31/10/2014.	
29	Supply and installation of self closing mechanism GU - BKS with the stoper inside-difference in price is 45e per piece (old self closing mechanism + door stoper= 78.5e-Mileva Lajovic ARH BoQ II-3 new price 123.5e)	m2				5	2,00 x 45,00 € =	90,00€	OFV 18, approved by Client on 31/10/2014.	
30	Cleaning of the existing horizontal gutters, removing mud, dust and water. Filling small cracs with Sika K+D kit. Cleaning 1.5e, sealing 1.5e, profit 10%	m1				5	115,00 x 3,30 € =	379,50€	OFV 26, approved by Client on 31/10/2014.	
31	Preparation and installation of roof flashings-drips on the roof over the horizontal gutter to prevent leaking (because horizontal gutters are in a very bad condition) using galvanized sheet metal d=0.7mm, color will be selected by the Designer from the standard RAL pallet of colors. Developed width 66cm. The item includes surface preparation and complete binding following the regulations with previous dismantling of existing flashings. The entire process should be carried out in line with the design, and sample selected by the Designer. Calculation per m1 width 66cm. Price Mileva Lajovic Lalatovic BoQ ARH III-15 - 15.11 e d.w.50cm- +2.1e d.w. 66cm	m1				5	20,00 x 17,21 € =	344,20€	OFV 26, approved by Client on 31/10/2014.	
32	Cutting of the edges of existing roof cover, to enable proper fixing of new flashings over the horizontal gutter, replacing and correcting anchors with replacement of washers.	m1				5	20,00 x 2,80 € =	56,00€	OFV 26, approved by Client on 31/10/2014.	

No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
33	Production and installation of window parapet sills made from galvanized metal sheet 0.7mm, d.w. up to 50cm. Price B.R ARH BoQ IV 11- 15.11e	m1				6	138,52	x 15,11 € =	2.093,04 €	OFV 34, approved by Client on 31/10/2014.
34	Production and installation of facade drips, on the parts of denivelation because of bricking of the existing openings on facade made of galvanized sheet metal d=0.7mm, colour will be selected by the Designer from the standard RAL pallet of colors. Developed width 33cm. The item includes surface preparation and complete binding following the regulations. The entire process should be carried out in line with the design, and sample selected. Price from Daso Pavicic BoQ ARH1.07- 14.6e/m1	m2				6	20,60	x 14,60 € =	300,76 €	OFV 34, approved by Client on 31/10/2014.
35	Production and installation of facade flashings, beneath existing roof flashings, over facade made of galvanized sheet metal d=0.7mm, colour will be selected by the Designer from the standard RAL pallet of colors. Developed width 25cm. The item includes surface preparation and complete binding following the regulations. The entire process should be carried out in line with the design, and sample selected. Price from MLL BoQ ARH III 11- 13.04e	m1				6	78,25	x 14,60 € =	1.142,45 €	OFV 34, approved by Client on 31/10/2014.
36	Digging of the hole dimensions 2x2.5m (5m3) in the soil in the back yard, loading and transporting excavated soil to the town landfill, supply and installation of three gravel fractions from the bottom 32-64cm, 16-32cm, 4-16cm. Making of derange channel for atmosphere water on the edge of gym. Excavation with transport to the landfill 245e, supply of gravell 195e, installation and planning 65e, profit 10%	lumpsum				6	1,00	x 555,50 € =	555,50 €	OFV 34, approved by Client on 31/10/2014.
37	Production and installation of meshes manufactured from ropes. Meshes shall be attached on ceilings/ walls over the windows in the gym as a glass protection. Dimension of mesh, both sides included 42+88=120m2. Price for material and installation 9.32e/m2	m2				5	120,00	x 9,32 € =	1.118,40 €	OFV 50, approved by Client on 31/10/2014.
38	Purchase of the material and patching of the holes in the suspended ceilings with gypsum boards and fugen filler. After patching holes, area must be skimmed and smoothed. Existing holes needs to be cut properly and then patched with piece of gypsum board. Dimensions of the holes are 25x25cm. Total number of dismantled luminaries is 680, and total number of holes is 826. Material 1.5e, cutting, assembling and installation 2.2e, profit 10%	piece				6	826,00	x 4,07 € =	3.361,82 €	OFV 45, approved by Client on 28/11/2014.
39	Purchase of the material and protection of new luminaries with tape in order to prevent damages by painting ceilings. Work and material 0.6e	piece				6	589,00	x 0,60 € =	353,40 €	OFV 45, approved by Client on 28/11/2014.
40	Painting of the ceilings with two layers of semidispersive color with previous preparation works: scrapping and skimming damaged parts. Scrapping 0.2e, painting 1.66e, partial skimming 0.5e, protection of floors and walls and moving of furniture and cleaning after work 0.6e	m2				6	4.226,17	x 2,96 € =	12.509,46 €	OFV 45, approved by Client on 28/11/2014.
41	Dismantling of floor and wall tiles in old toilet. Price B.R ARH BoQ V-1 - 3.62e	m2				6	10,00	x 3,62 € =	36,20 €	OFV 56, approved by Client on 28/11/2014.
42	Replacement of damaged ceramic floor and wall tiles after laying new water and sewage installations Price B.R ARH BoQ V-11 - 22.25e	m2				6	12,00	x 22,25 € =	267,00 €	OFV 56, approved by Client on 28/11/2014.
43	Purchase of material and installation of new cement screed. Price B.R ARH BoQ V-8 - 9.83e	m2				6	14,00	x 9,83 € =	137,62 €	OFV 56, approved by Client on 28/11/2014.
44	Instalation of new water and sewage pipes with all necessary fittings and valves for new hand wash and bowl for handicapped people with all necessary drilling in the concrete slab, making chanel for pipes, and after installation reparation of concrete slab, installation of new waterproof layer and screed. Materal, fittings valves 250e, transport 35e, 4 plumbers 10h- 168e, 4 unskilled laborers 10h 120e, profit 10%	piece				6	1,00	x 630,30 € =	630,30 €	OFV 56, approved by Client on 28/11/2014.
45	Purchase and mounting of complete ceramic bowl, for handicapped people, with flush ceramic bowl with special seat 285e, flush 52e, delivery 10e, plumber 16.8, profit 10%- price from A11 fast rack- Vlado Milic	piece				6	1,00	x 400,00 € =	400,00 €	OFV 56, approved by Client on 28/11/2014.
46	Purchase and mounting of complete ceramic lavatory set, with its supports, chrome plated single-lever basin mixer (hot and cold), chrome plated trap, towel holder, mirror for handicapped people Hand wash- 121e, chrome mixer 35e, plated trap 22e, mirror 50e, towel holder 10e, delivery 10e, plumber 15.3e, profit 10%	piece				6	1,00	x 290,00 € =	290,00 €	OFV 56, approved by Client on 28/11/2014.
47	Purchase and installation of water proof insulation. Price from BR BoQ ARH V-9 21.74e/m2	m2				6	14,00	x 21,74 € =	304,36 €	OFV 56, approved by Client on 28/11/2014.

No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
48	Purchase and mounting of two holders for handicapped people- material 135e, transport 10e, plumber 4.2e, profit 10%	piece				6	2,00	x 165,00 =	330,00 €	OFV 56, approved by Client on 28/11/2014.
49	Purchase of the material and installation of the ceramic floor tiles Price from B.J BoQ ARH V 11 22.25e/m2	m2				6	4,00	x 22,25 =	89,00 €	OFV 56, approved by Client on 28/11/2014.
50	Purchase of the material and installation of the ceramic wall tiles Price from B.R BoQ ARH V 12- 22.25e/m2	m2				6	16,70	x 22,50 =	375,75 €	OFV 56, approved by Client on 28/11/2014.
51	Skimming and painting with semi dispersive paint of the ceiling and walls. Price from B.R BoQ ARH V-13 4.35e/m2	m2				6	16,00	x 4,20 =	67,20 €	OFV 56, approved by Client on 28/11/2014.
52	Purchase and installation of one wall mounted air ventilator. Supply and delivery 60e, installation with making hole in the wall and cabling -50e, profit 10%-	piece				6	1,00	x 121,00 =	121,00 €	OFV 56, approved by Client on 28/11/2014.
53	Delivery and mounting of ceiling mounted light fitting 1/28 W T16 IP54, opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material are calculated per unit. AS 1X28/1/IP54 OPAL, sa with light sources Mareli Bulgary	piece				6	1,00	x 34,50 =	34,50 €	OFV 56, approved by Client on 28/11/2014.
54	Dismantling of old existing door together with frame and upper light . Price from M.T BoQ ARH 1.01 10.3e/m2.+ 5	piece				6	1,00	x 15,30 =	15,30 €	OFV 56, approved by Client on 28/11/2014.
55	Extension of door hole, cutting walls and reinforcement of jambs for installation of a new door- dimensions 105/205cm. Cutting walls 70e, reinforcement of the jambs 65e, profit 10%	piece				6	1,00	x 148,50 =	148,50 €	OFV 56, approved by Client on 28/11/2014.
56	Supply of the material assembling and installation of new aluminium door dimensions 205x105cm. Price from M.T BoQ ARH 4.10 a 10.3e/m2.	piece				6	1,00	x 340,93 =	340,93 €	OFV 56, approved by Client on 28/11/2014.
57	Purchase of the material and installation of gypsum wall on metal substructure over the new aluminum door. Price 26.95e offer for variation no 10 cluster II	m2				6	2,00	x 26,95 =	53,90 €	OFV 56, approved by Client on 28/11/2014.
58	Purchase of the material and installation of concrete ramp for handicapped persons in the entrance area of school. 3m long 1m width- 0.75m3 of concrete with reinforcement . Material 70e, concrete 60e, workers 75e, transport 30e, profit 10%	piece				6	1,00	x 258,50 =	258,50 €	OFV 56, approved by Client on 28/11/2014.
59	Cleaning of the space after finishing of all works and removal of debris	lumpsum				6	1,00	x 200,00 =	200,00 €	OFV 56, approved by Client on 28/11/2014.
60	Purchase of the material and installation of metal grille in the floor of the boiler room. Grille is made of metal L profiles 50x50x5mm, and metal bars f16mm. Dimensions of grille are 125x60cm. Before installation of new grille cutting of existing metal pipes of old sewer installation is needed. Material 115e, work 85e, transport 15e, profit 10%	piece				6	1,00	x 236,50 =	236,50 €	OFV 56, approved by Client on 28/11/2014.
61	Setting up of "Demit" thermal façade on the atrium walls- omitted by designer. Price MLL Arh BoQ I-3- 20.18e EPS 10cm, 25.36e XPS 10cm EPS d=10cm XPS d=10cm	m2 m2				6 6	647,49 88,25	x 20,18 € = x 25,36 € =	13.066,35 € 2.238,02 €	OFV 36, approved by Client on 28/11/2014.
62	Dismantling of old horizontal gutters, carefully lowering and stacking to the site landfill with handing over to the school representative.	m1				6	255,15	x 1,50 € =	382,73 €	OFV 43, approved by Client on 26/01/2015.
63	Dismantling of old entering sheets for gutters, carefully lowering and stacking to the site landfill with handing over to the school representative.	m1				6	251,95	x 1,50 € =	377,93 €	OFV 43, approved by Client on 26/01/2015.
64	Dismantling of old attic flashings, roof cornices, wind flashings, carefully lowering and stacking to the site landfill with handing over to the school representative.	m1				6	611,40	x 1,50 € =	917,10 €	OFV 43, approved by Client on 26/01/2015.
65	Dismantling of the old roof TR metal sheet aluminum double cover with mineral wool insulation- on two school pavilions, carefully lowering and stacking to the site landfill with handing over to the school representative.	m2				6	1.280,50	x 3,00 € =	3.841,50 €	OFV 43, approved by Client on 26/01/2015.
66	Purchase of the material - metal boxes 60x40x3mm lifting and installation on the roof sub structure- making reinforcements on existing roof metal structure I200 and I120, leveling nex metal Boxes 60x40x3mm between I120 metal profiles for new TR still metal sheet cover. All new substructure must be painted with protective metal paint.	kg				6	7.067,00	x 2,50 € =	17.667,50 €	OFV 43, approved by Client on 26/01/2015.
67	Purchase of the matterial and installation of new horizontal gutters made from galvanized metal sheet d=0.7mm d.w up to 80cm. All necessary conecting material is included in the price.	m1				6	255,15	x 15,11 € =	3.855,32 €	OFV 43, approved by Client on 26/01/2015.
68	Purchase of the matterial and installation of new entering sheets for horizontal gutters made from galvanized metal sheet d=0.7mm d.w 25cm. All necessary conecting material is included in the price.	m1				6	251,95	x 12,60 € =	3.174,57 €	OFV 43, approved by Client on 26/01/2015.

No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
69	Purchase of the material and installation of new attic flashings made from galvanized metal sheet d=0.7mm d.w 40cm. All necessary connecting material is included in the price.	m1				6	205,00	x 14,60 € =	2.993,00 €	OFV 43, approved by Client on 26/01/2015.
70	Purchase of the material and installation of new wind flashings made from galvanized metal sheet d=0.7mm d.w 60cm. All necessary connecting material is included in the price.	m1				6	197,90	x 15,11 € =	2.990,27 €	OFV 43, approved by Client on 26/01/2015.
71	Purchase of the material and installation of new top roof cornice- roof purlin, made from galvanized metal sheet d=0.7mm d.w 60cm. All necessary connecting material is included in the price.	m1				6	208,50	x 15,11 € =	3.150,44 €	OFV 43, approved by Client on 26/01/2015.
72	Purchase of the material and installation of TR 35 galvanized plastificated roof metal sheet cover d=0.6mm, dark brown color.	m2				6	1.280,50	x 15,56 € =	19.924,58 €	OFV 43, approved by Client on 26/01/2015.
73	Purchase and installation of thermal insulation with rock wool d=10cm, heat transfer coefficient $\lambda_{max} = 0,04$ W/mK, with two PVC foil layers . The price includes all works and material as per description. Calculation is per m2 of the installed insulation.	m2				6	1.280,50	x 11,50 € =	14.725,75 €	OFV 43, approved by Client on 26/01/2015.
74	Purchase of the material and installation of galvanized plastificated metal sheet flashing over the windows in connection with metal roof with thermal insulation EPS stripe d=3cm connected to the sheet. The shape of flashing is similar to W , to enable gluing EPS stripe 3cm width for thermal insulation.Metal sheet 15.6e, thermal insulation d=3cm 2.8e, scaffolding and elevators 4.5e	m1				6	186,00	x 22,90 € =	4.259,40 €	OFV 57, approved by Client on 26/01/2015.
SUMMARY OF COSTS VI										
	TOTAL PRICE, VAT EXCLUDED:								135.813,30 €	
	VAT (19%):								25.804,53 €	
VI	TOTAL PRICE (WITHOUT DISCOUNT), VAT INCLUDED:								161.617,82 €	
SUMMARY OF COSTS I-VI										
I-VI	TOTAL PRICE, VAT INCLUDED:								591.480,53 €	

No.		Item Description	Unit of measure	CONTRACT			AMENDMENT 1			COMMENTS				
				Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)		Amount (€)			
GROUP A5.1.2		Investor: Ministry of Economy of Montenegro, Energy Efficiency Sector Project financed by: KfW ENTWICKLUNGSBANK Consultant; Konsultant: FICHTNER GmbH&Co. KG Sub-Consult; Lokalni projekt; KOPRING PMC, Podgorica School; Objekat: P.S "Mileva Lajović Lalatović", Nikšić Doc. origin; Dokumentacija: Final Heating Design Date: 16 November 2013												
		TABLE OF QUANTITIES of thermal-technical (heating) services for energy efficiency improvement in "Mileva Lajović Lalatović" Primary School in Nikšić												
A - Measure No. 1: Energy management														
1		Purchase, supply and installation of ultrasonic heat gauge and cable from computer unit to heat gauge of 1,5m, for mounting into return piping line. The gauge is battery powered. Together with gauge a pair of temperature sensors Pt500 is delivered, one sensor mounted directly into flow gauge body, M-Bus module, brass bushing for sensors mounting, and set threaded unions.												
		Manufacturer: Siemens or equivalent Type: "UH50 Ultraheat" Nominal flow: 15 m ³ /h Connector: DN50	pcs	1	x	1.500,84 €	=	1.500,84 €	1	x	1.500,84 €	=	1.500,84 €	
2		Purchase, supply and installation of electronic flow gauge for light fuel oil.												
		Manufacturer: Aqua metro or equivalent Type: VZO 4 RE Nominal flow: 50 l/h Minimum flow: 1 l/h	pcs	2	x	576,84 €	=	1.153,68 €	2	x	576,84 €	=	1.153,68 €	
3		Purchase, supply and installation of control unit with M-Bus communication and display.												
		Manufacturer: Siemens or equivalent Type: "Climatix POL638"	pcs	1	x	2.830,08 €	=	2.830,08 €	3	0	x	2.830,08 €	=	0 Excluded (communication 01/08/2014).
4		Software development and staff training.	pcs	1	x	792,00 €	=	792,00 €	3	0	x	792,00 €	=	0 Excluded (communication 01/08/2014).
TOTAL A - ENERGY MANAGEMENT						6.276,60 €				2.654,52 €				
B - Measure No. 4: Replacement of the heating system														
B.I Dismantling of existing equipment and preliminary works														
1		Dismantling of the existing heating system equipment, radiators (227 pcs.), pipes (total length of 3000 m), air-release network (total length of 500 m), hot water calorifiers in the gym (9 pcs.) and boiler room equipment (2 boilers capacity 580 kW with burners, feeders, return pipes, expansion vessel, daily distilled oil fan, chemical water treatment device, pumps, air-release valves and other fittings).												
		item calculated lump-sum	pcs	1	x	4.620,00 €	=	4.620,00 €	1	x	4.620,00 €	=	4.620,00 €	
2		Cleaning of the existing below grade light distilled oil tank capacity 50m ³ , removal of deposits, dumping in a set way, replacement of intake group, servicing safety valves and inspection of entire supporting equipment.												
		item calculated lump-sum	pcs	1	x	1.650,00 €	=	1.650,00 €	1	x	1.650,00 €	=	1.650,00 €	
3		Installation of concrete base for the boilers, size 2 times 235 x 110 x 10 cm. The base is tiled with floor tiles												
		item calculated lump-sum	set	1	x	500,00 €	=	500,00 €	1	x	500,00 €	=	500,00 €	
4		Making of openings on one vertical side of the existing chimney for installation of new prefabricated chimneys through the old, cleaning of the chimney, removal of waste and fitting of cap at the top of the old chimney where new is mounted.												
		item calculated lump-sum	pcs	1	x	396,00 €	=	396,00 €	1	x	396,00 €	=	396,00 €	
B.II Boiler room elements and fittings														
1		Purchase, delivery and installation of compact three-pass steel boiler with cylindrical combustion chamber, for economic drive with slide water temperature in the boiler, for combusting light distilled oil type EL for heating systems with feed temperature max. operating temperature) of up to 110°C, with Therm-Control for operating without additional function for increasing return temperature, i.e. protection for the cold end of the boiler, properties:												
		Manufacturer: Viessmann or equivalent Type: Vitoplex 300 TX3A Nominal heat capacity 300kW Efficiency 96% Permiss. Operating pressure 4 bar Flue outlet 200 mm Dimensions: length 2330 mm width 905mm height 1460 mm Weight with insulation 890 kg												

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No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
	Boiler water capacity 430 lit									
	Boiler body fully insulated with stiff insulation thickness 100 mm.									
	Scope of delivery: boiler with doors, cleaning aperture, virburator, counter-flanges with bolts and nuts, thermal insulation, inspection port for combustion chamber, virburator extraction tool, boiler control Vitotronic 100 - tip GC1B. With two stage light distilled oil burner Vitoflame 100. The burner is ready-set to nominal boiler capacity.									
	Vitotronic 100 digital control is used for operating two-stage or modulating burners. Boiler protective functions Therm-Control, without additional function for protection of the cold end of the boiler, with illuminated push-buttons, simplified starting via sockets, flexible sanitary water control (alternative control of the system with water storage with three-way control valve), integrated diagnose system and switching to summer economy operating mode.									
	Vitotronic 100 includes: heating system on/off switch, test button, electronic maximal temperature limiter, temperature controller and safety temperature limiter in line with DIN 4751, operating status indicator and fault, lap-top optolink, heating programme selector buttons, changing the boiler water temperature, changing DHW temperature, temperature modes, pump blockage protector and switching to economy regime, with boiler temperature sensor.									
		set	2	x 13.473,24 €	= 26.946,48 €		2	x 13.473,24 €	= 26.946,48 €	
2	Purchase, delivery and installation: cascade control unit Vitotronic 300-K (type MW1B), for cascade control of the system comprised of two to four boilers, for mutual control of all the boilers at outdoor temperature, with two heating circuits with mixers and preparation of hot sanitary water, for system with two-stage or modulating burner, with display, illuminated push buttons, simplified starting through socket function, flexible DHW temperature control (alternatively, control of the system with water storage with three-way control valve), with digital built-in timer for daily and weekly programmes, integrated diagnose system, switching to, summer, economy, mode and fuel consumption indicator.									
	Automatics include: start switch, test service switch, external temperature sensor, electronic maximal temperature limiter, temperature controller and safety temperature limiter in line with DIN 4751, operating status and fault indicator, Optolink lap-top socket, heating programme selector buttons, changing boiler water temperature, changing DHW temperature, pump blockage protection and switching to economy mode.									
		set	1	x 1.758,24 €	= 1.758,24 €		1	x 1.758,24 €	= 1.758,24 €	
3	Purchase, delivery and installation: console for cascade control unit mounting on the boiler room wall in the proximity of the boilers.									
		pcs	1	x 42,24 €	= 42,24 €		1	x 42,24 €	= 42,24 €	
4	Purchase, delivery and installation: LON communication module is electronic printed circuit board for installation in Vitotronic 100 (type GC1) for data exchange with other heating circuit control units Vitotronic. LON external cable for data exchange between control units with socket connection RJ45, 7 m long.									
		pcs	2	x 264,00 €	= 528,00 €		2	x 264,00 €	= 528,00 €	
5	Purchase, delivery and installation of Vitoset membrane safety valve Type MS 1 1/4 with activation pressure of 3 bar. For closed heating installations thermal capacity up to 350 kW. Brass casing. Connection: G 1 1/4, Outlet: G 1 1/2									
		pcs	2	x 92,40 €	= 184,80 €		2	x 92,40 €	= 184,80 €	
6	Purchase, delivery and installation of throttle valve PN16 DN80 with motor with additional fitting of butterfly valve VKF 41, DN 40 bis DN 150.									
		pcs	2	x 687,72 €	= 1.375,44 €		2	x 687,72 €	= 1.375,44 €	
7	SCHIEDEL chimney system ICS 25 is stainless steel W.Nr. 1.4404 wall thickness 0,6 mm, with 25 mm layer of high-quality and resistant insulation - Superwool. All chimney elements are fitted fully in line with technical documentation for the subject building. Prefabricated elements are corrosion resistant and laser welded in protective atmosphere. The system passed GASTEC corrosion test.									

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No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
	System elements are structured in such way so that joints allow for resistance to condensation and gas-tightness. Because of the sleeve joint, the insulation in the pipe is able to be continuous the length of the system ensuring no hot spots. ICS chimney system includes all required elements: condensation vessel, inspection port and boiler, telescopic pipes, basic pipes, bearing dilatation element, anchoring clips, sleeve joint clips, chimney brackets, flashings and chimney terminals. ICS system is fully in compliance with EN 1856 standard.									
	Manufacturer: Schiedel or equivalent									
	Internal diameter: 250 mm									
	Effective chimney height 9 m									
	Furnace flue height 1.2m									
	Furnace flue diameter 250mm									
		set	2	x 3.352,80 €	= 6.705,60 €		2	x 3.352,80 €	= 6.705,60 €	
8	Purchase, delivery and installation of the duplex circulating pump with electronic frequency controller used to supply the radiator heating, with integrated controller, with the ability to control pressure on the thrust, proportionally and constantly, properties:									
	Manufacturer: Grundfos or equivalent									
	Type: Magna D 50-60 F									
	Flow: 14,6 m³/h									
	Thrust: 4,2 m									
	Type of connection: Flanged DN50									
	Power supply: V=1x230V~									
	Maximum current: I=0,17 - 1,7A									
	Transferred power: P=25 - 400W									
	Pumps are delivered and installed jointly with the counter flanges, connecting and sealing material.									
		pcs	1	x 2.798,40 €	= 2.798,40 €		1	x 2.798,40 €	= 2.798,40 €	
9	Purchase, delivery and installation of three-stage circulating pump for hot water calorifiers, following properties:									
	Manufacturer: Grundfos or equivalent									
	Type: UPS 25-80 N 180									
	Flow: 3,7 m³/h									
	Thrust: 3,9 m									
	Type of connection: threaded G 1 1/2									
	Power supply: V=1x230V~									
	Maximum current: I=0,7A									
	Transferred power: P=110/155/165W									
	Pumps are delivered and installed jointly with connecting and sealing material.									
		pcs	1	x 227,04 €	= 227,04 €		1	x 227,04 €	= 227,04 €	
10	Purchase, delivery and installation of compact water softener. Compact casing contains ion-exchange resin, automatically regenerated once its capacity is spent, with following properties:									
	Manufacturer: Viessmann or equivalent									
	Type: Aquaset 1000									
	Maximal flow: 2,0 m³/h									
	Amount of resin: 25 l									
	Softening capacity (at 18°dH) 5500 liters									
	Salt consumption per regeneration: 4 kg									
	Operating pressure: 1,4 – 8 bar									
	Operating temperature: 4-40 °C									
	Connections: 1"									
	Electric outlet 220V/50Hz									
	Dimensions									
	depth 432 mm									
	width 324mm									
	height 1170 mm									
	The softener is delivered with self-cleaning pre-filter consisting of casing with protective 25 microns mesh.									
		pcs	1	x 1.752,96 €	= 1.752,96 €		1	x 1.752,96 €	= 1.752,96 €	
11	Purchase, delivery and installation of membrane expansion vessel. Maximal permitted pressure is 6 bars, pre-set pressure is 3,5 bars, maximal permitted temperature is 120 °C.									
	Manufacturer: Pneumatex, Switzerland									
	Type: Statico SU 600.6									
	Volume: 600 lit									
	Dimensions:									
	diameter 740mm									
	height 1638mm									
	mass 81kg									
	connection 3/4"									
		pcs	1	x 2.274,36 €	= 2.274,36 €		1	x 2.274,36 €	= 2.274,36 €	
12	Purchase, delivery and installation of angle safety valve "Genebre", properties:									
	Rated outlet: DN32									
	Rated pressure: 6 bars									
	Maximal discharge flow: 28,594 kg/h									
	Operating pressure 4 bars									
	Working temperature: -10 oC to +220 oC									
	Max. operating pressure: 16 bars									
	Coefficient: K=0,05									
	Overpressure calibration: 10% from the set pressure									
	Max. counterpressure: 1,031 bar									
		pcs	1	x 118,80 €	= 118,80 €		1	x 118,80 €	= 118,80 €	
13	Purchase, delivery and fitting of feeder and receiver pipes for radiator and calorifer heating circuits following dimensions:									
	Diameter 219,1x4,5 mm									

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No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
	Length 1500 mm Connections DN32 x 1pcs DN40 x 1pcs DN80 x 1pcs DN100 x 1pcs R3/4" x 2pcs R1/2" x 2pcs									
		pcs	2	571,56 €	1.143,12 €		2	571,56 €	1.143,12 €	
14	Purchase, delivery and fitting of flat butterfly valves with flanges, with counter-flanges, screws and nuts, gaskets "Genebre", connection size: DN100 PN6									
	DN80 PN6	pcs	2	104,28 €	208,56 €		2	104,28 €	208,56 €	
		pcs	8	91,08 €	728,64 €		8	91,08 €	728,64 €	
15	Purchase, delivery and installation of threaded ball valves, connection size DN40 PN6									
	DN32 PN6	pcs	4	34,98 €	139,92 €		4	34,98 €	139,92 €	
	DN25 PN6	pcs	4	28,51 €	114,05 €		4	28,51 €	114,05 €	
		pcs	4	26,93 €	107,71 €		4	26,93 €	107,71 €	
16	Purchase, delivery and installation of pipes and differential pressure controller valve, connection size: DN40 PN6 - Kvs 23,5									
	DN32 PN6 - Kvs 16	pcs	1	192,72 €	192,72 €		1	192,72 €	192,72 €	
	DN25 PN6 - Kvs 10,4	pcs	1	168,96 €	168,96 €		1	168,96 €	168,96 €	
	DN20 PN6 - Kvs 6,1	pcs	7	116,16 €	813,12 €		7	116,16 €	813,12 €	
		pcs	3	88,44 €	265,32 €		3	88,44 €	265,32 €	
17	Purchase, delivery and installation of flanged backflow preventers with counter-flanges, bolts, nuts, gaskets PN6, following dimensions of connections: DN80 PN6									
		pcs	2	204,60 €	409,20 €		2	204,60 €	409,20 €	
18	Purchase, delivery and fitting of flanged Y-strainer with counter-flanges, bolts, nuts, gaskets following dimensions of connections DN80 PN6									
	DN40 PN6	pcs	2	141,24 €	282,48 €		2	141,24 €	282,48 €	
		pcs	2	63,36 €	126,72 €		2	63,36 €	126,72 €	
19	Purchase, delivery and fitting of fixed aluminium weather louver, size 300x300mm, to be fitted in the boiler room doors (to allow undisturbed air flow for fuel combustion in the boiler).									
		pcs	2	46,20 €	92,40 €		2	46,20 €	92,40 €	
20	Purchase, delivery and installation of overpressure light aluminium facade jealousies 700x500mm.									
		pcs	1	105,60 €	105,60 €		1	105,60 €	105,60 €	
21	Purchase, delivery and installation of water gauge at fresh water feeder from the water mains into the softener, with flow control scale and number disk for total flow registration, connection dimensions 1".									
		pcs	1	114,84 €	114,84 €		1	114,84 €	114,84 €	
22	Purchase, delivery and installation of glass thermometer in brass casing and sleeve for fitting into the pipeline, metering range 0-120°C.									
		pcs	5	29,70 €	148,50 €		5	29,70 €	148,50 €	
23	Purchase, delivery and installation of pressure gauge complete with manometer flow-through valve, metering range 0-6 bars.									
		pcs	5	30,62 €	153,12 €		5	30,62 €	153,12 €	
24	Purchase, delivery and installation of threaded backflow preventer, connection size: DN25 PN6									
		pcs	1	14,26 €	14,26 €		1	14,26 €	14,26 €	
25	Purchase, delivery and installation of automatic valve for water fill in the system, with block valve and ball backflow valve filter and manometer with following characteristics: Manufacturer: Caleffi or equivalent Connection dimensions 1" Control range 0.3 – 4 bar Maximal flow at inlet 16bar Maximal temperature at inlet 50°C									
		pcs	1	50,95 €	50,95 €		1	50,95 €	50,95 €	
26	Purchase, delivery and fitting of three-way mixing and feeder valve for continuous control of the hot and cold water system with electric motor, connection dimensions: DN65 PN6 - Kvs-63									
		pcs	1	880,44 €	880,44 €		1	880,44 €	880,44 €	

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No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
	DN32 PN6 - Kvs-18.5	pcs	1	594,00 €	594,00 €		1	594,00 €	594,00 €	
27	Purchase, delivery and assemblage of air-release vessels with overflow pipe and valve DN 15, made of black steel pipe, DN100 length 350 mm.	pcs	4	59,40 €	237,60 €		4	59,40 €	237,60 €	
28	Purchase, delivery and installation of DN15 fill and discharge tap valve with a cap, chain and threaded connection.	pcs	5	9,64 €	48,18 €		5	9,64 €	48,18 €	
29	Purchase of material and installation of pipeline made of steel seamless pipes (water distribution and air-release network) in line with JUS standard C.B5.221 or DIN 2448, following dimensions:									
	Ø114,3x3,6	m	15	30,62 €	459,36 €		15	30,62 €	459,36 €	
	Ø88,9x3,2	m	10	23,36 €	233,64 €		10	23,36 €	233,64 €	
	Ø76,1x2,9	m	70	18,88 €	1.321,32 €		70	18,88 €	1.321,32 €	
	Ø60,3x2,9	m	280	15,05 €	4.213,44 €		280	15,05 €	4.213,44 €	
	Ø48,3x2,6	m	90	11,35 €	1.021,68 €		90	11,35 €	1.021,68 €	
	Ø42,4x2,6	m	220	9,77 €	2.148,96 €		220	9,77 €	2.148,96 €	
	Ø33,7x2,6	m	200	8,32 €	1.663,20 €		200	8,32 €	1.663,20 €	
	Ø26,9x2,3	m	430	7,00 €	3.008,28 €		430	7,00 €	3.008,28 €	
	Ø21,3x2,0	m	1500	6,34 €	9.504,00 €		1500	6,34 €	9.504,00 €	
	Ø17,2x1,8	m	300	5,41 €	1.623,60 €		300	5,41 €	1.623,60 €	
30	Joining, tightening material and brackets, elbows, branches and such are calculated as 60% of the previous pipe item. This item includes cleaning, prime coating and painting with finishing paint resilient to high temperatures.									
	Calculated as 60% of the previous item		0,6	25.197,48 €	15.118,49 €		0,6	25.197,48 €	15.118,49 €	
31	Purchase of material and production of insulation for pipes, feeders and receivers using rock wool, thickness 50 mm in AL coating thickness 0.5 mm, complete with fitting material. Fire resistance flammability class A1 in line with SIST EN 13501-1 i JUS U.J.050. Calculated as per m ² of insulation measured on the exterior of the pipe.	m ²	45	33,00 €	1.485,00 €		45	33,00 €	1.485,00 €	
32	Purchase, delivery and installation of cast ribbed radiators, following properties: Manufacturer: Termik Zrenjanin or equivalent Mark: 580/3 No. of channels: three-channeled rib Height: 580mm Rib width: 110mm Axis separation: 500mm Rib length: 60mm Heating surface: 0,188m ² Water capacity: 0,800lit Rib weight: 4,9kg Thermal power per rib at 90/70°C: 99W	pcs	2984	11,69 €	34.876,99 €		2984	11,69 €	34.876,99 €	
33	Purchase, delivery and installation of thermostatic radiator valve connection size 1/2"	pcs	197	14,42 €	2.841,53 €		197	14,42 €	2.841,53 €	
34	Purchase, delivery and installation of thermostatic head for installation in buildings that accommodate many people, with flexural strength of the thermostatic head min. 1000 N (anti-theft). Continuous setting of temperature is done using special key without having to remove protective cap. The thermostat has liquid sensor. Manufacturer: Heimeier or equivalent Type: B Temperature range from 8 °C to 26 °C No. of channels: four Closing time 24 min.	pcs	197	17,42 €	3.432,53 €		197	17,42 €	3.432,53 €	
35	Purchase, delivery and installation of radiator angle valves, size 1/2"	pcs	197	11,22 €	2.210,34 €		197	11,22 €	2.210,34 €	
36	Purchase, delivery and installation of radiator cap, size 5/4"	pcs	394	1,58 €	624,10 €		394	1,58 €	624,10 €	
37	Elements for reduction of pipes diameter 5/4" to 1/2".	pcs	394	1,58 €	624,10 €		394	1,58 €	624,10 €	
38	Purchase, delivery and mounting of filling and draining valve, connection size from 1/2"	pcs	10	5,50 €	54,96 €		10	5,50 €	54,96 €	

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No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
39	Purchase, delivery and installation of brackets for heat emitters.	pcs	200	x 7,92 €	= 1.584,00 €		200	x 7,92 €	= 1.584,00 €	
40	Purchase, delivery and installation of differential pressure controller valve with no additional power feeding, for two-pipe systems with thermostatic valves fitted on heat emitters, with continuous temperature setting, with 1 m long capillary pipe (fitted on the return pipe of the manifold) size and properties:									
a)	DN50, connectors 1/4", 700-9000/h	pcs	1	x 331,32 €	= 331,32 €		1	x 331,32 €	= 331,32 €	
b)	DN65, connectors 1/4", 900-12000/h	pcs	1	x 935,88 €	= 935,88 €		1	x 935,88 €	= 935,88 €	
41	Purchase, delivery and installation valves for riser pipes with meter gauges in brass casing, pre-setting with digital reading (fitted on the feed pipe of the manifold), size and properties:									
a)	DN50 Kvs - 33	pcs	1	x 107,32 €	= 107,32 €		1	x 107,32 €	= 107,32 €	
b)	DN65 Kvs - 85	pcs	1	x 282,48 €	= 282,48 €		1	x 282,48 €	= 282,48 €	
42	Purchase, delivery and installation of wall mounted hot water calorifers with following properties: Manufacturer: Frico or equivalent Mark: SWS02 Thermal power at t=15°C: 19000W Heater type: Cu-Al (copper aluminium) Heating medium: hot water 80-60 °C Air flow: 2340 m³/h Dimensions: depth 275 mm width 540 mm height 545 mm Power supplying: 0,67 A Electrical outlet: 230V, 50 Hz Noise level: 57 dB Calorifer mass: 18 kg connection: 3/4"									
	The position includes basic filter and mixing box for fresh and return air, intake facade grille, and preparation of connection box made of steel galvanized sheet metal thickness 0.5 mm for three calorifers.	pcs	4	x 1.425,60 €	= 5.702,40 €		4	x 1.425,60 €	= 5.702,40 €	
43	Purchase, delivery and installation of five-stage fan controller for hot water calorifer, properties: Manufacturer: Systemair or equivalent Label: RE1.5 Maximum power: 1,5 A	pcs	1	x 108,90 €	= 108,90 €		1	x 108,90 €	= 108,90 €	
44	Purchase, delivery and installation of the room thermostat with concealed temperature setting, to control indoor temperature in the gym and manage operating of gym calorifers, complete with 2x0,75mm² cable, 5 m long. Manufacturer: Systemair or equivalent Label: T10	pcs	1	x 60,72 €	= 60,72 €		1	x 60,72 €	= 60,72 €	
45	Purchase, delivery and mounting of oblique balancing valves in brass casing, size and properties: Manufacturer: TA or equivalent Type: STAD STAD 20, with draining 1/2" Kvs=5,70	pcs	4	x 49,63 €	= 198,53 €		4	x 49,63 €	= 198,53 €	
46	Purchase, delivery and installation of threaded block valves, in brass casing, size 3/4" (DN20)	pcs	4	x 13,73 €	= 54,91 €		4	x 13,73 €	= 54,91 €	
47	Purchase, delivery and installation of bracket tray holders and bolts for mounting calorifers to the gym ceiling	pcs	4	x 105,60 €	= 422,40 €		4	x 105,60 €	= 422,40 €	
48	Purchase and installation of PP-R water pipes for connecting equipment for chemical water treatment, for operating pressure of 10 bars with all required fittings. Pipes need to be fixed to walls with double pipe clips at every 1.5 to 2.0 m. Pipes on branching need to be insulated with "plamafleksom" to prevent condensation. Pipes are welded with butt welded joint. Pipe diameter is rated diameter of DN25.	m	8	x 10,43 €	= 83,42 €		8	x 10,43 €	= 83,42 €	
49	Purchase and delivery of "brinoks" hose DN 20 with unions at ends, 5 m length, for filling and discharging the installation.	pcs	1	x 47,52 €	= 47,52 €		1	x 47,52 €	= 47,52 €	
50	Making of opening in the wall for fresh air supply to hot water calorifers, size 50x50 cm	pcs	4	x 63,36 €	= 253,44 €		4	x 63,36 €	= 253,44 €	

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
51	Pipe temperature sensor: * Metering range : -50... +130°C * Metering element: NTC thermistor * threaded connecting: R 1/2" * nipple length: 200 mm									
		pcs	4	x 102,30 €	= 409,20 €		4	x 102,30 €	= 409,20 €	
52	Axial fan for the boiler room together with thermostat for fan engagement at escalated temperatures, Systemair AR 315 D4-2K or equivalent. Amount of air at inlet 1500m³/h.									
		pcs	1	x 348,48 €	= 348,48 €		1	x 348,48 €	= 348,48 €	
53	Electro-calorifer capacity 9kW, voltage 400V, for maintaining minimal temperature in the boiler room and to prevent the installations from freezing at low outdoor temperatures when the heating system is off, fitting together with thermostat for calorifer engagement.									
		pcs	1	x 546,48 €	= 546,48 €		1	x 546,48 €	= 546,48 €	
B.III Preliminary and finishing works										
1	Preparation of the construction site for fitting of thermo-technical installations. Surveying on site situation. Installation of containers. Transportation of people, goods and materials.									
		lump-sum			= 462,00 €				= 462,00 €	
2	Putting the boiler facility into operation and trial testing of the entire heating system, as well as testing of proper operating of all installed radiator valves. The item also includes previous burner adjustment, cleaning of the flues and existing boilers.									
		lump-sum			= 1.320,00 €				= 1.320,00 €	
3	Training of personnel in charge of boiler operation and heating system maintenance, training of personnel for operation of newly incorporated equipment, as well as training for cases of emergency.									
		lump-sum			= 396,00 €				= 396,00 €	
4	Installation of four dry powder fire extinguishers (S-9), a vessel with sand, volume 0.25m³, shovel and pick axe. Fully aligned with the Fire Protection Design.									
		lump-sum			= 462,00 €				= 462,00 €	
5	Issuing of certificate for entire installed material and equipment.									
		lump-sum			= 264,00 €				= 264,00 €	
6	Preparation of "As-built" design.									
		lump-sum			= 660,00 €				= 660,00 €	
7	Installation of framed and glazed scheme of connections on a visible place in the boiler room.									
		lump-sum			= 264,00 €				= 264,00 €	
8	Installation of stop and warning signs on a visible place in the boiler room fully in line with the Fire Protection Design.									
		lump-sum			= 132,00 €				= 132,00 €	
9	Mending walls and ceiling at penetration points of the old system pipes which were not used for the new system.									
		lump-sum			= 100,00 €				= 100,00 €	
10	Making holes in walls for putting pipes for the new heating system, including mending works at penetration points for bringing walls and ceilings in proper condition.									
		lump-sum			= 660,00 €				= 660,00 €	
11	Mending and painting walls behind radiators or other heating items which shall be removed or where new items shall be installed.									
		lump-sum			= 150,00 €				= 150,00 €	
SUMMARY OF COSTS A-B										
A	ENERGY MANAGEMENT				6.276,60 €				2.654,52 €	
B	REPLACEMENT OF THE HEATING SYSTEM				161.831,68 €				161.831,68 €	
B.I	Dismantling of the existing equipment and preliminary works				7.166,00 €				7.166,00 €	
B.II	Boiler room elements and fittings				149.795,68 €				149.795,68 €	
B.III	Preliminary and finishing works				4.870,00 €				4.870,00 €	
	TOTAL PRICE, VAT EXCLUDED				168.108,28 €				164.486,20 €	
	TOTAL PRICE WITH 3% DISCOUNT				163.065,03 €				159.551,61 €	
	VAT (19 %)				30.982,36 €				30.314,81 €	
A-B	TOTAL PRICE (WITH DISCOUNT), VAT INCLUDED:				194.047,38 €				189.866,42 €	
C	ADDITIONAL WORKS									

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
1	Construction of the protective screen with the structure for supporting on the wall for the heaters in the gym. Dimensions of the protective screen are 600x600 mm and it is placed on the construction of corrugated iron. Price includes double primer and final painting in two coats .Material 46.82e, assembling and installation 35e, profit 10%	piece					5	12,00 x 90,00 € =	1.080,00 €	OFV 35, approved by Client on 31/10/2014.
SUMMARY OF COSTS C										
	TOTAL PRICE, VAT EXCLUDED:								1.080,00 €	
	VAT (19%):								205,20 €	
C	TOTAL PRICE (WITHOUT DISCOUNT), VAT INCLUDED:								1.285,20 €	
SUMMARY OF COSTS A-C										
A-C	TOTAL PRICE, VAT INCLUDED:								191.151,62 €	

Montenegro Energy Efficiency Program in Public Buildings (EEPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)
	automatic switch 3p C60H-D 20A 10 kA	1							
	automatic switch 3p C60H-D 16A 10 kA	3							
	automatic switch 1p C60H 16A 10 kA	10							
	automatic switch 1p C60H 10A 10 kA	2							
	INS 40 A 1-0	1							
	TOTAL SWITCH BOX "RT Ko"	pcs	1,00	x 447,84	= 447,84		1,00	x 447,84	= 447,84
2.3.	Delivery and mounting elements in existing RT-S switchbox:								
	automatic switch 1p C60H 10A 10 kA	pcs	3				3		
	Works, material and small kit to be included per unit:	pcs	1	x 25,92	= 25,92		1	x 25,92	= 25,92
	TOTAL FOR POWER SUPPLY AND ELECTRICAL INSTALLATION FOR BOILER ROOM AND HVAC SERVICES				1.313,57				1.313,57
3.	POTENTIAL EQUALIAZATION								
3.1.	Delivery and mounting of deep galvanized tape Fe-Zn 20x3 mm for potential equalization in boiler room, according to the installation layouts. Tape is mounted on tape carriers type C.L. JUS N.B4.925-P. Works and material to be calculated per unit:	m	22,00	x 2,59	= 57,02		22,00	x 2,59	= 57,02
3.2.	Delivery and mounting of tape carriers type C.L. JUS N.B4.925-P. Works and material to be calculated per unit:	pcs	20,00	x 5,04	= 100,80		20,00	x 5,04	= 100,80
3.3.	Delivery and mounting of tape junction elements type JUS N.B4. 936 for connection between tapes. Works and material to be calculated per unit:	pcs	5,00	x 5,04	= 25,20		5,00	x 5,04	= 25,20
3.4.	Delivery and laying of cables P/F 1x16 mm2 on wall installations with PVC installation pipes and galvanized cable trays in boiler room for connecting all metal conductive parts with potential equalization bus bar. Works and material to be calculated per unit:	m	25,00	x 2,88	= 72,00		25,00	x 2,88	= 72,00
	TOTAL FOR POTENTIAL EQUALIAZATION				255,02				255,02
4.	LIGHTNING AND GROUNDING INSTALLATION								
4.1.	Dismantling of existing lightning protection system.	lump sum		x	= 216,00			x	= 216,00
4.2.	Delivery and mounting of connection elements for roof cover plates P JUS N.B4 908. Works and material to be calculated per unit:	m	16,00	x 5,04	= 80,64		16,00	x 5,04	= 80,64
4.3.	Connecting all metal conductive parts with lightning protection system. Works and material included.	lump sum	1,00	x 72,00	= 72,00		1,00	x 72,00	= 72,00
4.4.	Delivery and mounting of deep galvanized tape Fe/Zn 25x4 mm2 for grounding of gutters. Tape should be connected to nearest connection point to foundation earthing through earth trench and under new pavements. Works should be performed according to technical report and technical recommendation. Total for works and material:	m	293,00	x 2,59	= 759,46		293,00	x 2,59	= 759,46
4.5.	Delivery and mounting of prefabricated tape junction elements for gutters according to JUS and IEC standards and technical report. Works and material to be calculated per unit:								
	NGO 15, AY JUS N.B4.914-O(P)	pcs	23,00	x 7,20	= 165,60		23,00	x 7,20	= 165,60
	TOTAL FOR LIGHTNING AND GROUNDING INSTALLATION				1.293,70				1.293,70
5.	TESTING & MAINTENANCE DESIGN								
5.1.	Testing of electrical grounding installation and lightning protection system with issuance of attest.	lump sum	1,00	x	= 360,00		1,00	x	= 360,00
5.2.	Testing of new electrical power supply installation.	lump sum	1,00	x	= 216,00		1,00	x	= 216,00
5.3.	Preparation of Maintenance Design.	lump sum	1,00	x	= 360,00		1,00	x	= 360,00
	TOTAL FOR TESTING & MAINTENANCE DESIGN				936,00				936,00
SUMMARY OF COSTS 1-5									
1	LIGHTNING INSTALLATION				82.882,66				70.428,10
2	POWER SUPPLY AND ELECTRICAL INSTALLATION FOR BOILER ROOM AND HVAC SERVICES				1.313,57				1.313,57
3	POTENTIAL EQUALIAZATION				255,02				255,02
4	LIGHTNING AND GROUNDING INSTALLATION				1.293,70				1.293,70
5	TESTING & MAINTENANCE DESIGN				936,00				936,00
	TOTAL PRICE, VAT EXCLUDED				86.680,94				74.226,38
	TOTAL PRICE WITH 3% DISCOUNT				84.080,52				71.999,59
	VAT (19 %)				15.975,30				13.679,92
1-5	TOTAL PRICE (WITH DISCOUNT), VAT INCLUDED:				100.055,81 €				85.679,52 €

Montenegro Energy Efficiency Program in Public Buildings (EEPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)
6	ADDITIONAL WORKS								
1	Delivery and mounting of ceiling mounted luminaries 2/18 W TC-L IP50 opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material to be calculated per unit: ORION IP54 1xE27 max 23W CFL Spare bulb for this type of luminaire CFL 20W E27	pcs				4	1 x	28,75 =	28,75
		pcs				4	1 x	5,41 =	5,41
2	Delivery and mounting of ceiling mounted luminaries 2/18 W TC-L IP54 opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material to be calculated per unit: ORION IP54 1xE27 max 23W CFL Spare bulb for this type of luminaire CFL 20W E27	pcs				4	80 x	28,75 =	2300,00
		pcs				4	8 x	5,41 =	43,28
3	Delivery and mounting of ceiling mounted luminaries with electronic control gear 2x35W, T16, completely equipped with mounting gear and light source. Works and material to be calculated per unit: RCS236 2x36W T8 EB IP65 MARELI Spare bulb for this type of luminaire T8 G13 36W	pcs				4	15 x	40,25 =	603,75
		pcs				4	1 x	2,30 =	2,30
4	Delivery and mounting of wall mounted metal switchbox RT KOT in boiler room completely equipped with following parts: Metal switchbox dim:800x600x200mm Disconnecter switch INS 1-0, 40A, 3P circuit breaker 1p (6-25)A 10 kA Doepke Motor protection switch 2.5 - 4A Motor protection switch 1,6 - 2,5A rotary switch 10A 51U rotary switch 10A 90U signal led indicator 220V contactor 40-40 20A Cable P/F 16mm2 Time duration of works: 8h X Engaged workers:2 Rails, comb busbars,pvc canals for cable trunking, terminals ...	pcs				4	1 x	150,00 =	150,00
		pcs				4	1 x	60,00 =	60,00
		pcs				4	20 x	6,50 =	130,00
		pcs				4	1 x	45,00 =	45,00
		pcs				4	2 x	45,00 =	90,00
		pcs				4	5 x	19,00 =	95,00
		pcs				4	2 x	25,00 =	50,00
		pcs				4	3 x	17,00 =	51,00
		pcs				4	4 x	37,00 =	148,00
		m				4	10 x	2,20 =	22,00
		wh				4	16 x	4,00 =	64,00
		lump sum				4		50,00 =	50,00
5	Delivery and laying of cables PP-Y 3x1,5mm2 from position of thermostat to position in the Gym cabinet.Works and material included per unit: Price Mileva Lajovic Lalatovic EI BoQ 2-2.1. 2.74e	m1				5	35 x	2,74 =	95,90
6	Delivery and laying of cables PP-Y 3x2,5mm2 for calorifier supply in the Gym.Works and material included per unit: Price Mileva Lajovic Lalatovic EI BoQ 2-2.1. 3.46e	m1				5	100 x	3,46 =	346,00
7	Delivery and mounting PVC extinguishing tube 16/13.5 Univolt. Works and material included per unit: supply of the material 1.23e, installation 0.5e	m1				5	20 x	1,73 =	34,60
8	Delivery and mounting cable ducts 60x40mm. Works and material included per unit: supply of the material 4.5e, installation 1.25e	m1				5	10 x	5,75 =	57,50
9	Delivery and mounting surface-mounted terminal box on position in the Gym cabinet. Works and material included per unit: supply of the material10e, installation 2e	piece				5	5 x	12,00 =	60,00
10	Delivery and mounting elements in existing switchbox: automatic switch 1p C60H 10A 10 kA Works, material and small kit to be included per unit: supply of the material 6e, installation 2e	piece				5	1 x	8,00 =	8,00
11	Delivery and mounting of ceiling mounted luminaries with electronic control gear 2x35W, T16, completely equipped with mounting gear and light source. Works and material to be calculated per unit: RCS218 2x18W T8 EB IP65 MARELI work and material	piece				6	1 x	38,00 =	38,00
12	Delivery and mounting of HIT projectors 250W on the cornice, with ballast completely equipped with mounting gear and light source. PROTEC A, MH-NA 250W, E-40, IP65, HQI-T, ZinLux Greece Works and material included per unit:	piece				6	2 x	260,00 =	520,00
SUMMARY OF COSTS 6									
	TOTAL PRICE, VAT EXCLUDED:								5.098,49 €
	VAT (19%):								968,71 €
6	TOTAL PRICE (WITHOUT DISCOUNT), VAT INCLUDED:								6.067,20 €
SUMMARY OF COSTS 1-6									
1-6	TOTAL PRICE, VAT INCLUDED:								91.746,72 €

GROUP A5.2.1		Investor: Ministry of Economy of Montenegro, Energy Efficiency Sector											
TABLE OF QUANTITIES <i>of building and trade works for energy efficiency improvement in "Jagoš Kontić" Primary School in Nikšić</i>		Project financed by: KfW ENTWICKLUNGSBANK											
		Consultant: Konsultant: FICHTNER GmbH&Co. KG											
		Sub-Consult: Lokalni projekti: KOPRING PMC, Podgorica											
		School: Objekat: P.S. "Jagoš Kontić", Nikšić											
		Doc. origin: Dokumentacija: Final Architectural Design											
		Date: 16 November 2013											
No.	Item Description	Unit of measure	CONTRACT				VO	AMENDMENT 1				COMMENTS	
			Quantity	Unit price (€)	Amount (€)			Quantity	Unit price (€)	Amount (€)			
A. SCHOOL													
A.1 THERMAL INSULATION OF FACADE WALLS													
1	Dismantling of metal sheet flashings and vertical gutters. Flashings have different developed widths and they are made from galvanized, coloured sheet metal with double interlock system, d=0,68mm. Surfaces should be prepared for installation of new items without any special processing. The price includes all works, materials and debris transportation to the town landfill. Calculation is based on a m1 of dismantled flashing, gutters, and their supporters. -attic-wall flashing, developed width d.w.= 41-50cm.												
	Calculation per m ¹	m1	53,67	x	1,04 €	=	55,55 €		53,67	x	1,04 €	=	55,55 €
	- laid horizontal gutters, developed width up to 66cm.												
	Calculation per m ¹	m1	242,53	x	1,04 €	=	251,02 €		242,53	x	1,04 €	=	251,02 €
	- vertical gutters, dim.15x15cm, developed width up to 66cm, with dismantling of water cisterns.												
	Calculation per m ¹	m1	146,45	x	1,04 €	=	151,58 €		146,45	x	1,04 €	=	151,58 €
	- window sill trimming, developed width 41-50cm.												
	Calculation per m ¹	m1	414,87	x	1,04 €	=	429,39 €		414,87	x	1,04 €	=	429,39 €
2	Repair of damages in the parapet walls d=20cm and more, caused by dismantling of the joinery. Surfaces should be treated with cement mortar 1:3, to prepare the item for installing new PVC joinery with blind frame, plastic-laminated galvanized steel metal sheet and PVC sills. The price includes all works and materials, including possible skimming and painting, to bring the jambs in previous condition.												
	Calculation per m1	m1	414,87	x	6,73 €	=	2.791,04 €		414,87	x	6,73 €	=	2.791,04 €
3	Repair of jamb damages d=25cm, caused by dismantling of the joinery. Surfaces should be treated with lime cement mortar 1:2:6, previously sprinkled with low density cement mortar, to prepare the item for installation of new PVC joinery with blind frame, plastic-laminated galvanized steel metal sheets and PVC sills. The price includes all works and materials, including skimming and painting, to bring the jambs in previous condition.												
	Calculation per m1	m1	1.163,11	x	6,73 €	=	7.824,82 €		1.163,11	x	6,73 €	=	7.824,82 €
4	Dismantling and re-installation of cameras, lighting, and other facade devices and equipment. Dismantled units should be registered and given to the Employer/Employer's Representative to put them in a storage. After completion of works on a new facade, these units have to be reinstalled on the facility. Note: For reinstallation of AC units, consider possible mounting of new metal support brackets and small extension of electric and freon lines due to position of external AC units.												
	Calculation per piece	pcs	7,00	x	60,03 €	=	420,21 €		7,00	x	60,03 €	=	420,21 €
5	Production and installation of the attic cornice flashings, made of ready-made plastic-laminated galvanized steel metal sheets d=0.7mm, colour will be selected by the Employer /Employer's representative. Developed width 60cm. The item includes surface preparation and complete binding in line with the regulations. Undertake the entire procedure in compliance with the design and sample selected by the Employer /Employer's representative.												
	Calculation per m1	m1	53,67	x	15,11 €	=	811,01 €		53,67	x	15,11 €	=	811,01 €
6	Production and installation of the parapet sills, made of ready made plastic-laminated galvanized steel metal sheets=0.7mm, colour will be selected by the Employer /Employer's representative. Developed width 50cm. The position includes surface preparation and complete binding following the regulations. Undertake the entire procedure in compliance with the design and sample selected by the Employer /Employer's representative.												
	Calculation per m1	m1	419,86	x	15,11 €	=	6.344,50 €		419,86	x	15,11 €	=	6.344,50 €

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
7	Production and installation of the vertical and horizontal gutters of 150/150mm square section, made of ready painted, galvanized and plastic coated sheet, colour will be selected by the Employer /Employer's representative. Gutters should be installed with all required anchors and flanges with the necessary binding and joining material.									
	Calculation per m1	m1	388,98	x 15,11 €	= 5.877,88 €		388,98	x 15,11 €	= 5.877,88 €	
8	Purchase and installation of profiled standard (flexible, vertical and horizontal expansion joints at wall-to-wall contact and on flat roof, for dilatation width of 5 cm, fully in line with technology of the manufacturer.									
	Calculation per m ¹ .	m1	24,14	x 21,74 €	= 524,68 €		24,14	x 21,74 €	= 524,68 €	
9	Demolition of concrete basins for plants and making good of floor in this area in corridor between the main building and the gym. The price includes all works, materials and debris transportation to the town landfill.									
		lump sum	1,00	207,00 €	= 207,00 €		1,00	207,00 €	= 207,00 €	
10	Existing windows which shall be dismantled and their openings shall be partially or totally closed with gas concrete bricks d=20 cm ("Ytong" or equivalent with similar or better characteristics) with proper connection to existing wall and reinforcement, and vertical and horizontal beams in line with regulations. The price includes all required material, transport, scaffolding and work.									
	Calculation per m2	m2	171,26	x 39,95 €	= 6.842,05 €		171,26	x 39,95 €	= 6.842,05 €	
11	Plastering of newly built walls with lime-cement plaster 1:2:6 by applying two layers with previous cleaning and flush mortar joining and fitting edge galvanized strips. Sand for plaster correction is made of sifted gravel size 0-4 mm. Plastered surfaces need to be smooth, with sharp edges and without deducted openings. The price includes all required material with strips, transport, scaffolding and work.									
	Sand for plaster correction is made of sifted gravel size 0-4 mm. Plastered surfaces need to be smooth, with sharp edges. The price includes all required material with strips, transport, scaffolding and work.									
	Calculation per m2	m2	280,2702	x 8,07 €	= 2.262,62 €		280,2702	x 8,07 €	= 2.262,62 €	
12	Purchase of material and installation of monolith suspended ceiling using plasterboards type "Rigips" or equivalent/better quality RB 12.5mm on standard metal substructure CD/UD in the rooms marked on the drawings.									
	The price includes jointing with bandage tapes, flattening with putty and skimming, substructure and hanging kit.									
	The price includes usage of light mobile scaffold.									
	Ceilings are fitted at the height set in the design.									
	Light fixtures need to be mounted separately. For everything else, provisions of general requirements are applicable.									
	Unit price to include all the drilling and removal of boards for fitting of light fixtures, anemostats, diffusers, etc. which is not subject to separate calculation.									
	This item includes fitting of all cascades and lateral (vertical or askew) closing of ceiling surfaces and shall not be subject to additional payment.									
	Calculation per m2 of fully performed works.	m2	591,46	x 18,32 €	= 10.835,25 €		591,46	x 18,32 €	= 10.835,25 €	
13	Setting up "Demit" thermal facade. External thermal insulation of the facade reinforced concrete (hereinafter RC) and brick walls will be conducted with expanded EPS polystyrene, having heat transfer coefficient of $\lambda_{max} = 0,037$ W/mK, thickness 10 cm, produced by the relevant EN standards. External thermal insulation composite system (ETICS) is required to have an ETAG 004 certificate.									
	The lower part of the facade walls at the level of the ground floor (all parapets in the ground floor, pillars and parts of the full wall) will be treated with stiffer insulating material, XPS extruded polystyrene, thickness d=10cm, resistant to mechanical damages, with nominal heat transfer coefficient of $\lambda=0,035-0,04$ W/mK.									

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
	Thermal boards with B1 flammability class (DIN 4102 B1 highly flammable, non-combustible and self-extinguishing) to be used. Install panels and vertical breaks of 50 cm width along the entire facade, with maximum horizontal distance between the breaks of 20m, and horizontal breaks of 50 cm width above facade openings (windows) in the area of floor slabs. These breaks should be made of pressed mineral wool reaching A1 flammability class.									
	Use EPS/XPS, thickness d=3cm to treat jambs on the external side of the facade opening. Thermal plates are lap-joint attached to the facade wall with the relevant refined mineral adhesive and anchored with relevant dowels. Surface of the plates is protected with reinforced mortar, which is composed of the following elements:									
	* first layer – refined mortar based on cement binder, mineral aggregate and admixtures to improve elasticity and water repellence. Surface for this layer of mortar will be flat and smooth. Any unevenness at joints of the installed polystyrene boards will be filled with polyurethane foam.									
	Reinforcing mesh with adequate overlapping and extra protection at the facade openings and corners is placed in a fresh layer of this mortar. In case additional mechanical anchoring is required, impact bolt through the reinforcing mesh should be used 24 hours after applying this layer.									
	* reinforcing mesh * second layer of mortar, apply same procedure as with the first layer. This mortar is laid to well-dried first layer and polished afterwards. * contact coating made of the emulsion of synthetic resins and water-glass used for impregnation of the dried reinforced mortar.									
	*top coating is made of mineral binders, water-repellent admixtures, means for improving elasticity and resistance to mildew and algae. This top layer will be made in grainy and smooth structure, painted in colour defined by the Employer /Employer's representative, while the entire procedure will be conducted according to the design details.									
	Before setting up the thermal plates, the following works will be conducted: * All works on the flat roof, including sheet metal works * Replacement of facade joinery * Placing the entire envisaged installation in the facade									
	*Covering and protection of all non-treated surfaces – glass, stone... *Control and testing of the existing facility surface, including: Use the means of impregnation- basic coating at the most critical points of the facility. When the basic coating dries out, set up the EPS cube of 5x5x5 cm by using polystyrene adhesive. Once the adhesive completely settles, minimum 3 days after the working conditions are adequate, try to separate the cube manually.									
	If in the process of separating expanded polystyrene only the adhesive separates and not parts of the basis - the basis is sufficiently strong, solid and stable.									
	If in the process of separating expanded polystyrene, the adhesive remains, or if part of the adhesive remains on the wall and part on the polystyrene - it means that the adhesive is adequate and strong.									
	If in the process of separating expanded polystyrene, part of the glue and cradling is separated – it is a sign that the cradling is not solid enough, and shall not withstand new layer of thermal insulation.									
	Use the reinforcing mesh or angle profiles for the window corners and jambs. Facade ends along the plinth must have U-profile strip, adjusted to the thickness of thermal-plate.									
	Before setting the plates, thoroughly clean the facade surface from dust, greasy deposits and mortar. At heights over 8 meters, plates need additional anchoring with appropriate bolts.									

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No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
	During the works on the facade, surface, mortar and adhesive, temperature of air must not drop below +5°C or be above +25°C. Mortar should not be applied in the event of heavy wind, rain or fog.									
	Price includes the purchase, installation of entire material, preparatory works, surface preparation, installation of thermal facade according to described layers and installation of the required scaffolding. Calculation is based on m2 of the installed facade.									
	NOTE: Treatment of jambs is included in the price, it won't be calculated separately. The planned facade systems should be in line with the appropriate EN standards. External thermal insulation composite system (ETICS) is required to have an ETAG 004 certificate.									
	ETA certificate (European Technical Approval) is a certificate issued by the European Organization for Technical Approval, which confirms that the thermal insulation system is in compliance with the parameters laid down by this organization - mechanical resistance and stability, safety in the event of fire, hygiene, health and environmental sustainability, safety of use, noise protection, energy efficiency and heat retention.									
	EPS	m2	942,25	x 20,18 €	= 19.016,88 €		942,25	x 20,18 €	= 19.016,88 €	
	XPS	m2	981,04	x 25,36 €	= 24.876,60 €		981,04	x 25,36 €	= 24.876,60 €	
	Pressed mineral wool	m2	100,80	x 22,05 €	= 2.222,19 €		100,80	x 22,05 €	= 2.222,19 €	
14	Setting up DEMIT - thermal facade on the ceiling of the bay of the school. All the works are as described under point 1.13.									
	Calculation per m2	m2	27,42	x 20,18 €	= 553,40 €		27,42	x 20,18 €	= 553,40 €	
15	Setting up DEMIT - thermal facade on the reinforced concrete brise-soleil. External thermal insulation of the facade reinforced concrete brise-soleil will be conducted with expanded EPS polystyrene, having heat transfer coefficient of $\lambda_{max} = 0,037$ W/mK, thickness 2 cm, produced by the relevant EN standards. External thermal insulation composite system (ETICS) is required to have an ETAG 004 certificate. All the works are as described under point 1.12. Upper surface of the reinforced concrete brise-soleil shall be processed with decorative ready mixed marble based mortar, created on grain ("Kulie").									
	Calculation as per piece	pcs	48,00	x 225,63 €	= 10.830,24 €		48,00	x 225,63 €	= 10.830,24 €	
16	Treating the facade surfaces with decorative ready-mixed lime-cement based render, "Bavalit" type or similar with the equivalent or better technical characteristics, where the installation of thermal plates has not been planned (roof cantilever slabs, cornice-gutter fues, ceiling of canopies at the entrance, chimney). Type and colour will be selected by Employer /Employer's representative. The facade surface should be sound and dry. Surface should be cleaned and impregnated with insulation mass to achieve a better joining. Apply one layer with a painting brush, and if the surface absorbs it quickly, apply it twice. To prepare the surface, apply a layer of adhesive with a mesh. Apply other layers following the same procedure as in the previous item:									
	*contact coating made of the emulsion of synthetic resins and water-glass (liquid sodium silicate) used for impregnation of the set reinforced mortar.									
	*top coating is made of mineral binders, water-repellent admixtures, means for improving elasticity and resistance to mildew and algae. This layer should be made in fine grained and smooth structure, painted in colour determined by the Employer /Employer's representative, fully in line with the Design details.									
	The openings should be protected with PVC foil. Price includes the purchase, installation of complete material, preparatory works, surface preparation and installation of the scaffolding.									
	Calculation per m2	m2	525,06	x 12,21 €	= 6.412,56 €		525,06	x 12,21 €	= 6.412,56 €	
17	Setting up of the facade plinth with decorative ready mixed marble based mortar, created on grain ("Kulie") as splash guard (as indicated on the drawings). Existing facade plinth has to be removed. Surface should be cleaned, washed and sprinkled with acrylic base with granulate, color of the base by the color chart of the manufacturer. Render should be applied on cleaned and dried surface by manufacturer's instruction. The color should be determined by the Employer / Employer's representative, according to the color chart of manufacturer.									
	Calculation per m2	m2	157,50	x 15,73 €	= 2.477,79 €		157,50	x 15,73 €	= 2.477,79 €	

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No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
18	Cleaning – washing the stone clad facade on the main entrance of the school with pressurized water. Water pressure must be adjusted in such way that damages to the facade and moulding is avoided. Stains, patina, dust, salt and such must be cleaned. If required, chemical substances not damaging for the facade could be added.									
	Calculation per m2	m2	27	x 3,11 €	= 83,84 €		27	x 3,11 €	= 83,84 €	
A.1	TOTAL FOR THERMAL INSULATION OF FACADE WALLS				112.102,09 €				112.102,09 €	
A.2	THERMAL INSULATION AND WATERPROOFING OF THE ROOF									
1	Removal of existing roof cover made of interlocking roof tiles, cement plaster 2-4cm and battens, i.e. Until pitched reinforced concrete (RC) slab is reached, the price includes all the work and debris transportation to the town landfill.									
	Calculation per m2	m2	1.352,33	x 2,79 €	= 3.779,09 €		1.352,33	x 2,79 €	= 3.779,09 €	
2	Dismantling of existing trapezoidal sheet metal roof cover, until reaching roof structure. The price includes all the work and debris transportation to the town landfill.									
	Calculation per m2	m2	133,45	x 2,79 €	= 372,93 €		133,45	x 2,79 €	= 372,93 €	
3	Installation of horizontal waterproofing and thermal insulation on the flat roof of the canopy above the school entrance. Following layers are applied on prepared base:									
	a) Layer for equalizing the pressure, made of vapour-permeable and waterproof foil, b) Vapour barrier of the post bituminized aluminium foil lined with glass fibre fleece, c) Thermal insulation made of extruded polystyrene boards XPS d = 10 cm with heat transfer coefficient of $\lambda_{max} = 0.033 \text{ W/mK}$ (on top of already placed foil), d) Layer used for separating from PVC foil, e) Sloping layer made of light-weight concrete d=5-16cm, sloped by 1%, f) Layer for equalizing the pressure, made of vapour-permeable and waterproof foil, g) Waterproofing made of cold bitulit coating, hot bitumen coating or bitumen masses and two layers of waterproofed bitumen strip. One strip is lined with aluminium foil, the other with glass fibre fleece. Every strip is d = 4 mm thick. The first layer is placed freely over the hot bitumen with overlapping of 10-15cm, welded along their whole length. The second layer is 100% welded to the first one. Put the waterproofing at least 15 cm up the walls. Pay special attention to connections between horizontal and vertical waterproofing. h) Heavy protection of waterproofing with gravel d = 5 cm, with the sliding layer of waterproof dimpled membrane, placed dry between waterproofing and gravel.									
	Calculation is based on a m2 of the roof basis. The price includes all required material following the description from a) to h), including the making of a required cove.	m2	15,95	x 57,96 €	= 924,46 €		15,95	x 57,96 €	= 924,46 €	
4	Waterproofing of the entrance and part of the eaves, with cold bitulit coating, hot bitumen coating or bitumen masses and two layers of waterproofed bitumen strip. One strip is lined with aluminium foil, the other with glass fibre fleece. Every strip is d = 4 mm thick. The first layer is put freely over the hot bitumen with overlapping of 10-15cm, welded along their whole length. The second layer is 100% welded to the first one. Waterproofing must be put up the walls at minimum 15 cm height. Pay special attention to the connections between horizontal and vertical waterproofing.									
	Calculation per m2	m2	27,70	x 20,18 €	= 559,06 €		27,70	x 20,18 €	= 559,06 €	
5	Protect waterproofing with "KROVOPLAST" or similar coating with equal or better technical characteristics, on the eaves and part of the flat roofs, which is not protected with gravel. The price includes complete work and material, following the description.									
	Calculation per m2	m2	27,70	x 1,55 €	= 43,00 €		27,70	x 1,55 €	= 43,00 €	
6	Covering roof with roof polyurethane sandwich panels system, thickness d=80mm, heat transfer coefficient $\lambda_{max} = 0,025 \text{ W/mK}$, standard modular width 1000mm, attached to box profiles 60/40/3mm at 60-150cm distance over RC pitched slab . Upper side of sheet metal is made of unique trapezoidal shape d=0,5mm, and lower side is made of SNVs d=0,5mm.									

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No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
	After the installation of sandwich panels, it is necessary to install flashing on all eaves along the walls, edges of gable walls and gutters with appropriate joining material (stainless steel screws, washers and EPDM sealants...). The price includes all the work and material, as described.									
	Calculation per m2	m2	1.352,33	x 53,41 €	= 72.222,54 €		1.352,33	x 53,41 €	= 72.222,54 €	
7	Covering roof with roof polyurethane sandwich panels system, thickness d=80mm, heat transfer coefficient $\lambda_{max} = 0,025$ W/mK, standard modular width 1000mm, attached to box profiles 60/40/3mm at 60-150cm distance over existing timber roof structure. Replacing the worn-out parts of the roof construction with new ones which should represent 10 % from total roof area. Upper side of sheet metal is made of unique trapezoidal shape d=0,5mm, and lower side is made of SNVs d=0,5mm.									
	After the installation of sandwich panels, it is necessary to install flashing on all eaves along the walls, edges of gable walls and gutters with appropriate joining material (stainless steel screws, washers and EPDM sealants...). The price includes all the work and material, as described.									
	Calculation per m2	m2	133,45	x 53,41 €	= 7.127,03 €		133,45	x 53,41 €	= 7.127,03 €	
	NOTE: The alternative technology for a flat roof cover can be offered as a deviation.									
A.2	TOTAL FOR THERMAL INSULATION AND WATERPROOFING OF THE ROOF				85.028,10 €				85.028,10 €	
A.3	REPLACEMENT OF FACADE JOINERY									
1	Dismantling of the existing joinery, all its fittings and mechanisms, including its transportation to the town landfill or its hand-over to the Employer/Employer's Representative (according to the future agreement) for storing away. Calculation is done per m2 of dismantled joinery.									
	569/259 pcs 2 129/324 pcs 1 209/60 pcs 4 197/97 pcs 16 197/197 pcs 8 199/277 pcs 2 197/777 pcs 24 197/149 pcs 48 349/77 pcs 1 349/239 pcs 1									
	77/777 pcs 8 97/197 pcs 14 199/227 pcs 1 79/79 pcs 4 197/245 pcs 7 197/141 pcs 2 99/204 pcs 1 77/97 pcs 2 193/77 pcs 1									
	193/254 pcs 1 149/79 pcs 5 99/218 pcs 1 199/177 pcs 11 209/324 pcs 2 309/297 pcs 4 574/307 pcs 2 539/307 pcs 2 129/155 pcs 1 209/155 pcs 2 199/237 pcs 2									
	349/275 pcs 1 97/147 pcs 13 199/277 pcs 1 299/377 pcs 1 189/155 pcs 1 309/279 pcs 2 539/279 pcs 1 574/279 pcs 1 309/128-235 pcs 1 197/79 pcs 40									
	Calculation per m2	m2	733,96	x 7,35 €	= 5.394,61 €		733,96	x 7,35 €	= 5.394,61 €	

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No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
2	Production and installation of the facade PVC joinery. The price includes everything from description: the purchase of materials, manufacturing, transport and installation of fittings and blind frame, as well as the PVC sill of required width. Measures must be taken on site. Calculation is based per piece of the installed joinery, by the following description: - production and installation, - 6-chamber PVC profiles, - heat transfer coefficient of $U = 1.5 \text{ W} / \text{m}^2 \text{ K}$, - minimal permeability factor of solar energy (solar factor) of glass surfaces $g \leq 65\%$, - double low-emission glass 4 +16 +4 mm, - fittings, required set for hanging and closing, - type of the opening, side hung windows using mechanism with hinges or bottom hung with "tilt-and-turn" mechanism, in line with drawings - joinery schemes,									
	- include internal PVC sill of required width in the position, - PVC profile colour - white.									
	Note: Depending on the size of the opening, where it is necessary, big windows/doors elements should have additional reinforcement/stiffening of the profiles.									
	3. 13' 209/59	pcs	4,00	x 183,75 €	= 735,00 €		4,00	x 183,75 €	= 735,00 €	
	4. 197/97	pcs	16,00	x 262,50 €	= 4.200,00 €		16,00	x 262,50 €	= 4.200,00 €	
	5. 197/197	pcs	8,00	x 540,75 €	= 4.326,00 €		8,00	x 540,75 €	= 4.326,00 €	
	7, 7' 197/77	pcs	24,00	x 215,25 €	= 5.166,00 €		24,00	x 215,25 €	= 5.166,00 €	
	8, 8' 197/149	pcs	48,00	x 399,00 €	= 19.152,00 €		48,00	x 399,00 €	= 19.152,00 €	
	9 349/77	pcs	1,00	x 378,00 €	= 378,00 €		1,00	x 378,00 €	= 378,00 €	
	11. 77/77	pcs	8,00	x 94,50 €	= 756,00 €		8,00	x 94,50 €	= 756,00 €	
	12. 12' 97/197	pcs	14,00	x 262,50 €	= 3.675,00 €		14,00	x 262,50 €	= 3.675,00 €	
	16. 70/51	pcs	1,00	x 68,25 €	= 68,25 €		1,00	x 68,25 €	= 68,25 €	
	17. 79/79	pcs	8,00	x 89,25 €	= 714,00 €		8,00	x 89,25 €	= 714,00 €	
	18. 197/245	pcs	7,00	x 672,00 €	= 4.704,00 €		7,00	x 672,00 €	= 4.704,00 €	
	19. 19' 197/141	pcs	2,00	x 378,00 €	= 756,00 €		2,00	x 378,00 €	= 756,00 €	
	20. 99/204	pcs	1,00	x 288,75 €	= 288,75 €		1,00	x 288,75 €	= 288,75 €	
	21. 77/97	pcs	2,00	x 105,00 €	= 210,00 €		2,00	x 105,00 €	= 210,00 €	
	22. 185/77	pcs	1,00	x 199,50 €	= 199,50 €		1,00	x 199,50 €	= 199,50 €	
	23. 185/253	pcs	1,00	x 661,50 €	= 661,50 €		1,00	x 661,50 €	= 661,50 €	
	24. 149/79	pcs	5,00	x 173,25 €	= 866,25 €		5,00	x 173,25 €	= 866,25 €	
	25. 99/218	pcs	1,00	x 309,75 €	= 309,75 €		1,00	x 309,75 €	= 309,75 €	
	26. 26' 197/177	pcs	11,00	x 483,00 €	= 5.313,00 €		11,00	x 483,00 €	= 5.313,00 €	
	31. 129/155	pcs	1,00	x 283,50 €	= 283,50 €		1,00	x 283,50 €	= 283,50 €	
	32. 209/155	pcs	2,00	x 456,75 €	= 913,50 €		2,00	x 456,75 €	= 913,50 €	
	35. 35' 97/147	pcs	13,00	x 204,75 €	= 2.661,75 €		13,00	x 204,75 €	= 2.661,75 €	
	38. 189/155	pcs	1,00	x 409,50 €	= 409,50 €		1,00	x 409,50 €	= 409,50 €	
3	Production and installation of the facade aluminium joinery. The price includes everything from the description: the purchase of materials, manufacturing, transport and installation of fittings and blind frame, as well as the aluminium sill of required width. Measures should be taken on site. Calculation is based on a piece of the installed joinery, by the following description: - production and installation, - coated "in plastic" aluminium construction system with thermal break - heat transfer coefficient of $U_{max} = 3,0 \text{ W} / \text{m}^2 \text{ K}$ - aluminium jealousies, - fittings, required set for hanging and closing, - type of the opening, as shown on the drawings-joinery schemes, - profile colour - natural aluminium.									
	Note: Only main entrance door shall be additionally equipped with emergency door handle, hydraulic closing mechanism and door pin stopper. Depending on the size of the opening, where it is necessary, big windows/doors elements should have additional reinforcement/stiffening of the profiles.									
	Δ1a. 569/259	pcs	1,00	x 2.961,00 €	= 2.961,00 €		1,00	x 2.961,00 €	= 2.961,00 €	
	1b. 569/259	pcs	1,00	x 2.961,00 €	= 2.961,00 €		1,00	x 2.961,00 €	= 2.961,00 €	
	1c. 234/259	pcs	2,00	x 1.249,50 €	= 2.499,00 €		2,00	x 1.249,50 €	= 2.499,00 €	
	2. 129/324	pcs	1,00	x 840,00 €	= 840,00 €		1,00	x 840,00 €	= 840,00 €	
	6. 99/277	pcs	2,00	x 1.144,50 €	= 2.289,00 €		2,00	x 1.144,50 €	= 2.289,00 €	
	10. 349/166	pcs	1,00	x 1.680,00 €	= 1.680,00 €		1,00	x 1.680,00 €	= 1.680,00 €	
	13. 99/227	pcs	1,00	x 924,00 €	= 924,00 €		1,00	x 924,00 €	= 924,00 €	
	27.27' 209/234	pcs	2,00	x 1.386,00 €	= 2.772,00 €		2,00	x 1.386,00 €	= 2.772,00 €	
	28, 28' 209/297	pcs	4,00	x 1.890,00 €	= 7.560,00 €		4,00	x 1.890,00 €	= 7.560,00 €	
	29. 384/307	pcs	2,00	x 2.345,70 €	= 4.691,40 €		2,00	x 2.345,70 €	= 4.691,40 €	
	30. 330/307	pcs	2,00	x 2.152,50 €	= 4.305,00 €		2,00	x 2.152,50 €	= 4.305,00 €	
	33. 99/237	pcs	2,00	x 588,00 €	= 1.176,00 €		2,00	x 588,00 €	= 1.176,00 €	
	34. 349/206	pcs	1,00	x 2.047,50 €	= 2.047,50 €		1,00	x 2.047,50 €	= 2.047,50 €	
	36. 99/277	pcs	1,00	x 556,50 €	= 556,50 €		1,00	x 556,50 €	= 556,50 €	
	37. 299/293	pcs	1,00	x 2.373,00 €	= 2.373,00 €		1,00	x 2.373,00 €	= 2.373,00 €	
	39. 209/204	pcs	2,00	x 1.386,00 €	= 2.772,00 €		2,00	x 1.386,00 €	= 2.772,00 €	
	40. 330/204	pcs	1,00	x 1.491,00 €	= 1.491,00 €		1,00	x 1.491,00 €	= 1.491,00 €	
	41. 384/204	pcs	1,00	x 1.764,00 €	= 1.764,00 €		1,00	x 1.764,00 €	= 1.764,00 €	
	42. 210/85-160	pcs	1,00	x 766,50 €	= 766,50 €		1,00	x 766,50 €	= 766,50 €	
A.3	REPLACEMENT OF FACADE JOINERY				108.570,76 €				108.570,76 €	

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No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
B. G Y M										
B.1 THERMAL INSULATION OF FACADE WALLS										
1	Dismantling of metal sheet flashings from attic walls, sills, horizontal (hanging and laid) and vertical gutters. Flashings have different developed widths and they are made of galvanized sheet with double interlock system, d=0,68mm. Surfaces should be prepared for installation of new items without any special processing. The price includes all works, materials and debris transportation to the town landfill.									
	-attic wall flashing, developed width 41-50cm.	m1	117,00	x 1,04 €	= 121,10 €		117,00	x 1,04 €	= 121,10 €	
	Calculation per m1									
	-flashing sill, developed width 41-50cm.	m1	83,42	x 1,04 €	= 86,34 €		83,42	x 1,04 €	= 86,34 €	
	Calculation per m1									
	-horizontal gutters, dim.14x14cm, developed width up to 60cm	m1	78,47	x 1,04 €	= 81,22 €		78,47	x 1,04 €	= 81,22 €	
	Calculation per m1									
	-horizontal gutters, dim.14x14cm, developed width up to 60cm	m1	26,36	x 1,04 €	= 27,28 €		26,36	x 1,04 €	= 27,28 €	
	Calculation per m1									
	-vertical gutters, dim.14x14cm, developed width up to 60cm, including dismantling of top cisterns.	m1	47,60	x 1,04 €	= 49,27 €		47,60	x 1,04 €	= 49,27 €	
	Calculation per m1									
2	Repair of damages in the parapet walls d=20cm and more, caused by dismantling of the joinery. Surfaces should be treated with cement mortar 1:3, to prepare the item for installation of new PVC joinery with a blind frame, plastic-laminated galvanized steel metal sheet and PVC sills. The price includes all works and materials, including possible skimming and painting, to bring the jambs in previous condition.									
	Calculation per m1	m1	29,22	x 6,73 €	= 196,58 €		29,22	x 6,73 €	= 196,58 €	
3	Repair of jamb damages d=20cm, caused by dismantling the joinery. Surfaces should be treated with lime cement mortar 1:2:6, previously sprinkled with low density cement mortar, to prepare the position for installing a new PVC joinery with a blind frame, plastic-laminated galvanized steel metal sheet and PVC sills. The price includes all works and materials, including skimming and painting, to bring the jambs in previous condition.									
	Calculation per m1	m1	190,84	x 6,73 €	= 1.283,88 €		190,84	x 6,73 €	= 1.283,88 €	
4	Production and installation of the roof cornice flashings, made of ready-made plastic-laminated galvanized steel metal sheets d=0.7mm, colour will be selected by the Employer /Employer's representative. Developed width 66cm. The item includes surface preparation and complete binding following the regulations. The entire process should be carried out in line with the design, and sample selected by the Employer /Employer's representative.									
	Calculation per m1	m1	113,36	x 15,11 €	= 1.712,98 €		113,36	x 15,11 €	= 1.712,98 €	
5	Production and installation of the coves along the walls made of ready-made plastic-laminated galvanized steel metal sheets d=0.7mm, colour will be selected by the Employer /Employer's representative. Developed width 50cm. The item includes surface preparation and complete binding following the regulations. The entire process should be carried out in line with the design, and sample selected by the Employer /Employer's representative.									
	Calculation per m1	m1	49,38	x 15,11 €	= 746,18 €		49,38	x 15,11 €	= 746,18 €	
6	Production and installation of the parapet sills, made of ready-made plastic-laminated galvanized steel metal sheets d=0.7mm, colour will be selected by the Employer /Employer's representative. Developed width 50cm. The item includes surface preparation and complete binding following the regulations. The entire process should be carried out in line with the design, and sample selected by the Employer /Employer's representative.									
	Calculation per m1	m1	83,42	x 15,11 €	= 1.260,56 €		83,42	x 15,11 €	= 1.260,56 €	
7	Production and installation of the vertical and horizontal gutters of 150/150mm square section, made of ready painted, galvanized and plastic coated sheet, colour will be selected by the Employer /Employer's representative. Gutters should be installed with all required anchors and flanges with the necessary binding and joining material.									
	Calculation per m1	m1	152,43	x 15,11 €	= 2.303,37 €		152,43	x 15,11 €	= 2.303,37 €	

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
8	Setting up "Demit" thermal facade. External thermal insulation of the facade reinforced concrete (hereinafter RC) and brick walls will be conducted with expanded EPS polystyrene, having heat transfer coefficient of $\lambda_{max} = 0,037$ W/mK, thickness 8 cm, produced by the relevant EN standards. External thermal insulation composite system (ETICS) is required to have an ETAG 004 certificate.									
	The lower part of the facade walls at the level of the ground floor (all parapets in the ground floor, pillars and parts of the full wall) will be treated with stiffer insulating material, XPS extruded polystyrene, thickness $d=8$ cm, resistant to mechanical damages, with nominal heat transfer coefficient of $\lambda=0,035-0,04$ W/mK.									
	Thermal boards with B1 flammability class (DIN 4102 B1 highly flammable, non-combustible and self-extinguishing) to be used. Install panels and vertical breaks of 50 cm width along the entire facade, with maximum horizontal distance between the breaks of 20m, and horizontal breaks of 50 cm width above facade openings (windows) in the area of floor slabs. These breaks should be made of pressed mineral wool reaching A1 flammability class.									
	Use EPS/XPS, thickness $d=3$ cm to treat jambs on the external side of the facade opening. Thermal plates are lap-joint attached to the facade wall with the relevant refined mineral adhesive and anchored with relevant dowels. Surface of the plates is protected with reinforced mortar, which is composed of the following elements:									
	*first layer – refined mortar based on cement binder, mineral aggregate and accelerators to improve elasticity and water repellence. Surface for this layer of mortar will be flat and smooth. Any unevenness at joints of the installed polystyrene boards will be filled with polyurethane foam.									
	Reinforcing mesh with adequate overlapping and extra protection at the facade openings and corners is placed in a fresh layer of this mortar. In case additional mechanical anchoring is required, impact bolt through the reinforcing mesh should be used 24 hours after applying this layer.									
	* reinforcing mesh * second layer of mortar, apply same procedure as with the first layer. This mortar is laid to well-dried first layer and polished afterwards. * contact coating made of the emulsion of synthetic resins and water-glass used for impregnation of the dried reinforced mortar.									
	* top coating is made of mineral binders, water-repellent admixtures, means for improving elasticity and resistance to mildew and algae. This top layer will be made in grainy and smooth structure, painted in colour defined by the Employer /Employer's representative, while the entire procedure will be conducted according to the design details.									
	Before setting up the thermal plates, the following works will be conducted: * All works on the flat roof, including sheet metal works * Replacement of façade joinery * Placing the entire envisaged installation in the facade									
	* Covering and protection of all non-treated surfaces – glass, stone... * Control and testing of the existing facility surface, including: Use the means of impregnation- basic coating at the most critical points of the facility. When the basic coating dries out, set up the EPS cube of 5x5x5 cm by using polystyrene adhesive. Once the adhesive completely settles, minimum 3 days after the working conditions are adequate, try to separate the cube manually.									
	If in the process of separating expanded polystyrene only the adhesive separates and not parts of the basis - the basis is sufficiently strong, solid and stable.									
	If in the process of separating expanded polystyrene, the adhesive remains, or if part of the adhesive remains on the wall and part on the polystyrene - it means that the adhesive is adequate and strong.									
	If in the process of separating expanded polystyrene, part of the glue and cradling is separated – it is a sign that the cradling is not solid enough, and shall not withstand new layer of thermal insulation.									
	Use the reinforcing mesh or angle profiles for the window corners and jambs. Facade ends along the plinth must have U-profile strip, adjusted to the thickness of thermal-plate.									

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
	Before setting the boards, thoroughly clean the facade surface from dust, greasy deposits and mortar. At heights over 8 meters, plates need additional anchoring with appropriate bolts.									
	During the works on the facade, surface, mortar and adhesive, temperature of air must not drop below +5°C or be above +25°C. Mortar should not be applied in the event of heavy wind, rain or fog.									
	Price includes the purchase, installation of entire material, preparatory works, surface preparation, installation of thermal facade according to described layers and installation of the required scaffolding. Calculation is based on m2 of the installed facade.									
	NOTE: Treatment of jambs is included in the price, it won't be calculated separately. The planned facade systems should be in line with the appropriate EN standards. External thermal insulation composite system (ETICS) is required to have an ETAG 004 certificate.									
	ETA certificate (European Technical Approval) is a certificate issued by the European Organization for Technical Approval, which confirms that the thermal insulation system is in compliance with the parameters laid down by this organization - mechanical resistance and stability, safety in the event of fire, hygiene, health and environmental sustainability, safety of use, noise protection, energy efficiency and heat retention. NOTE: Existing ventilation openings shall be closed with "Demit" thermal facade.									
	EPS	m2	361,78	x 20,18 €	= 7.301,62 €		361,78	x 20,18 €	= 7.301,62 €	
	XPS	m2	430,08	x 25,36 €	= 10.905,75 €		430,08	x 25,36 €	= 10.905,75 €	
9	Setting up of the facade plinth with decorative ready mixed marble based mortar, created on grain ("Kulie") as splash guard (as indicated on the drawings). Existing facade plinth has to be removed. Surface should be cleaned, washed and sprinkled with acrylic base with granulate, color of the base by the color chart of the manufacturer. Render should be applied on cleaned and dried surface by manufacturer's instruction. The color should be determined by the Employer / Employer's representative, according to the color chart of manufacturer.									
	Calculation per m2	m2	63,48	x 15,73 €	= 998,59 €		63,48	x 15,73 €	= 998,59 €	
10	Dismantling and re-installation of lighting, and other facade devices and equipment. Dismantled units should be registered and given to the Employer/Employer's Representative to store them. After completion of works on a new facade, these units must be reinstalled on the facility.									
	Calculation lump-sum	lump sum	1	x 155,25 €	= 155,25 €		1	x 155,25 €	= 155,25 €	
B.1	TOTAL FOR THERMAL INSULATION OF FACADE WALLS				27.229,96 €				27.229,96 €	
B.2	THERMAL INSULATION AND WATERPROOFING OF THE ROOF									
1	Dismantling of existing trapezoidal sheet metal roof cover, until reaching roof structure. The price includes all the work and debris transportation to the town landfill.									
	Calculation per m2	m2	638,43	x 2,79 €	= 1.784,09 €		638,43	x 2,79 €	= 1.784,09 €	
2	Covering roof with roof polyurethane sandwich panels system, thickness d=80mm, heat transfer coefficient λmax = 0,025 W/mK, standard modular width 1000mm, attached to box profiles 60/40/3mm at 60-150cm distance over RC pitched slab. Upper side of sheet metal is made of unique trapezoidal shape d=0,5mm, and lower side is made of SNVs d=0,5mm.									
	After the installation of sandwich panels, it is necessary to install flashing on all eaves along the walls, edges of gable walls and gutters with appropriate joining material (stainless steel screws, washers and EPDM sealants...). The price includes all the work and material, as described.									
	Calculation per m2	m2	638,43	x 53,41 €	= 34.095,99 €		638,43	x 53,41 €	= 34.095,99 €	
	NOTE: The alternative technology for a flat roof cover can be offered as a deviation.									
B.2	TOTAL FOR THERMAL INSULATION AND WATERPROOFING OF THE ROOF				35.880,09 €				35.880,09 €	
20	REPLACEMENT OF FACADE JOINERY									

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
1	Dismantling of the existing joinery, all its fittings and mechanisms, including its transportation to the town landfill or its hand-over to the Employer/Employer's Representative (according to the future agreement) for storing away. Calculation is done per m2 of dismantled joinery.									
	57/204 pcs 1 79/79 pcs 4 85/79 pcs 11 275/233 pcs 6 674/299 pcs 4 679/299 pcs 4									
	Calculation per m2	m2	211,30	x 7,35 €	= 1.553,06 €		211,30	x 7,35 €	= 1.553,06 €	
2	Production and installation of the facade PVC joinery. The price includes everything from description: the purchase of materials, manufacturing, transport and installation of fittings and blind frame, as well as the PVC sill of required width. Measures must be taken on site. Calculation is based per piece of the installed joinery, by the following description: -production and installation, -6-chamber PVC profiles, -heat transfer coefficient of U = 1.5 W/m²K, -minimal permeability factor of solar energy (solar factor) of glass surfaces ≤65%, -double low-emission glass 4 +16 +4 mm, -fittings, required set for hanging and closing, -type of the opening, side hung windows, using mechanism with hinges or bottom hung with ventus mechanism, in line with drawings - joinery schemes, - include internal PVC sill of required width in the position, - PVC profile colour - white. Note: Depending on the size of the opening, where it is necessary, big windows/doors elements should have additional reinforcement/stiffening of the profiles.									
	14. 275/70	pcs	5,00	x 913,50 €	= 4.567,50 €		5,00	x 913,50 €	= 4.567,50 €	
	15. 275/273 with doors	pcs	1,00	x 960,75 €	= 960,75 €		1,00	x 960,75 €	= 960,75 €	
	17. 79/79	pcs	4,00	x 105,00 €	= 420,00 €		4,00	x 105,00 €	= 420,00 €	
	44. 85/79	pcs	9,00	x 110,25 €	= 992,25 €		9,00	x 110,25 €	= 992,25 €	
	45. 679/299	pcs	4,00	x 2.903,25 €	= 11.613,00 €		4,00	x 2.903,25 €	= 11.613,00 €	
	46. 674/299	pcs	4,00	x 2.814,00 €	= 11.256,00 €		4,00	x 2.814,00 €	= 11.256,00 €	
	16. 57/204	pcs	1,00	x 178,50 €	= 178,50 €		1,00	x 178,50 €	= 178,50 €	
3	Dismantling and remantling of protective bars made of steel, on gym windows, with their previous cleaning, scraping and painting with protective paint. The price includes all the work, material and such. Calculation per piece of treated and fitted protective bars.									
	674/299	pcs	4,00	x 155,40 €	= 621,60 €		4,00	x 155,40 €	= 621,60 €	
	679/299	pcs	4,00	x 155,40 €	= 621,60 €		4,00	x 155,40 €	= 621,60 €	
B.3	REPLACEMENT OF FACADE JOINERY				32.784,26 €				32.784,26 €	
C	NON-EE AND ANCILLARY WORKS ARISING FROM IMPLEMENTATION OF EE MEASURES									
1	Supply and installation of smooth wooden boards for covering the expansion joints inside the building, along the walls and ceilings. Boards shall be 2,5cm thick and 15cm width. After installing, boards shall be varnished (process: filling and grinding, primer, grinding, two layers of synthetic resin paint).									
	Calculated as per m	m	42,75	x 21,74 €	= 929,17 €		42,75	x 21,74 €	= 929,17 €	
	TOTAL FOR NON-EE AND ANCILLARY WORKS ARISING FROM IMPLEMENTATION OF EE M				929,17 €				929,17 €	
D	MEASURES TO ENABLE HIGHER COMFORT AND BETTER WORKING CONDITIONS									
1	Replacing of inspection shaft cover with substructure made of white marble adapted to existing floor (dimensions 60cm*60cm) in the corridor next to the boiler room.									
	Calculated as per piece	pcs	1,00	x 124,20 €	= 124,20 €		1,00	x 124,20 €	= 124,20 €	
2	Replacement of defect interior wooden door wings approx. 90 cm wide and 2.1 m high by a sturdy, heavy duty wooden unit with smooth surface. This position includes the repair of the door frame, an exactly adapted new laminated tubular chip board door leaf, the change of the door lock, the door handle set, the locking plate, the hinges and coating of frame and wing (process: grinding, primer, grinding, two layers of synthetic resin paint). All materials shall be first quality. The doors to be treated shall be determined by the Employer/Employer's Representative.									
	Calculated as per piece	pcs	18,00	x 257,51 €	= 4.635,14 €	3	0	x 257,51 €	=	Excluded byClient (communication 01/08/2014)

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
3	Scraping of the old paint from the walls in the corridors and classrooms, removal and loading of the debris onto a truck and its transportation to a landfill up to 5 km distance. The item includes all pre-works for new painting, and usage of scaffold. Calculation as per m2 of scraped painted area.	m2	6.792,35	x 0,31 € =	2.109,02 €	3	2.318,85	x 0,31 € =	720,00 €	Facade walls, bricked up and suspended ceilings/wall strip areas only (communication 01/08/2014) and order by SS on 21/10/2014 for walls and ceilings school sanitary rooms.
4	Polishing of internal walls. Skimming should be applied in required number of layers until completely flat surface is achieved. This item includes scraping, plastering, neutralization, impregnating. Calculation as per m2, including all material, work and required scaffolding.	m2	6.792,35	x 2,38 € =	16.169,19 €	3	2.553,33	x 2,38 € =	6.07820 €	Facade walls, bricked up and suspended ceilings/wall strip areas only (communication 01/08/2014) and order by SS on 21/10/2014 for walls and ceilings school sanitary rooms.
5	Painting of internal walls. Employer / Employer's representative will select the colour of semi dispersed distemper. Painting shall be done in the classrooms and corridors of the school building-ceilings and the walls in the area between 1,5 m level and the ceiling level, in the gym- from the 2.20 m level up to the ceiling level, sanitary rooms (walls and ceilings), locker rooms -ceilings and the walls in the area between 1,5 m level and the ceiling level, also painting of the newly build walls in the color and the manner of painting as the existing walls. This item includes pre-painting, and correction with the toned dispersive filler or pointing plaster. Final layer of paint should be applied twice									
	Calculation as per m2, including all material, work and required scaffolding.	m2	4.516,15	x 1,66 € =	7.478,74 €	3	1.979,05	x 1,66 € =	3.27731 €	Facade walls, bricked up and suspended ceilings/wall strip areas only (communication 01/08/2014) and order by SS on 21/10/2014 for walls and ceilings school sanitary rooms.
6	Painting of internal walls with oil based paint. Employer / Employer's representative will select the colour of greasy paint. Painting shall be done in the classrooms and corridors of the school building-the walls in the area beneath 1,5 m level, in the gym- beneath 2.20 m level, locker rooms the walls in the area beneath 1,5 m level, also painting of the newly build walls in the color and the manner of painting as the existing walls. This item includes pre-painting, and correction with the toned dispersive filler or pointing plaster. Final layer of paint should be applied twice.									
	Painting of visible pipes,instalations in bright child friendly colors (red, blue, yellow, green) and painting of hydrant and switch boxes determined by Employer / Employer's representative									
	Calculation as per m2, including all material, work and required scaffolding.	m2	2.276,20	x 3,36 € =	7.656,57 €	3	339,80	x 3,36 € =	1.143,00€	Facade walls and bricked up areas only (communication 01/08/2014).
7	Supply and installation of metal blinds from white coated aluminium, following the attached scheme. Blinds should be made of sturdy quality material, mounted on a metal substructure. The substructure shall consist of two metal bars that shall be attached with stainless steel crews to the window frame. Blinds shall be fixed mounted with a slight slope, corresponding to the position of the best protection from the sun during the day and considering the orientation of the window. The blinds shall allow easy maintenance of the window, especially the cleaning of the panes. The blinds shall be sampled and approved by the Employer/Employer's Representative. Measures shall be taken on-site, adapted to each window frame.									
	ground floor rooms No 10, 11, 12, 13,14 ,16, 17									
	first floor rooms No 9, 10, 11									
	Calculation per m2	m2	52,43	x 87,98 € =	4.612,11 €	3	0	x 87,98 € =		Excluded by Client (communication 01/08/2014)
8	Planting lime (Tilia sp.) tree or some similar species 3m high, in accordance with Employer / Employer's representative, in the school yard in front of the school between the gym and the main building. Trees shall be planted on min. 5m distance and min. 4m distance from the buildings. Dig a pit for planting throw out debris and dirt from the pit. Perform the planting by mixture of humus, fertilizer and sand in the ratio 6:3:1. During planting cover 2/3 of the depth of the pit with mentioned mixture and 1/3 with the addition of peat enriched fertilizer with 3 kg per tree. Having completed the planting of the seedlings trees shall be well watered.									
		pcs	45,00	x 51,75 € =	2.328,75 €	3	0	x 51,75 € =		Excluded by Client (communication 01/08/2014)
	GENERAL NOTE: If certain internal hindering items have been removed, they have to be re-installed or replaced by new ones and these costs shall be included in the respective line items (e.g. curtain rails, sports wall equipment in sport halls, etc.).									

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
TOTAL FOR MEASURES TO ENABLE HIGHER COMFORT AND BETTER WORKING CONDITIONS					45.113,73 €				11.342,71 €	
E	LIST OF SPARE PARTS									
1	Purchase and delivery of the spare window handles. Calculated as per piece	pcs	3,00	x 7,35 € =	22,05 €		3,00	x 7,35 € =	22,05 €	
2	Purchase and delivery of the spare internal door handles. Calculated as per piece	pcs	1,00	x 20,48 € =	20,48 €		1,00	x 20,48 € =	20,48 €	
3	Purchase and delivery mounted door rubber stopper. Calculated as per piece	pcs	2,00	x 5,25 € =	10,50 €		2,00	x 5,25 € =	10,50 €	
4	Purchase and delivery of push bar mechanism to the floor, to keep external doors open. Calculated as per piece	pcs	2,00	x 31,50 € =	63,00 €		2,00	x 31,50 € =	63,00 €	
5	Purchase and delivery of rope operated opening mechanism for the windows at high. Calculated as per piece	pcs	2,00	x 6,30 € =	12,60 €		2,00	x 6,30 € =	12,60 €	
TOTAL FOR SPARE PARTS					128,63 €				128,63 €	
NOTE Spare parts shall be submitted to school representatives in the presence of Employer / Employer's representative, followed up by signing hand over document.										
SUMMARY OF COSTS										
A	SCHOOL									
B.1	THERMAL INSULATION OF FACADE WALLS				112.102,09 €				112.102,09 €	
B.2	THERMAL INSULATION AND WATERPROOFING OF THE ROOF				85.028,10 €				85.028,10 €	
B.3	REPLACEMENT OF FAÇADE JOINERY				108.570,76 €				108.570,76 €	
B.	G Y M									
B.1	THERMAL INSULATION OF FACADE WALLS				27.229,96 €				27.229,96 €	
B.2	THERMAL INSULATION AND WATERPROOFING OF THE ROOF				35.880,09 €				35.880,09 €	
B.3	REPLACEMENT OF FAÇADE JOINERY				32.784,26 €				32.784,26 €	
C.	NON-EE AND ANCILLARY WORKS ARISING FROM IMPLEMENTATION OF EE MEASURES									
				929,17 €				929,17 €		
D.	MEASURES TO ENABLE HIGHER COMFORT AND BETTER WORKING CONDITIONS									
				45.113,73 €				11.342,71 €		
E.	SPARE PARTS									
				128,63 €				128,63 €		
TOTAL PRICE, VAT EXCLUDED:				447.766,78 €				413.995,76 €		
TOTAL PRICE WITH 3% DISCOUNT				434.333,77 €				401.575,89 €		
VAT (19 %):				82.523,42 €				76.299,42 €		
A-E TOTAL PRICE(WITH DISCOUNT), VAT INCLUDED:				516.857,19 €				477.875,31 €		
F	ADDITIONAL WORKS									
1	Dismantling , loading on truck and transport to the town landfill of old leaking metal sewer ceiling installation from two classrooms. Price analysis: dismantling 27.3e, loading and transport to town landfill 25e, profit 10%- 2.5e/m1	m1				4	23,00	x 2,50 € =	57,50 €	OFV 03, approved by Client on 23/09/2014.
2	Purchase of the material and installation of new sewage pipes DN 110mm with all necessary fittings and connections. Price taken from BR ViK BoQ III - 1 11.39e/m1	m1				4	23,00	x 11,39 € =	261,97 €	OFV 03, approved by Client on 23/09/2014.
3	Purchase of the material and installation of protection boxes around new sewer pipes, boxes are made from cardboard on a metal substructure. Price taken from JK ARH BoQ II - 1 18.32 e/m1	m1				4	23,00	x 18,32 € =	421,36 €	OFV 03, approved by Client on 23/09/2014.
4	Skimming of gypsum box. Price taken from JK ARH BoQ D- 4 2.38 e/m2	m2				4	23,00	x 2,38 € =	54,74 €	OFV 03, approved by Client on 23/09/2014.
5	Painting of gypsum box with semidispersive paint Price taken from JK ARH BoQ D-5 1.66 e/m2	m2				4	23,00	x 1,66 € =	38,18 €	OFV 03, approved by Client on 23/09/2014.
6	Bricking,plastering skimming and painting of the wall around new sewer pipe, correction after dismantling old metal pipe.	l.sum				4	1,00	x 35,00 € =	35,00 €	OFV 03, approved by Client on 23/09/2014.
7	Dismantling of old damaged brick chimney 60x60x80cm, loading and transport of debris to the town landfill Price taken from BR ARH BoQ IV - 14 41.4e	piece				4	1,00	x 41,40 € =	41,40 €	OFV 03, approved by Client on 23/09/2014.
8	Bricking of new chimney with thick bricks in cement plaster 60 x60 x80cm. Price taken from MI ARH BoQ III - 6.8 51.13e - 30% =35.79e/m2	m2				4	1,92	x 35,79 € =	68,72 €	OFV 03, approved by Client on 23/09/2014.
9	Purchase and installation of new metal cover for chimney. Price material 30e, installation 15e, profit 10%	piece				4	1,00	x 49,50 € =	49,50 €	OFV 03, approved by Client on 23/09/2014.

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure				VO				COMMENTS		
			Quantity	Unit price (€)	Amount (€)		Quantity	Unit price (€)	Amount (€)			
10	Purchase of the material, installation of metal substructure with metal boxes 60x40x3mm and covering with vertical sandwich panels of two roofs, detail arranged in accordance with supervision order on Monday 25.8.2014. Price taken from JK ARH BoQ A2- 6 53.41€/m2	m2				4	10,00	x	53,41 €	=	534,10 €	OFV 03, approved by Client on 23/09/2014.
11	Purchase of the material and installation of galvanized metal sheet dw 40cm on façade parts where were old flower pots. Price taken from JK ARH BoQ A1-5 15.11€/m2	m1				4	20,00	x	15,11 €	=	302,20 €	OFV 03, approved by Client on 23/09/2014.
12	Dismantling of thermal insulation mineral wool 5cm, pvc foil, ter paper, wapor barrier, reinforcement layer- mesh. In main bill of quantities it was predicted removal of 2-4cm of plaster below roof tiles, bat in situ it was 6cm. All debris must be loaded on truck and carried to the town landfill. Price analysis: removal of 2cm of plaster from roof 0.9e, removal of pvc foil, ter paper,wapor barrier from roof 0.4e, removal of theraml insulation 0.4e, removal of reinforcement layer- metal mesh 9e, loading and transport to the landfill 0.6e. Calculation for machinery repairs- grinders, concrete cuters, jack hammers, drills is included in the price,and also providing special cutting discs for grinders- to cut reinforced concrete.	m2				4	1.000,00	x	3,20 €	=	3.200,00 €	OFV 08, approved by Client on 23/09/2014.
13	Because of change of detail on roof which Supervision and Client gave to us on Kick off meeting there is additional work - installation of EPS d=3cm boards on the horizontal concrete gutter- 228.5m of forisontal gutter of d.w 47cm- 107.39m2 of EPS boards. Price from SM BoQ ARH I 1.13/ d=5cm 7.1€/m2- d= 3cm- 4.26e	m2				4	107,39	x	4,26 €	=	457,48 €	OFV 09, approved by Client on 23/09/2014.
14	Because of change of detail on roof which Supervision and Client gave to us on Kick off meeting there is additional work over the horizontal concrete gutter - on covering roof with roof polyurethane sandwich panels system, thickness d=80mm, heat transfer coefficient $\lambda_{max} = 0,025 \text{ W/mK}$, standard modular width 1000mm, attached to box profiles 60/40/3mm at 60-150cm distance over existing timber roof structure. Replacing the worn-out parts of the roof construction with new ones which should represent 10 % from total roof area. Upper side of sheet metal is made of unique trapezoidal shape d=0,5mm, and lower side is made of SNVs d=0,5mm. After the installation of sandwich panels, it is necessary to install flashing on all covers along the walls, edges of gable walls and gutters with appropriate joining material (stainless steel screws, washers and EPDM sealants...). The price includes all the work and material, as described. Price JK ARH BoQ A2.7 53.41€/m2	m2				4	150,00	x	53,41 €	=	8.011,50 €	OFV 09, approved by Client on 23/09/2014.
15	Dismantling of old damaged marble plinth from the corridors, loading and transporting debris to the town landfill. Price from Braca Ribar BoQ ARH V 1. 3.62e	m1		99,55 €		4	27,50	x	3,62 €	=	99,55 €	OFV 15, approved by Client on 23/09/2014.
16	Supply of the material and installation of new marble plinth 10cm. Supply of the plinth 10e, transport from Danilovgrad 1.5e, installation 5e, repairs of the paint 1.5e profit	m1				4	27,50	x	19,80 €	=	544,50 €	OFV 15, approved by Client on 23/09/2014.
17	Supply of materials and installation of PVC window dimensions 79x79cm. Price J.K ARH BoQ B3-2 105e	piece				5	1,00	x	105,00 €	=	105,00 €	OFV 20, approved by Client on 31/10/2014.
18	Supply of materials and installation of PVC fixed window dimensions 99x50cm. Price J.K ARH BoQ A3-2 89.25e	piece				5	1,00	x	89,25 €	=	89,25 €	OFV 20, approved by Client on 31/10/2014.
19	Supply and installation of self closing mechanism GU - BKS with the stoper inside- difference in price is 45e per piece (old self closing mechanism + door stoper= 78.5e- Mileva Lajovic ARH BoQ II-3 new price 123.5e)	m2				5	1,00	x	45,00 €	=	45,00 €	OFV 20, approved by Client on 31/10/2014.
20	Supply of the material and installation of OSB plates d=12.5mm on vertical part of roofs - before putting EPS boards	m2				5	12,50	x	15,60 €	=	195,00 €	OFV 28, approved by Client on 31/10/2014.
21	Supply of the material and installation of EPS boards d= 10cm on the internal side of the roof valleys. Price from offer for variation no 6- 10.67e	m2				5	25,50	x	10,67 €	=	272,09 €	OFV 28, approved by Client on 31/10/2014.
22	Purchase of the material and installation of metal stairs in front of the boiler house. Stairs are made of metal boxes 60x40x3mm, with metal sheet d=5mm- for the stair treads and	piece				5	1,00	x	267,30 €	=	267,30 €	OFV 33, approved by Client on 31/10/2014.
23	Dismantling of floor marble tiles. Price B.R ARH BoQ V-1 - 3.62e	m2				6	7,00	x	3,62 €	=	25,34 €	OFV 60, approved by Client on 24/12/2014.
24	Dismantling of wall and floor tiles in old toilet. Price B.R ARH BoQ V-1 - 3.62e	m2				6	29,00	x	3,62 €	=	104,98 €	OFV 60, approved by Client on 24/12/2014.

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS	
25	Replacement of damaged ceramic floor and wall tiles after laying new water and sewage installations Price B.R ARH BoQ V-11 - 22.25e	m2				6	29,00	x	22,25 € =	645,25 €	OFV 60, approved by Client on 24/12/2014.
26	Purchase of material and installation of new cement screed. Price B.R ARH BoQ V-8 - 9.83e	m2				6	7,00	x	9,83 € =	68,81 €	OFV 60, approved by Client on 24/12/2014.
27	Installation of new water and sewage pipes with all necessary fittings and valves for new hand wash and bowl for handicapped people with all necessary drilling in the concrete slab, making channels for pipes, and after installation reparation of concrete slab, installation of new waterproof layer and screed. Material, fittings valves 230e, transport 35e, 4 plumbers 10h-168e, 4 unskilled laborers 10h 120e, profit 10%	piece				6	1,00	x	608,30 € =	608,30 €	OFV 60, approved by Client on 24/12/2014.
28	Purchase and mounting of complete ceramic bowl, for handicapped people, with flush ceramic bowl with special seat 285e, flush 52e, delivery 10e, plumber 16.8, profit 10%-price from A11 fast rack- Vlado Milic	piece				6	1,00	x	400,00 € =	400,00 €	OFV 60, approved by Client on 24/12/2014.
29	Purchase and mounting of complete ceramic lavatory set, with its supports, chrome plated single-lever basin mixer (hot and cold), chrome plated trap, towel holder, mirror for handicapped people Hand wash- 121e, chrome mixer 35e, plated trap 22e, mirror 50e, towel holder 10e, delivery 10e, plumber 15.3e, profit 10%	piece				6	1,00	x	290,00 € =	290,00 €	OFV 60, approved by Client on 24/12/2014.
30	Purchase and installation of water proof insulation. Price from BR BoQ ARH V-9 21.74e/m2	m2				6	8,00	x	21,74 € =	173,92 €	OFV 60, approved by Client on 24/12/2014.
31	Purchase and mounting of two holders for handicapped people- material 135e, transport 10e, plumber 4.2e, profit 10%	piece				6	2,00	x	165,00 € =	330,00 €	OFV 60, approved by Client on 24/12/2014.
32	Purchase of the material and installation of the ceramic floor tiles Price from B.J BoQ ARH V 11 22.25e/m2	m2				6	7,00	x	22,25 € =	155,75 €	OFV 60, approved by Client on 24/12/2014.
33	Purchase of the material and installation of the ceramic wall tiles Price from B.R BoQ ARH V 12- 22.25e/m2	m2				6	25,00	x	22,50 € =	562,50 €	OFV 60, approved by Client on 24/12/2014.
34	Skimming and painting with semi dispersive paint of the ceiling and walls. Price from B.R BoQ ARH V-13 4.35e/m2	m2				6	27,40	x	4,20 € =	115,08 €	OFV 60, approved by Client on 24/12/2014.
35	Purchase and installation of one wall mounted air ventilator. Supply and delivery 60e, installation with making hole in the wall and cabling -50e, profit 10%-	piece				6	1,00	x	121,00 € =	121,00 €	OFV 60, approved by Client on 24/12/2014.
36	Delivery and mounting of ceiling mounted light fitting 1/28 W T16 IP54, opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material are calculated per unit. AS 1X28/1/IP54 OPAL, sa with light sources Mareli Bulgary	piece				6	1,00	x	34,50 € =	34,50 €	OFV 60, approved by Client on 24/12/2014.
37	Dismantling of old existing door together with frame and upper light . Price from M.T BoQ ARH 1.01 10.3e/m2.+ 5	piece				6	1,00	x	15,30 € =	15,30 €	OFV 60, approved by Client on 24/12/2014.
38	Extension of door hole, cutting walls and reinforcement of jambs for installation of a new door- dimensions 105/205cm. Cutting walls 70e, reinforcement of the jambs 65e, profit 10%	piece				6	1,00	x	148,50 € =	148,50 €	OFV 60, approved by Client on 24/12/2014.
39	Suply of the material assembling and installation of new aluminium door dimensions 205x105cm. Price from M.T BoQ ARH 4.10 a 10.3e/m2.	piece				6	1,00	x	340,93 € =	340,93 €	OFV 60, approved by Client on 24/12/2014.
40	Purchase of the material and installation of gypsum wall on metal substructure with double boards and with reinforcement for lavatory and holders. Material and work 26e	m2				6	5,40	x	26,00 € =	140,40 €	OFV 60, approved by Client on 24/12/2014.
41	Purchase and installation of marble plinth on the outhter side of gypsum partition wall, height 10cm . Material 15e, work 8e, profit 10%	m1				6	3,20	x	25,30 € =	80,96 €	OFV 60, approved by Client on 24/12/2014.
42	Purchase and installation of metal hand rails on the rapm for handicapped in entrance area. height of the handrail is in accordance to the regulations for handicapped persons. Metal handrail must be painted with protective and final paint for metal Material 40e, work 20e, profit 10%	m1				6	22,60	x	66,00 € =	1.491,60 €	OFV 60, approved by Client on 24/12/2014.

Montenegro Energy Efficiency Program in Public Buildings (EEPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS	
43	Purchase of the material and installation of snow stoppers on the roof, in two rows. Material 4e, cutting, assembling and installation 3.5e, profit 10%	m1					6	212,00	x 8,25 € =	1.749,00 €	OFV 46, approved by Client on 28/12/2014.

Montenegro Energy Efficiency Program in Public Buildings (EEPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
SUMMARY OF COSTS F										
	TOTAL PRICE, VAT EXCLUDED:								22.753,45 €	
	VAT (19%):								4.323,16 €	
F	TOTAL PRICE (WITHOUT DISCOUNT), VAT INCLUDED:								27.076,61 €	
SUMMARY OF COSTS A-F										
A-F	TOTAL PRICE, VAT INCLUDED:								504.951,92 €	

GROUP A5.2.2		Investor:		Ministry of Economy of Montenegro, Energy Efficiency Sector							
TABLE OF QUANTITIES		Project financed by:		KIW ENTWICKLUNGSBANK							
of thermal-technical (heating) services for energy efficiency improvement in "Jagoš Kontić" Primary School in Nikšić		Consultant:		FICHTNER GmbH&Co. KG							
		Sub-Consultant:		Lokalni projekat KOPRING PMC, Podgorica							
		School:		Objekat: P.S "Jagoš Kontić", Nikšić							
		Doc. origin:		Dokumentacija: Final Heating Design							
		Date:		16 November 2013							
No.	Item Description	Unit of measure	CONTRACT				AMENDMENT 1				COMMENTS
			Quantity		Amount (€)	VO	Quantity	Unit price (€)	Amount (€)		
A - Measure No. 1: Installation of thermostatic and balancing valves											
1	Purchase, delivery and installation of thermostatic radiator valves (replacement to be made on all 120 radiators, the specification is given according to the current situation, the contractor will select type of a valve according to the situation on the site).										
	dimensions of the connection 1/2"	pcs	102	x	=	1.471,25 €		102	x	14,42 €	= 1.471,25 €
2	Purchase, delivery and installation of thermostatic head for installation in buildings that accommodate many people, with flexural strength of the thermostatic head min. 1000 N (anti-theft). Continuous setting of temperature is done using special key without need to remove the protective cap. Thermostat has the liquid sensor.										
	Manufacturer Heimeier type B or equivalent										
	Setting range from 8 °C to 26 °C										
	Number of poles: four poles										
	Closing time 24 min.	pcs	102	x	=	1.777,25 €		102	x	17,42 €	= 1.777,25 €
3	Purchase, delivery and installation of the radiator angular valves, radiator sub-valves, dimensions 1/2". The Contractor shall determine the type of the valve during installation depending on the situation at the site.										
		pcs	102	x	=	1.144,44 €		102	x	11,22 €	= 1.144,44 €
4	Purchase, delivery and installation of differential pressure controller valve with no additional power feeding, for two-pipe systems with thermostatic valves fitted on heat emitters, with continuous temperature setting, with 1 m long capillary pipe (fitted on the return pipe of the manifold) size and properties:										
	Manufacturer: TA or equivalent										
	Type: STAP										
	a) DN20, connectors 1/4", 40-1200l/h for maximal flow on manifold of 500l/h	pcs	1	x	=	86,72 €		1	x	86,72 €	= 86,72 €
	b) DN32, connectors 1/4", 400-4500l/h for maximal flow on manifold of 2350l/h	pcs	1	x	=	166,32 €		1	x	166,32 €	= 166,32 €
	c) DN40, connectors 1/4", 500-6000l/h for maximal flow on manifold of 4850l/h	pcs	1	x	=	184,80 €		1	x	184,80 €	= 184,80 €
	d) DN50, connectors 1/4", 700-9000l/h for maximal flow on manifold of 6450l/h	pcs	1	x	=	331,32 €		1	x	331,32 €	= 331,32 €
5	Purchase, delivery and installation valves for riser pipes with meter gauges in brass casing, pre-setting with digital reading (fitted on the feed pipe of the manifold), size and properties:										
	Manufacturer: TA or equivalent										
	Type: STAP										
	a) DN20, kvs = 6.8	pcs	1	x	=	45,94 €		1	x	45,94 €	= 45,94 €
	b) DN32, kvs = 20.67	pcs	1	x	=	82,10 €		1	x	82,10 €	= 82,10 €
	c) DN40, kvs = 28.09	pcs	1	x	=	93,72 €		1	x	93,72 €	= 93,72 €
	d) DN50, kvs = 41.38	pcs	1	x	=	107,32 €		1	x	107,32 €	= 107,32 €
TOTAL A - Installation of thermostatic and balancing valves						5.491,18 €				5.491,18 €	
B - Measure No. 2: Energy management											
1	Purchase, supply and installation of ultrasonic heat gauge and cable from computer unit to heat gauge of 1,5m, for mounting into return piping line. The gauge is battery powered. Together with gauge a pair of temperature sensors Pt500 is delivered, one sensor mounted directly into flow gauge body, M-Bus module, brass bushing for sensors mounting, and set threaded unions.										
	Manufacturer: Siemens or equivalent										
	Type: "UH50 Ultraheat"										
	Nominal flow: 25 m ³ /h										
	Connector: DN65										

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity		Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
		pcs	1	x =	1.848,00 €		1	x 1.848,00 € =	1.848,00 €	
2	Purchase, supply and installation of electronic flow gauge for light fuel oil. Manufacturer: Aqua metro or equivalent Type VZO 4 RE Nominal flow 50 l/h Minimum flow 1 l/h									
		pcs	2	x =	1.153,68 €		2	x 576,84 € =	1.153,68 €	
3	Purchase, supply and installation of control unit with M-Bus communication and display. Manufacturer: Siemens or equivalent Type: "Climatix POL638"									
		pcs	1	x =	2.830,08 €	3	0	x 2.830,08 € =		Excluded (communication 01/08/2014).
4	Software development and staff training.									
		pcs	1	x =	792,00 €	3	0	x 792,00 € =		Excluded (communication 01/08/2014).
TOTAL B - Energy management					6.623,76 €				3.001,68 €	
C - Measure No. 4: Heat source efficiency										
1	Purchase, delivery and installation of compact water softener for treatment of water from the town mains for heating systems with installed boiler power of 500 to 1000kW. Compact casing contains ion-exchange resin, automatically regenerated once its capacity is spent, with following properties: Manufacturer: Viessmann or equivalent Type: Aquaset 1000 Maximal flow: 2.0 m ³ /h Amount of resin: 25 l Softening capacity (at 18°dH) 5500 liters Salt consumption per regeneration: 4 kg Operating pressure: 1,4 – 8 bar Operating temperature: 4-40 °C Connections (input and outlet) 1" Electric outlet 220V/50Hz Dimensions depth 432 mm width 324mm height 1170 mm The softener is delivered with self-cleaning pre-filter consisting of casing with protective 100 microns mesh.									
		pcs	1	x =	1.752,96 €		1	x 1.752,96 € =	1.752,96 €	
2	Purchase, delivery and installation of automatic valve for water fill in the system, with block valve and ball backflow valve filter and manometer with following characteristics: connection dimensions 1" Control range 0.3 – 4 bar Maximal flow at inlet 16bar Maximal temperature at inlet 50°C									
		pcs	1	x =	50,95 €		1	x 50,95 € =	50,95 €	
3	Purchase, delivery and installation of water gauge at fresh water feeder from the water mains into the softener, with flow control scale and number disk for total flow registration, connection dimensions 3/8", threaded.									
		pcs	1	x =	73,92 €		1	x 73,92 € =	73,92 €	
4	Purchase, delivery and installation of threaded block-ball valves, connection size DN25.									
		pcs	7	x =	129,36 €		7	x 18,48 € =	129,36 €	
5	Purchase, delivery and installation of threaded back-flow preventers, connection size DN25:									
		pcs	2	x =	26,40 €		2	x 13,20 € =	26,40 €	
6	Purchase, delivery and installation of pressure gauge complete with manometer flow-through valve, metering range 0-6 bars.									
		pcs	3	x =	91,87 €		3	x 30,62 € =	91,87 €	
7	Purchase, delivery and installation of DN15 fill and discharge tap valve with a cap, chain and threaded connection.									
		pcs	2	x =	19,27 €		2	x 9,64 € =	19,27 €	
8	Purchase and installation of PP-R water pipes for connecting equipment for chemical water treatment, for operating pressure of 10 bars with all required fittings. Pipes need to be fixed to walls with double pipe clips at every 1.5 to 2.0 m. Pipes on branching need to be insulated with "plamafleksom" to prevent condensation. Pipes are welded with but welded joint. Pipe diameter is rated diameter of DN25.									
		m	8	x =	83,42 €		8	x 10,43 € =	83,42 €	

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity		Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
9	Purchase and delivery of "brinoks" hose DN 20 with unions at ends, 5 m length, for filling and discharging the installation.									
		pcs	1	x	47,52 €		1	47,52 €	47,52 €	
10	Purchase, delivery and installation of flanged backflow preventers with mating flanges, bolts, nuts, gaskets PN6, following dimensions of connections:									
	DN50	pcs	1	x	165,00 €		1	165,00 €	165,00 €	
	DN 80	pcs	1	x	204,60 €		1	204,60 €	204,60 €	
11	Purchase, delivery and installation of three-way mixing and diverting valve for constant control of cooling and heating water, with control of the position of the valve piston, with drive power motor as drive unit.									
		pcs	1	x	669,24 €		1	669,24 €	669,24 €	
12	Purchase, delivery and installation of the duplex circulating pump with electronic frequency controller used to supply the radiator heating in the school (without the gym) with the ability to control pressure on the thrust, proportionally and constantly, properties:									
	Manufacturer: Grundfos or equivalent									
	Type: Magna D 50-60 F									
	Flow: 14.25 m³/h									
	Thrust: 4.5 m									
	Type of connection: Flanged DN50									
	Power supply: V=1x230V~									
	Maximum current: I = 1.7A									
	Transferred power: P = 25 to 400W									
	Pumps are delivered and installed jointly with the counter flanges, connecting and sealing material.									
		pcs	1	x	2.798,40 €		1	2.798,40 €	2.798,40 €	
13	Purchase, delivery and installation of elements for reduction of pipes diameter DN80 to DN 50.									
		pcs	2	x	19,80 €		2	9,90 €	19,80 €	
14	Purchase, delivery and installation of two-stage light distilled oil burner, manufacturer Weishaupt Switzerland or equivalent, type WL30Z-A, with installed oil pump, class NOx k2 in compliance with EN 267; effective thermal power 72 – 330 kW; oil flow 6.1-27.9 kg/h; rated motor power 0.42kW; motor supply electricity 50 Hz, 3-220/380 V; outlets for oil supply and discharge from pump DN8, hose length 1000mm; burner size: length 480+169mm, width 420mm, height 460mm; weight 28kg. The item includes adjusting of burner intake port and additional fuel filter.									
		pcs	1	x	2.654,52 €		1	2.654,52 €	2.654,52 €	
15	Viessmann Vitotronic 100 digital control containing: On/off control, test-service switch, maximal temperature electronic limitator, temperature controller and safety temperature limitator, "Power-on" and fault display, optolink Communication port for lap-top, pushbuttons for setting operating mode, temperature setting in boiler, setting domestic hot water temperature, heating programmes, protection from pump blockage and switching to economic mode, with water temperature sensor in the boiler.									
		pcs	2	x	1.206,48 €		2	603,24 €	1.206,48 €	
16	Purchase, delivery and installation of cascade controller for cascade control of unit consisting of two to four boilers, for mutual cascade controlling of all the boilers depending on external temperature, with the option of controlling two heat loops with mixers and option of controlling preparation of sanitary hot water for facility with two-stage or modulated burner.									
	Together with a display, illuminated pushbuttons, simplified system of putting into operation by means of functional jacks, with flexible sanitary water regulation (alternatively, regulation of the system with a water tank by means of a control three-way valve), with a digital integrating meter for daily and weekly programs, integrated diagnosis system, switching to summer economic regime and with fuel consumption indication.									

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity		Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
	Together with a display, illuminated pushbuttons, simplified system of putting into operation by means of functional jacks, with flexible sanitary water regulation (alternatively, regulation of the system with a water tank by means of a control three-way valve), with a digital integrating meter for daily and weekly programs, integrated diagnosis system, switching to summer economic regime and with fuel consumption indication.									
	Automatics include: start switch, test service switch, external temperature sensor, electronic maximal temperature limiter and safety temperature limiter, drive unit and malfunctions indicator, Optolink laptop switch, pushbuttons for operating mode, option of setting water temperature in boiler, sanitary water temperature, temperature modes, protection from pump blockage, switching to economic mode. Set include a wall mounted console.									
	Manufacturer: Viessmann or equivalent									
	Tip: Vitotronic 300-K MW1B	pcs	1	x	= 1.758,24 €		1	x 1.758,24 €	= 1.758,24 €	
17	Purchase, delivery and installation of communication module LON– electronic print board for installation in Vitotronic 100, for data exchange with other heating circuit controllers.									
		set	2	x	= 456,72 €		2	x 228,36 €	= 456,72 €	
18	Purchase, delivery and installation of LON patch cord for data exchange between the controllers with connections RJ 45, length 7m.									
		pcs	2	x	= 163,68 €		2	x 81,84 €	= 163,68 €	
19	Purchase, delivery and installation of glass thermometer with brass sensor well and sleeve for pipeline installation metering range 0-120°C.									
		pcs	2	x	= 61,25 €		2	x 30,62 €	= 61,25 €	
20	Purchase of material and coating the pipes with insulation made of rock wool, thickness 50 mm, with AL sheeting thickness 0.5 mm, complete with installation kit. Fire-resistance class flammability A1 in line with SIST EN 13501-1 & JUS U.J1.050. Calculated per m2 of insulation measured on the external side of the pipe, total with board insulation.									
		m ²	8	x	= 264,00 €		8	x 33,00 €	= 264,00 €	
21	Rinsing of the entire heating system in the school with the gym. Dismantling of all radiators (96 pieces) and removal of residue from the bottom of ribs. Fitting of new radiator brackets.									
		lump-sum			= 2.640,00 €			2640	= 2.640,00 €	
22	Inspection of air-release network, clear the air way, inspect proper operating of air-release valves, where necessary, replace damaged or broken down parts.									
	Calculated lump-sum	pcs	1	x	= 264,00 €		1	x 264,00 €	= 264,00 €	
23	Cleaning existing below-grade light distilled oil capacity 20m ³ , removal of sediments, dumping in set manner, replacement of suction group, maintenance service of safety valves and inspection of entire ancillary installation.									
	Calculated lump-sum	pcs	1	x	= 1.742,40 €		1	x 1.742,40 €	= 1.742,40 €	
24	Dismantling, disassembling, cleaning, servicing, oiling and re-installation of expansion vessel in the boiler room with ancillary fitting and safety valve above the boilers.									
	Calculated lump-sum	pcs	1	x	= 316,80 €		1	x 316,80 €	= 316,80 €	
25	Fitting of ribbed radiators made of aluminium, total of 7 radiators, from the rib, axial separation of outlets h=500mm, depth d=95mm, ribs width s=80mm thermal output at manifold of 90/70°C 151W (the position includes fitting of new brackets for mounting with spacers).									
		pcs	82	x	= 432,96 €		82	x 5,28 €	= 432,96 €	
26	Purchase of material and installation of pipeline made of steel seamless pipes to connect new radiators , in line with JUS standard C.B5.221 or DIN 2448, following dimensions:									
	Ø21.3x2.0 - DN15	m	35	x	= 221,76 €		35	x 6,34 €	= 221,76 €	

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity		Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
27	Joining, tightening material and brackets, elbows, branches and such are calculated as 60% of the previous pipe item. This item includes cleaning, prime coating and painting with finishing paint resilient to high temperatures.									
	Calculated as 60% of the previous item		0,6	x =	133,06 €		0,6	x 221,76 € =	133,06 €	
28	Purchase, delivery and assemblage of air-release vessels with automatic air-release valves.	pcs	2	x =	92,40 €		2	x 46,20 € =	92,40 €	
29	Purchase, delivery and installation of radiator cap, size 1".	pcs	12	x =	15,84 €		12	x 1,32 € =	15,84 €	
30	Elements for reduction of pipes diameter from 1" to 1/2".	pcs	16	x =	21,12 €		16	x 1,32 € =	21,12 €	
	Preliminary and finishing works									
31	Preparation of the construction site for fitting of thermo-technical installations. Surveying on site situation. Installation of containers. Transportation of people, goods and materials.	lump-sum		=	462			=	462	
32	Putting the boiler facility into operation and trial testing of the entire heating system, as well as testing of proper operating of all installed radiator valves. The item also includes previous burner adjustment, cleaning of the flues and existing boilers.	lump-sum		=	528			=	528	
33	Training of personnel in charge of boiler operation and heating system maintenance, training of personnel for operation of newly incorporated equipment, as well as training for cases of emergency.	lump-sum		=	198			=	198	
34	Issuing of certificate for entire installed material and equipment.	lump-sum		=	198			=	198	
35	Preparation of "As-built" design.	lump-sum		=	396			=	396	
36	Installation of framed and glazed scheme of connections on a visible place in the boiler room.	lump-sum		=	264			=	264	
	TOTAL C - Heat Source Efficiency				20.623,94 €				20.623,94 €	
SUMMARY OF COSTS A-C										
A	INSTALLATION OF THERMOSTATIC AND BALANCING VALVES				5.491,18 €				5.491,18 €	
B	ENERGY MANAGEMENT				6.623,76 €				3.001,68 €	
C	HEAT SOURCE EFFICIENCY				20.623,94 €				20.623,94 €	
	TOTAL PRICE, VAT EXCLUDED				32.738,88 €				29.116,80 €	
	TOTAL PRICE WITH 3% DISCOUNT				31.756,71 €				28.243,30 €	
	VAT (19 %)				6.033,78 €				5.366,23 €	
A-C	TOTAL PRICE(WITH DISCOUNT), VAT INCLUDED:				37.790,49 €				33.609,52 €	
D	ADDITIONAL WORKS									
1	Purchase, delivery and installation of two-stage light distilled oil burner, manufacturer Weishaupt Switzerland or equivalent, type WL30Z-A, with installed oil pump, class NOx k2 in compliance with EN 267; effective thermal power 72 – 330 kW; oil flow 6.1-27.9	piece					5	1,00 x 2.654,52 € =	2.654,52 €	OFV 23, approved by Client on 31/10/2014.
2	Purchase, delivery and fitting of three-way mixing with electric motor, connection dimensions, connection dimensions: DN80	piece					5	1,00 x 920,25 € =	920,25 €	OFV 23, approved by Client on 31/10/2014.
3	Delivery and installation of fixed mounting bars at the door of the boiler room for natural circulation of air required for the combustion process of fuel in the boilers. 59 x 52 cm-material 70e, 20installation, profit 10%	piece					5	2,00 x 88,00 € =	176,00 €	OFV 38, approved by Client on 31/10/2014.
4	Delivery and installation of the insulation of circulating pumps, armatures and connecting pipelines, insulation thickness: 50 mm. Price ML TTI BoQ 33e	m2					5	9,00 x 33,00 € =	297,00 €	OFV 51, approved by Client on 31/10/2014.

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No.	Item Description	Unit of measure	Quantity	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
5	Cutting of the existing verticals 1/2" through concrete slabs, replacement of pipeline with a length of about 50 cm with the installation of casing pipes. Calculation will be done according to the penetration. Work and material 29.4e	pieces			5	6,00	x 29,40 € =	176,40 €	OFV 51, approved by Client on 31/10/2014.
6	Delivery and installation of vent valves (AT valves) 6/4". Delivery and installation 130e	pieces			5	1,00	x 130,00 € =	130,00 €	OFV 51, approved by Client on 31/10/2014.
7	Delivery and installation of black steel pipe: 6/4" ML Tti BoQ Bii 29- 9.77e	m1			5	4,00	x 9,77 € =	39,08 €	OFV 51, approved by Client on 31/10/2014.
8	Delivery and installation of black steel pipe: 3" ML Tti BoQ Bii 29- 23.26e	m1			5	2,00	x 23,26 € =	46,52 €	OFV 51, approved by Client on 31/10/2014.
9	60% of the previous position of the pipe is taken for connecting, suspension and sealing material, elbows, branches etc. This position includes cleaning, prime and finish paint. 60% of the previous two items is taken.	%			5	0,60	x 85,60 € =	51,36 €	OFV 51, approved by Client on 31/10/2014.
10	Filling hollies with concrete, plastering skimming ad paint reparation	lumpsum			5	1,00	x 360,00 € =	360,00 €	OFV 51, approved by Client on 31/10/2014.
SUMMARY OF COSTS D									
	TOTAL PRICE, VAT EXCLUDED:							4.851,13 €	
	VAT (19%):							921,71 €	
D	TOTAL PRICE (WITHOUT DISCOUNT), VAT INCLUDED:							5.772,84 €	
SUMMARY OF COSTS A-D									
A-D	TOTAL PRICE, VAT INCLUDED:							39.382,37 €	

GROUP A5.2.3			Investor: Ministry of Economy of Montenegro, Energy Efficiency Sector						
TABLE OF QUANTITIES			Project financed by: KIW ENTWICKLUNGSBANK						
of electrical services for energy efficiency improvement			Consultant: Konsultant: FICHTNER GmbH&Co. KG						
in "Jagoš Kontić" Primary School in Nikšić			Sub-Consultant: Lokalni projekat: KOPRINC PMC, Podgorica / SIENERSYS, Podgorica						
			School: Objekat: Primary School "Jagoš Kontić", Nikšić						
			Doc. origin: Dokumentacija: Final Design of Electrical Services						
			Date: 16 November 2013						
No.	Item Description	Unit of measure	CONTRACT			AMENDMENT 1			COMMENTS
			Quantity		Amount (€)	VO	Quantity	Unit price (€)	
1	LIGHTING INSTALLATION								
1.1.	Delivery and laying of cables for lighting circuits. Cables are mounted on walls through rigid PVC conduits, with repair of damaged walls and ceilings, covering and bringing it back in previous condition. Connection point is in existing switchbox. Commands are from existing switch. One cable replacement is expected in every classroom. Average cable length for one outgoing connection spot is:								
	PP-Y 3x1,5 mm2	m	8,00				8,00		
	Works and material	pcs	5	x =	172,80 €		5	x 34,56 =	172,80 €
1.2.	Delivery and laying of cables in wall installations with repairing of damaged walls and ceilings, covering and bringing it back in previous conditions for electrical connection of emergency lights. Connection point is from nearest existing junction box. Average cable length is per one outgoing connection spot:								
	PP-Y 3x1,5 mm2	m	8				8		
	Works and material	pcs	18	x =	622,08 €		18	x 34,56 =	622,08 €
1.3.	Delivery of and laying of lighting cables in the classrooms on the first floor. Due to mounting of the new suspended ceiling, new cables shall be connected to existing one using pendant terminals or "Raychem" joints. The item includes connecting cables on both sides. Average cable length is per one luminaire spot is 2.5m.								
	PP-Y 3x1,5 mm2	m	2,5				2,5		
	Works and material to be calculated per unit:	pcs	125	x =	585,00 €		125	x 4,68 =	585,00 €
1.4.	Dismantling of existing luminaires. Works to be calculated per unit:	pcs	422	x =	1,823,04 €		422	x 4,32 =	1,823,04 €
1.5.	Delivery and mounting of ceiling mounted luminaires 1/54W (or 2x28 W) T16 F840 (STD) T16 x 1/54W (or 2x28W), with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Norms 12464 for DSE for working stations. Works and material to be calculated per unit:	pcs	190	x =	22.161,60 €		190	x 116,64 =	22.161,60 €
	Spare bulb for this type of luminaire	pcs	19	x =	134,06 €		19	x 7,06 =	134,06 €
1.6.	Delivery and mounting of ceiling mounted luminaires 1/80W T16 F840 with asymmetrical light distribution for school boards lighting, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Luminaire has to be mounted on 2.7 m height from floor level and 0.9 m from wall with board mounted on it. Works and material to be calculated per unit:	pcs	18	x =	3.680,64 €		18	x 204,48 =	3.680,64 €
	Spare bulb for this type of luminaire	pcs	2	x =	16,13 €		2	x 8,06 =	16,13 €
1.7.	Delivery and mounting of ceiling mounted luminaires 1/28 W T16 IP50, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material to be calculated per unit:	pcs	86	x =	11.640,96 €		86	x 135,36 =	11.640,96 €
	Spare bulb for this type of luminaire	pcs	9	x =	59,40 €		9	x 6,60 =	59,40 €
1.8.	Delivery and mounting of ceiling mounted luminaires 1/28 W T16 IP50, opaline protector, with electronic high frequency ballast completely equipped with mounting gear and light source 840. Works and material to be calculated per unit:	pcs	7	x =	705,60 €	4	0	x 100,80 =	0
	Spare bulb for this type of luminaire	pcs	1	x =	5,18 €		0	x 5,18 =	0
1.9.	Delivery and mounting of ceiling mounted light fitting 1/28 W T16 IP54, opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material to be calculated per unit:	pcs	8	x =	864,00 €	4	0	x 108,00 =	0
	Spare bulb for this type of luminaire	pcs	1	x =	5,18 €		0	x 5,18 =	0
1.10.	Delivery and mounting of ceiling mounted luminaires 2/18 W TC-L IP50 with opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material to be calculated per unit:	pcs	5	x =	590,40 €	4	0	x 118,08 =	0
	Spare bulb for this type of luminaire	pcs	1	x =	6,77 €		0	x 6,77 =	0
1.11.	Delivery and mounting of ceiling mounted luminaires 2/18 W TC-L IP54 with opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material to be calculated per unit:	pcs	32	x =	4.147,20 €	4	0	x 129,60 =	0
	Spare bulb for this type of luminaire	pcs	1	x =	6,77 €		0	x 6,77 =	0

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No.	Item Description	Unit of measure	Quantity		Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
1.12.	Delivery and mounting of ceiling mounted luminaries 4/80W T16 EVG vandal proof; T16, completely equipped with mounting gear and light source, DIN 18032. Works and material to be calculated per unit:	pcs	15	x =	5.184,00 €		15	x 345,60 =	5.184,00 €	
	Spare bulb for this type of luminaire	pcs	1	x =	8,06 €		1	x 8,06 =	8,06 €	
1.13.	Delivery and mounting of ceiling mounted luminaries 2/54 W T16, with IP65 protection, completely equipped with light source, electrical pre-assembly device, electronic high frequency ballast with dark light diffuser and mounting gear. Works and material, with bulb included, to be calculated per unit:	pcs	8	x =	1.025,28 €	4	0	x 128,16 =	0	OFV 04, approved by Client on 23/09/2014.
	Spare bulb for this type of luminaire	pcs	1	x =	9,16 €		0	x 9,16 =	0	
1.14.	Delivery and mounting of ceiling mounted luminaries 2/35 W T16, with IP65 protection, completely equipped with light source, electrical pre-assembly device, electronic high frequency ballast with dark light diffuser and mounting gear. Works and material, with bulb included, to be calculated per unit:	pcs	5	x =	633,60 €	4	0	x 126,72 =	0	OFV 04, approved by Client on 23/09/2014.
	Spare bulb for this type of luminaire	pcs	1	x =	6,77 €		0	x 6,77 =	0	
1.15.	Delivery and mounting of ceiling mounted emergency luminaries 8W, 1h, completely equipped with mounting gear and light source. Works and material, with bulb included, to be calculated per unit:	pcs	43	x =	2.167,20 €		43	x 50,40 =	2.167,20 €	
	Spare bulb for this type of luminaire	pcs	4	x =	11,52 €		4	x 2,88 =	11,52 €	
1.16.	Delivery and mounting of ceiling mounted emergency luminaries in the gym, 3.6W LED 1h, suspension kit included. Works and material, with bulb included, to be calculated per unit:	pcs	3	x =	859,68 €		3	x 286,56 =	859,68 €	
	Spare bulb for this type of luminaire	pcs	1	x =	276,48 €		1	x 276,48 =	276,48 €	
1.17.	Delivery and installation of simple switches 10A, 230V instead of existing broken switches. Total for the supply and installation of:	pcs	10	x =	72,00 €		10	x 7,20 =	72,00 €	
1.18.	Delivery and installation of single phase sockets 16A, 230V, 2P + E instead of existing broken sockets. Total for the supply and installation of:	pcs	10	x =	100,80 €		10	x 10,08 =	100,80 €	
TOTAL FOR LIGHTING INSTALLATION					57.581,36 €				49.575,46 €	
2	POWER SUPPLY AND ELECTRICAL INSTALLATION FOR BOILER ROOM AND HVAC									
2.1.	Delivery and laying of cables on walls in PVC rigid installation pipes and on galvanized cable trays in boiler room, for electrical supply of water softeners in the boiler room. Power cord for water softeners is taken from the existing electrical cabinet in boiler room. Works and material to be calculated per average measure unit:									
	PP-Y 3x2,5 mm2	m	12	x =	41,47 €		12	x 3,46 =	41,47 €	
	OUTLET 2P+E / 230V/ IP 55	pcs	1	x =	10,08 €		1	x 10,08 =	10,08 €	
2.2.	Replacement of equipment in existing electrical cabinet in boiler room: automatic switch 1p C60H 16A 10 kA IEC 898	pcs	1							
	All necessary small connection kit is envisaged									
	TOTAL FOR SWITCHBOX	lump sum	1,00	x =	8,64 €		1,00	x 8,64 =	8,64 €	
2.3.	Delivery and mounting elements in existing main GRO switchbox: automatic switch C60H 20A 10 kA	pcs	3				3			
	Works, material and small kit to be calculated per unit:	pcs	1	x =	25,92 €		1	x 25,92 =	25,92 €	
TOTAL FOR POWER SUPPLY AND ELECTRICAL INSTALLATION FOR BOILER ROOM AND HVAC SERVICES					86,11 €				86,11 €	
3	LIGHTNING PROTECTION SYSTEM									
3.1.	Dismantling of existing lightning protection system.	lump sum	1,00	x =	216,00 €		1,00	x 216,0 =	216,00 €	
3.2.	Delivery and mounting of tape-roof cover, plate prefabricated junctions for galvanized tape Fe-Zn 20x3 mm according to JUS N.B4. 908, IEC standards and technical report. Works and material to be calculated per unit:	pcs	18,00	x =	90,72 €		18,00	x 5,04 € =	90,72 €	
3.3.	Connecting all metal conductive parts with lightning protection system. Works and material to be calculated per unit:	lump sum	1,00	x =	72,00 €		1,00	x 72,00 € =	72,00 €	
3.4.	Delivery and mounting of deep galvanized tape Fe/Zn 25x4 mm2 for grounding of gutters. Tape should be connected to nearest connection point to foundation earthing through earth trench and under new pavements. Works should be performed according to technical report and technical recommendation. Total for works and material:	m	276,00	x =	715,39 €		276,00	x 2,59 € =	715,39 €	

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No.	Item Description	Unit of measure	Quantity		Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
3.5.	Delivery and mounting of prefabricated tape junction elements for gutters according to JUS and IEC standards and technical report. Works and material to be calculated per unit:									
	NGO 15, AY JUS N.B4.914-O(P)	pcs	23,00	x =	165,60 €		23,00	x 7,20 € =	165,60 €	
TOTAL FOR LIGHTNING PROTECTION SYSTEM					1.259,71 €				1.259,71 €	
4	TESTING & MAINTENANCE DESIGN									
4.1.	Testing of electrical grounding installation and lightning protection system with issuance of attest.	lump sum	1,00	x =	360,00 €		1,00	x 360,00 € =	360,00 €	
4.2	Testing of new electrical power supply installation.	lump sum	1,00	x =	216,00 €		1,00	x 216,00 € =	216,00 €	
4.3	Preparation of Maintenance Design.	lump sum	1,00	x =	360,00 €		1,00	x 360,00 € =	360,00 €	
TOTAL FOR TESTING & MAINTENANCE DESIGN					936,00 €				936,00 €	
SUMMARY OF COSTS 1-4										
1	LIGHTING INSTALLATION				57.581,36 €				49.575,46 €	
2	POWER SUPPLY AND ELECTRICAL INSTALLATION FOR BOILER ROOM AND HVAC SERVICES				86,11 €				86,11 €	
3	LIGHTNING PROTECTION SYSTEM				1.259,71 €				1.259,71 €	
4	TESTING & MAINTENANCE DESIGN				936,00 €				936,00 €	
	TOTAL PRICE, VAT EXCLUDED				59.863,19 €				51.857,28 €	
	TOTAL PRICE WITH 3% DISCOUNT				58.067,29 €				50.301,56 €	
	VAT (19 %)				11.032,79 €				9.557,30 €	
1-4	TOTAL PRICE(WITH DISCOUNT), VAT INCLUDED				69.100,08 €				59.858,86 €	
5	ADDITIONAL WORKS									
1	Delivery and mounting of ceiling mounted luminaries 1/28 W T16 IP50, opaline protector, with electronic high frequency ballast completely equipped with mounting gear and light source 840. Works and material to be calculated per unit: AS 1X28/1/IP54 OPAL, with light sources. Mareli Bulgary Spare bulb for this type of luminaire F.28/840 T5 1/30	pcs					4	7 x 34,50 =	241,50 €	OFV 04, approved by Client on 23/09/2014.
		pcs					4	1 x 4,03 =	4,03 €	
2	Delivery and mounting of ceiling mounted light fitting 1/28 W T16 IP54, opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material to be calculated per unit: AS 1X28/1/IP54 OPAL, with light sources. Mareli Bulgary Spare bulb for this type of luminaire F.28/840 T5 1/30	pcs					4	8 x 34,50 =	276,00 €	OFV 04, approved by Client on 23/09/2014.
		pcs					4	1 x 4,03 =	4,03 €	
3	Delivery and mounting of ceiling mounted luminaries 2/18 W TC-L IP50 with opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material to be calculated per unit: ORION IP54 1xE27 max 23W CFL Spare bulb for this type of luminaire CFL 20W E27	pcs					4	5 x 28,75 =	143,75 €	OFV 04, approved by Client on 23/09/2014.
		pcs					4	1 x 5,41 =	5,41 €	
4	Delivery and mounting of ceiling mounted luminaries 2/18 W TC-L IP54 with opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material to be calculated per unit: ORION IP54 1xE27 max 23W CFL Spare bulb for this type of luminaire CFL 20W E27	pcs					4	32 x 28,75 =	920,00 €	OFV 04, approved by Client on 23/09/2014.
		pcs					4	1 x 5,41 =	5,41 €	
5	Delivery and mounting of ceiling mounted luminaries 2/54 W T16, with IP65 protection, completely equipped with light source, electrical pre-assembly device, electronic high frequency ballast with dark light diffuser and mounting gear. Works and material, with bulb included, to be calculated per unit: RCS236 2x58W T8 EB IP65 MARELI Spare bulb for this type of luminaire T8 G13 58W	pcs					4	8 x 46,00 =	368,00 €	OFV 04, approved by Client on 23/09/2014.
		pcs					4	1 x 2,88 =	2,88 €	
6	Delivery and mounting of ceiling mounted luminaries 2/35 W T16, with IP65 protection, completely equipped with light source, electrical pre-assembly device, electronic high frequency ballast with dark light diffuser and mounting gear. Works and material, with bulb included, to be calculated per unit: RCS236 2x36W T8 EB IP65 MARELI Spare bulb for this type of luminaire T8 G13 36W	pcs					4	5 x 40,25 =	201,25 €	OFV 04, approved by Client on 23/09/2014.
		pcs					4	1 x 2,30 =	2,30 €	

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No.	Item Description	Unit of measure	Quantity	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
7	Delivery and mounting of ceiling mounted luminaries 4/80W T16 EVG vandal proof, T16, completely equipped with mounting gear and light source, DIN 18032. Works and material to be calculated per unit: Price Jgos Kontic EI BoQ 1-1.12 345.6e	pcs			5	1,00	x 345,60 € =	345,60 €	OFV 25, approved by Client on 31/10/2014.
8	Delivery and laying of cables on walls in PVC rigid installation pipes and on galvanized cable trays in boiler room, for electrical supply of new equipment in the boiler room. Power cord for new equipment is taken from the existing electrical cabinet in boiler room. Works and material to be calculated per average measure unit.: Price MLL EI BoQ 2.1- PP-Y 3x2,5mm2 3.46e, PP-Y 3x2,5 mm2 PP/L 2x0.75mm2	m1 m1			5	60 120	x 3,46 = x 2,40 =	207,60 € 288,00 €	OFV 40, approved by Client on 31/10/2014.
9	Delivery and mounting elements in existing electrical cabinet in boiler room: rotary switch 25A 51U contactor HS 25-40 4NO contactor CT 16A 1NO contactor CT 16A 2NO miniature relay signal led indicator 220V Cable P/F 16mm2 Time duration of works: 4h X Engaged workers:1 Rails, comb busbars,pvc canals for cable trunking, terminals ... All necessary small connection kit is envisaged TOTAL FOR SWITCHBOX	pes pes pes pes pes pes m h x en.wor. lump sum lump sum			5	3 1 2 1 1 3 10 4	x 28,00 x 28,00 x 23,00 x 29,00 x 19,00 x 17,00 x 2,20 x 4,00		OFV 40, approved by Client on 31/10/2014.
10	Delivery and laying cables PPOO 3x4mm2 from spotlight position to existing switchbox.Works and material included per unit:	m			5	30,00	x 3,35 € =	100,50 €	OFV 55, approved by Client on 28/11/2014.
11	Delivery and mounting PVC tube Ø25. Works and material included per unit:	m			5	30,00	x 2,65 € =	79,50 €	OFV 55, approved by Client on 28/11/2014.
12	Crane service for making a break-through wall and conection of cables on the facade.Works and material included per one hour:	h			5	1,00	x 85,00 € =	85,00 €	OFV 55, approved by Client on 28/11/2014.
13	Mounting new equipment in existing electrical cabinet: automatic circuit breaker 1P 20A 10 kA Doepke automatic circuit breaker 1P 6A 10 kA Doepke contactor HS 40A 40 3P Doepke Time switch ASTRO rotary cam switch 102 3P 10A Rails, comb busbars,pvc canals for cable trunking, terminals ... Time duration of works: 4h X Engaged workers:2 TOTAL:	pes pes pes pes pes lump sum h x en.wor. lump sum			5	1,00 1,00 1,00 1,00 1,00 1,00 8,00 1,00	x 7,00 € x 7,00 € x 36,00 € x 65,00 € x 18,00 € x 20,00 € x 4,00 € x 185,00 € =	185,00 €	OFV 55, approved by Client on 28/11/2014.
SUMMARY OF COSTS 5									
	TOTAL PRICE, VAT EXCLUDED:							3.785,76 €	
	VAT (19%):							719,29 €	
5	TOTAL PRICE (WITHOUT DISCOUNT), VAT INCLUDED:							4.505,05 €	
SUMMARY OF COSTS 1-5									
1-5	TOTAL PRICE, VAT INCLUDED:							64.363,91 €	

No.		Item Description	Unit of measure	CONTRACT				AMENDMENT 1				COMMENTS		
				Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)				
GROUP A5.3.1 TABLE OF QUANTITIES <i>of building and trade works for energy efficiency improvement in "Milija Nikčević" Primary School in Nikšić</i>														
		Investor:	Ministry of Economy of Montenegro, Energy Efficiency Sector											
		Project financed by:	KfW ENTWICKLUNGSBANK											
		Consultant; Konsultant:	FICHTNER GmbH&Co. KG											
		Sub-Consult; Lokalni projekt:	KOPRING PMC, Podgorica											
		School; Objekat:	P.S "Milija Nikčević", Nikšić											
		Doc. origin; Dokumentacija:	Final Architectural Design											
		Date:	16 November 2013											
A. SCHOOL														
A.1 THERMAL INSULATION OF FACADE WALLS														
1		Dismantling of metal sheet flashings and vertical gutters. Flashings have different developed widths and they are made from galvanized, coloured sheet with double interlock system, d=0,68mm. Surfaces should be prepared for installation of new items without any special processing. The price includes all works, materials and debris transportation to the town landfill. Calculation is based on a m ¹ of dismantled flashing, gutters, and their supporters. -attic-wall flashing, developed width 41-50cm.												
		Calculation per m ¹ .	m ¹	53,67	x	1,04 €	=	55,55 €		53,67	x	1,04 €	=	55,55 €
		- laid horizontal gutters, developed width up to 66cm.												
		Calculation per m ¹ .	m ¹	236,64	x	1,04 €	=	244,92 €		236,64	x	1,04 €	=	244,92 €
		- vertical gutters, dim.15x15cm, developed width up to 66cm, with dismantling of top water cisterns.												
		Calculation per m ¹ .	m ¹	131,93	x	1,04 €	=	136,55 €		131,93	x	1,04 €	=	136,55 €
		- window sill trimming, developed width 41-50cm.												
		Calculation per m ¹ .	m ¹	465,94	x	1,04 €	=	482,25 €		465,94	x	1,04 €	=	482,25 €
2		Repair of damages in the parapet walls d=20cm and more, caused by dismantling of the joinery. Surfaces should be treated with cement mortar 1:3, to prepare the item for installing new PVC joinery with blind frame, plastic-laminated galvanized steel metal sheet and PVC sills. The price includes all works and materials, including possible skimming and painting, to bring the jambs in previous condition.												
		Calculation per m ¹	m ¹	465,94	x	6,73 €	=	3.134,61 €		465,94	x	6,73 €	=	3.134,61 €
3		Repair of jamb damages d=25cm, caused by dismantling of the joinery. Surfaces should be treated with lime cement mortar 1:2:6, previously sprinkled with low density cement mortar, to prepare the item for installation of new PVC joinery with blind frame, plastic-laminated galvanized steel metal sheet and PVC sills. The price includes all works and materials, including skimming and painting, to bring the jambs in previous condition.												
		Calculation per m ¹	m ¹	1.164,58	x	6,73 €	=	7.834,71 €		1.164,58	x	6,73 €	=	7.834,71 €
4		Dismantling and re-installation of lighting, and other facade devices and equipment. Dismantled units should be registered and given to the Employer/Employer's Representative to put them in a storage. After completion of works on a new facade, these units have to be reinstalled on the facility. Note: For reinstallation of AC units, consider possible mounting of new metal support brackets and small extension of electric and freon lines due to position of external AC units.												
		Calculation as per piece	pcs	7,00	x	60,03 €	=	420,21 €		7,00	x	60,03 €	=	420,21 €
5		Production and installation of the attic cornice flashings, made of ready-made plastic-laminated galvanized steel metal sheets d=0,7mm, colour will be selected by the Employer /Employer's representative. Developed width 60cm. The item includes surface preparation and complete binding in line with the regulations. Undertake the entire procedure in compliance with the design and sample selected by the Employer /Employer's representative.												
		Calculation per m ¹	m ¹	53,67	x	15,11 €	=	811,01 €		53,67	x	15,11 €	=	811,01 €
6		Production and installation of the parapet sills, made of ready-made plastic-laminated galvanized steel metal sheet d=0,7mm, colour will be selected by the Employer /Employer's representative. Developed width 50cm. The item includes surface preparation and complete binding following the regulations. Undertake the entire procedure in compliance with the design and sample selected by the Employer /Employer's representative.												
		Calculation per m ¹	m ¹	411,19	x	15,11 €	=	6.213,51 €		411,19	x	15,11 €	=	6.213,51 €

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
7	Production and installation of the vertical and horizontal gutters of 150/150mm square section, made of ready painted, galvanized and plastic coated sheet, colour will be selected by the Employer /Employer's representative. Gutters should be installed with all required anchors and flanges with the necessary binding and joining material.									
	Calculation per m1	m1	368,57	x 15,11 €	= 5.569,46 €		368,57	x 15,11 €	= 5.569,46 €	
8	Purchase and installation of profiled standard flexible, vertical and horizontal expansion joints at wall-to-wall contact and on flat roof, for dilatation width of 5 cm, fully in line with technology of the manufacturer.									
	Calculation per m ¹ .	m1	27,83	x 21,74 €	= 604,89 €		27,83	x 21,74 €	= 604,89 €	
9	Demolition of concrete basins for plants and making good of floor in this area in corridor between the main building and the gym. The price includes all works, materials and debris transportation to the town landfill.									
	lump sum		1,00	207,00 €	= 207,00 €		1,00	207,00 €	= 207,00 €	
10	Existing windows which shall be dismantled and their openings shall be partially or totally closed with gas concrete bricks d=20 cm ("Ytong" or equivalent with similar or better characteristics) with proper connection to existing wall and reinforcement, and vertical and horizontal beams in line with regulations. The price includes all required material, transport, scaffolding and work.									
	Calculation per m2	m2	164,96	x 39,95 €	= 6.590,16 €		164,96	x 39,95 €	= 6.590,16 €	
11	Plastering newly built walls (including brick wall in connection zone school building- gym) with lime-cement plaster 1:2:6 by applying two layers with previous cleaning and flush mortar joining and fitting edge galvanized strips. Sand for plaster correction is made of sifted gravel size 0-4 mm. Plastered surfaces need to be smooth, with sharp edges and without deducted openings. The price includes all required material with strips, transport, scaffolding and work.									
	Sand for plaster correction is made of sifted gravel size 0-4 mm. Plastered surfaces need to be smooth, with sharp edges. The price includes all required material with strips, transport, scaffolding and work.									
	Calculation per m2	m2	274,5472	x 8,07 €	= 2.216,42 €		274,5472	x 8,07 €	= 2.216,42 €	
12	Purchase of material and installation of monolith suspended ceiling using plasterboards type "Rigips" or equivalent/better quality RB 12.5mm on standard metal substructure CD/UD in the rooms marked on the drawings.									
	The price includes jointing with bandage tapes, flattening with putty and skimming, substructure and hanging kit.									
	The price includes usage of light mobile scaffold.									
	Ceilings are fitted at the height set in the design.									
	Light fixtures need to be mounted separately. For everything else, provisions of general requirements are applicable.									
	Unit price to include all the drilling and removal of boards for fitting of light fixtures, anemostats, diffusers, etc. which is not subject to separate calculation.									
	This item includes fitting of all cascades and lateral (vertical or askew) closing of ceiling surfaces and shall not be subject to additional payment.									
	Calculation per m2 of fully performed works.	m2	679,71	x 18,32 €	= 12.451,95 €		679,71	x 18,32 €	= 12.451,95 €	
13	Setting up "Demit" thermal facade. External thermal insulation of the facade reinforced concrete (hereinafter RC) and brick walls will be conducted with expanded EPS polystyrene, having heat transfer coefficient of $\lambda_{max} = 0,037 \text{ W/mK}$, thickness 10 cm, produced by the relevant EN standards. External thermal insulation composite system (ETICS) is required to have an ETAG 004 certificate.									
	The lower part of the facade walls at the level of the ground floor (all parapets in the ground floor, pillars and parts of the full wall) will be treated with stiffer insulating material, XPS extruded polystyrene, thickness d=10cm, resistant to mechanical damages, with nominal heat transfer coefficient of $\lambda=0,035-0,04 \text{ W/mK}$.									

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
	Thermal boards with B1 flammability class (DIN 4102 B1 highly flammable, non-combustible and self-extinguishing) to be used. Install panels and vertical breaks of 50 cm width along the entire facade, with maximum horizontal distance between the breaks of 20m, and horizontal breaks of 50 cm width above facade openings (windows) in the area of floor slabs. These breaks should be made of pressed mineral wool reaching A1 flammability class.									
	Use EPS/XPS, thickness d=3cm to treat jambs on the external side of the facade opening. Thermal plates are lap-joint attached to the facade wall with the relevant refined mineral adhesive and anchored with relevant dowels. Surface of the plates is protected with reinforced mortar, which is composed of the following elements:									
	*first layer – refined mortar based on cement binder, mineral aggregate and admixtures to improve elasticity and water repellence. Surface for this layer of mortar will be flat and smooth. Any unevenness at joints of the installed polystyrene boards will be filled with polyurethane foam.									
	Reinforcing mesh with adequate overlapping and extra protection at the facade openings and corners is placed in a fresh layer of this mortar. In case additional mechanical anchoring is required, impact bolt through the reinforcing mesh should be used 24 hours after applying this layer.									
	* reinforcing mesh * second layer of mortar, apply same procedure as with the first layer. This mortar is laid to well- dried first layer and polished afterwards. * contact coating made of the emulsion of synthetic resins and water-glass used for impregnation of the dried reinforced mortar.									
	*top coating is made of mineral binders, water-repellent admixtures, means for improving elasticity and resistance to mildew and algae. This top layer will be made in grainy and smooth structure, painted in colour defined by the Employer /Employer's representative, while the entire procedure will be conducted according to the design details.									
	Before setting up the thermal plates, the following works will be conducted: * All works on the flat roof, including sheet metal works * Replacement of façade joinery * Placing the entire envisaged installation in the facade									
	*Covering and protection of all non-treated surfaces – glass, stone... *Control and testing of the existing facility surface, including: Use the means of impregnation- basic coating at the most critical points of the facility. When the basic coating dries out, set up the EPS cube of 5x5x5 cm by using polystyrene adhesive. Once the adhesive completely settles, minimum 3 days after the working conditions are adequate, try to separate the cube manually.									
	If in the process of separating expanded polystyrene only the adhesive separates and not parts of the basis - the basis is sufficiently strong, solid and stable.									
	If in the process of separating expanded polystyrene, the adhesive remains, or if part of the adhesive remains on the wall and part on the polystyrene - it means that the adhesive is adequate and strong.									
	If in the process of separating expanded polystyrene, part of the glue and cradling is separated – it is a sign that the cradling is not solid enough, and shall not withstand new layer of thermal insulation.									
	Use the reinforcing mesh or angle profiles for the window corners and jambs. Facade ends along the plinth must have U-profile strip, adjusted to the thickness of thermal-plate.									
	Before setting the plates, thoroughly clean the facade surface from dust, greasy deposits and mortar. At heights over 8 meters, plates need additional anchoring with appropriate bolts.									
	During the works on the facade, surface, mortar and adhesive, temperature of air must not drop below +5°C or be above +25°C. Mortar should not be applied in the event of heavy wind, rain or fog.									
	Price includes the purchase, installation of entire material, preparatory works, surface preparation, installation of thermal façade according to described layers and installation of the required scaffolding. Calculation is based on m2 of the installed facade.									

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
	NOTE: Treatment of jambs is included in the price, it won't be calculated separately. The planned facade systems should be in line with the appropriate EN standards. External thermal insulation composite system (ETICS) is required to have an ETAG 004 certificate.									
	ETA certificate (European Technical Approval) is a certificate issued by the European Organisation for Technical Approval, which confirms that the thermal insulation system is in compliance with the parameters laid down by this organization - mechanical resistance and stability, safety in the event of fire, hygiene, health and environmental sustainability, safety of use, noise protection, energy efficiency and heat retention.									
	EPS	m2	960,17	x 20,18 €	= 19.378,63 €		960,17	x 20,18 €	= 19.378,63 €	
	XPS	m2	943,45	x 25,36 €	= 23.923,43 €		943,45	x 25,36 €	= 23.923,43 €	
	Pressed mineral wool	m2	104,85	x 22,05 €	= 2.311,47 €		104,85	x 22,05 €	= 2.311,47 €	
14	Setting up DEMIT - thermal facade on the ceiling of the bay of the school. All the works are as described under point 1.13.									
	Calculation per m2	m2	27,42	x 20,18 €	= 553,40 €		27,42	x 20,18 €	= 553,40 €	
15	Setting up DEMIT - thermal facade on the reinforced concrete brise-soleil. External thermal insulation of the facade reinforced concrete brise-soleil will be conducted with expanded EPS polystyrene, having heat transfer coefficient of $\lambda_{max} = 0,037$ W/mK, thickness 2 cm, produced by the relevant EN standards. External thermal insulation composite system (ETICS) is required to have an ETAG 004 certificate. All the works are as described under point 1.12. Upper surface of the reinforced concrete brise-soleil shall be processed with decorative ready mixed marble based mortar, created on grain ("Kulie").									
	Calculation as per piece	pcs	48,00	x 225,63 €	= 10.830,24 €		48,00	x 225,63 €	= 10.830,24 €	
16	Treating the facade surfaces with decorative ready-mixed lime-cement based render, "Bavalit" type or similar with the equivalent or better technical characteristics, where the installation of thermal plates has not been planned - roof cantilever slabs, cornice-gutter flues, ceiling of canopies at the entrance, chimney). Type and colour will be selected by Employer /Employer's representative. The facade surface should be sound and dry. Surface should be cleaned and impregnated with insulation mass to achieve a better joining. Apply one layer with a painting brush, and if the surface absorbs it quickly, apply it twice. To prepare the surface, apply a layer of adhesive with a mesh. Apply other layers following the same procedure as in the previous item:									
	*Contact coating made of the emulsion of synthetic resins and water-glass (liquid sodium silicate) used for impregnation of the set reinforced mortar.									
	*top coat is made of mineral binders, water-repellent admixtures, means for improving elasticity and resistance to mildew and algae. This layer should be made in fine grained and smooth structure, painted in colour determined by the Employer /Employer's representative, fully in line with the Design details.									
	The openings should be protected with PVC foil. Price includes the purchase, installation of complete material, preparatory works, surface preparation and installation of the scaffolding.									
	Calculation per m2	m2	541,72	x 12,21 €	= 6.616,03 €		541,72	x 12,21 €	= 6.616,03 €	
17	Setting up of the facade plinth - with decorative ready mixed marble based mortar, created on grain ("Kulie") as splash guard (as indicated on the drawings). Existing facade plinth has to be removed. Surface should be cleaned, washed and sprinkled with acrylic base with granulate, color of the base by the color chart of the manufacturer. Render should be applied on cleaned and dried surface by manufacturer's instruction. The color should be determined by the Employer / Employer's representative, according to the color chart of manufacturer.									
	Calculation per m2	m2	158,53	x 15,73 €	= 2.493,99 €		158,53	x 15,73 €	= 2.493,99 €	
18	Cleaning – washing the stone clad facade on the main entrance of the school with pressurized water. Water pressure must be adjusted in such way that damages to the facade and moulding is avoided. Stains, patina, dust, salt and such must be cleaned. If required, chemical substances not damaging for the facade could be added.									
	Calculation per m2	m2	27	x 3,11 €	= 83,84 €		27	x 3,11 €	= 83,84 €	

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
A.1 TOTAL FOR THERMAL INSULATION OF FACADE WALLS					113.164,22 €				113.164,22 €	
A.2 THERMAL INSULATION AND WATERPROOFING OF THE ROOF										
1	Removal of existing roof cover made of interlocking roof tiles, cement plaster 2-4cm and battens, i.e. Until pitched reinforced concrete (RC) slab is reached. The price includes all the work and debris transportation to the town landfill.									
	Calculation per m2	m2	1.373,70	x 2,79 €	= 3.838,80 €		1.373,70	x 2,79 €	= 3.838,80 €	
2	Dismantling of existing trapezoidal sheet metal roof cover, until reaching roof structure. The price includes all the work and debris transportation to the town landfill.									
	Calculation per m2	m2	133,45	x 2,79 €	= 372,93 €		133,45	x 2,79 €	= 372,93 €	
3	Installation of horizontal waterproofing and thermal insulation on the flat roof of the canopy above the school entrance. Following layers are applied on prepared base:									
	a) Layer for equalizing the pressure, made of vapour-permeable and waterproof foil, b) Vapour barrier of the post bituminized aluminium foil lined with glass fibre fleece, c) Thermal insulation made of extruded polystyrene boards XPS d = 10 cm with heat transfer coefficient of $\lambda_{max} = 0,033 \text{ W / mK}$ (on top of already placed foil), d) Layer used for separating from PVC foil, e) Sloping layer made of light-weight concrete d=5-16cm, sloped by 1%, f) Layer for equalizing the pressure, made of vapour-permeable and waterproof foil, g) Waterproofing made of cold bitulith coating, hot bitumen coating or bitumen masses and two layers of waterproofed bitumen strip. One strip is lined with aluminium foil, the other with glass fibre fleece. Every strip is d = 4 mm thick. The first layer is placed freely over the hot bitumen with overlapping of 10-15cm, welded along their whole length. The second layer is 100% welded to the first one. Put the waterproofing at least 15 cm up the walls. Pay special attention to connections between horizontal and vertical waterproofing. h) Heavy protection of waterproofing with gravel d = 5 cm, with the sliding layer of waterproof dimpled membrane, placed dry between waterproofing and gravel.									
	Calculation is based on a m2 of the roof basis. The price includes all required material following the description from a) to h), including the making of a required cove.	m2	15,95	x 57,96 €	= 924,46 €		15,95	x 57,96 €	= 924,46 €	
4	Waterproofing of the entrance and part of the eaves, with cold bitulith coating, hot bitumen coating or bitumen masses and two layers of waterproof bitumen strip. One strip is lined with aluminium foil, the other with glass fibre fleece. Every strip is d = 4 mm thick. The first layer is put freely over the hot bitumen with overlapping of 10-15cm, welded along their whole length. The second layer is 100% welded to the first one. Waterproofing must be put up the walls at minimum 15 cm height. Pay special attention to the connections between horizontal and vertical waterproofing.									
	Calculation per m2	m2	27,70	x 20,18 €	= 559,06 €		27,70	x 20,18 €	= 559,06 €	
5	Protect waterproofing with "KROVOPLAST" or similar coating with equal or better technical characteristics, on the eaves and part of the flat roofs, which is not protected with gravel. The price includes complete work and material, following the description.									
	Calculation per m2	m2	27,70	x 1,55 €	= 43,00 €		27,70	x 1,55 €	= 43,00 €	
6	Covering roof with roof polyurethane sandwich panels system, thickness d=60mm, heat transfer coefficient $\lambda_{max} = 0,025 \text{ W/mK}$, standard modular width 1000mm, attached to box profiles 60/40/3mm at 60-150cm distance over RC pitched slab . Upper side of sheet metal is made of unique trapezoidal shape d=0,5mm, and lower side is made of SNVs d=0,5mm.									
	After the installation of sandwich panels, it is necessary to install flashing on all coves along the walls, edges of gable walls and gutters with appropriate joining material (stainless steel screws, washers and EPDM sealants...). The price includes all the work and material, as described.									
	Calculation per m2	m2	1.373,70	x 52,37 €	= 71.942,04 €		1.373,70	x 52,37 €	= 71.942,04 €	

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
7	Covering roof with roof polyurethane sandwich panels system, thickness d=60mm, heat transfer coefficient $\lambda_{max} = 0,025$ W/mK, standard modular width 1000mm, attached to box profiles 60/40/3mm at 60-150cm distance over existing timber roof structure . Replacing worn-out parts of roof construction with new ones 10% from total roof area. Upper side of sheet metal is made of unique trapezoidal shape d=0,5mm, and lower side is made of SNVs d=0,5mm.									
	After the installation of sandwich panels, it is necessary to install flashing on all eaves along the walls, edges of gable walls and gutters with appropriate joining material (stainless steel screws, washers and EPDM sealants...). The price includes all the work and material, as described.									
	Calculation per m2	m2	133,45	x 52,37 €	= 6.988,91 €		133,45	x 52,37 €	= 6.988,91 €	
	NOTE: An alternative technology for flat roof coveri can be offered as a deviation.									
A.2	TOTAL FOR THERMAL INSULATION AND WATERPROOFING OF THE ROOF				84.669,20 €				84.669,20 €	
A.3	REPLACEMENT OF FACADE JOINERY									
1	Dismantling of the existing joinery, all its fittings and mechanisms, including its transportation to the town landfill or its hand-over to the Employer/Employer's Representative (according to the future agreement) for storing away. Calculation is done per m2 of dismantled joinery.									
	569/259 pcs 2 234/259 pcs 1 569/29 pcs 1 129/324 pcs 1 209/60 pcs 4 197/97 pcs 16 197/197 pcs 8 199/277 pcs 2 197/77 pcs 24 197/149 pcs 48 349/77 pcs 1 349/239 pcs 1									
	77/77 pcs 8 97/197 pcs 14 229/217 pcs 1 199/227 pcs 1 79/79 pcs 4 197/245 pcs 7 197/141 pcs 2 99/204 pcs 1 77/97 pcs 2 193/77 pcs 1									
	193/254 pcs 1 149/79 pcs 5 149/189 pcs 1 193/72 pcs 1 99/218 pcs 1 197/177 pcs 14 209/324 pcs 2 299/377 pcs 1 309/297 pcs 4 574/307 pcs 2 539/307 pcs 2 129/155 pcs 1 209/155 pcs 2 199/237 pcs 2									
	349/275 pcs 1 97/147 pcs 14 189/155 pcs 1 309/279 pcs 2 539/279 pcs 1 574/279 pcs 1 309/121-228 pcs 1 197/79 pcs 42									
	Calculation per m2	m2	751,97	x 7,35 €	= 5.526,98 €		751,97	x 7,35 €	= 5.526,98 €	

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
A.3	TOTAL FOR REPLACEMENT OF FACADE JOINERY				106.090,73 €				106.090,73 €	
B. G Y M										
B.1	THERMAL INSULATION OF FACADE WALLS									
1	Dismantling of metal sheet flashings from attic walls, sills, horizontal (hanging and laid) and vertical gutters. Flashings have different developed widths and they are made of galvanized sheet with double interlock system, d=0,68mm. Surfaces should be prepared for installation of new items without any special processing. The price includes all works, materials and debris transportation to the town landfill. -attic wall flashing, developed width 41-50cm.									
	Calculation per m1	m1	103,10	x 1,04 € =	106,71 €		103,10	x 1,04 € =	106,71 €	
	-flashing sill, developed width 41-50cm.									
	Calculation per m1	m1	71,92	x 1,04 € =	74,44 €		71,92	x 1,04 € =	74,44 €	
	-horizontal gutters, dim.14x14cm, developed width up to 60cm									
	Calculation per m1	m1	30,44	x 1,04 € =	31,51 €		30,44	x 1,04 € =	31,51 €	
	-vertical gutters, dim.14x14cm, developed width up to 60cm, including dismantling of top cisterns.									
	Calculation per m1	m1	46,36	x 1,04 € =	47,98 €		46,36	x 1,04 € =	47,98 €	
2	Repair of damages in the parapet walls d=20cm and more, caused by dismantling of the joinery. Surfaces should be treated with cement mortar 1:3, to prepare the item for installation of new PVC joinery with a blind frame, plastic-laminated galvanized steel metal sheet and PVC sills. The price includes all works and materials, including possible skimming and painting, to bring the jambs in previous condition.									
	Calculation per m1	m1	71,92	x 6,73 € =	483,84 €		71,92	x 6,73 € =	483,84 €	
3	Repair of jamb damages d=20cm, caused by dismantling the joinery. Surfaces should be treated with lime cement mortar 1:2:6, previously sprinkled with low density cement mortar, to prepare the item for installing a new PVC joinery with a blind frame, plastic-laminated galvanized steel metal sheet and PVC sills. The price includes all works and materials, including skimming and painting, to bring the jambs in previous condition.									
	Calculation per m1	m1	153,67	x 6,73 € =	1.033,81 €		153,67	x 6,73 € =	1.033,81 €	
4	Production and installation of the roof cornice flashings, made of ready-made plastic-laminated galvanized steel metal sheet d=0,7mm, colour will be selected by the Employer /Employer's representative. Developed width 66cm. The item includes surface preparation and complete binding following the regulations. The entire process should be carried out in line with the design, and sample selected by the Employer /Employer's representative.									
	Calculation per m1	m1	103,10	x 15,11 € =	1.557,94 €		103,10	x 15,11 € =	1.557,94 €	
5	Production and installation of the coves along the walls made of ready-made plastic-laminated galvanized steel metal sheet d=0,7mm, colour will be selected by the Employer /Employer's representative. Developed width 50cm. The item includes surface preparation and complete binding following the regulations. The entire process should be carried out in line with the design, and sample selected by the Employer /Employer's representative.									
	Calculation per m1	m1	19,80	x 15,11 € =	299,20 €		19,80	x 15,11 € =	299,20 €	
6	Production and installation of the parapet sills, made of ready-made plastic-laminated galvanized steel metal sheets d=0,7mm, colour will be selected by the Employer /Employer's representative. Developed width up to 50cm. The item includes surface preparation and complete binding following the regulations. The entire process should be carried out in line with the design, and sample selected by the Employer /Employer's representative.									
	Calculation per m1	m1	71,92	x 15,11 € =	1.086,78 €		71,92	x 15,11 € =	1.086,78 €	
7	Production and installation of the vertical and horizontal gutters of 150/150mm square section, made of ready painted, galvanized and plastic coated sheet, colour will be selected by the Employer /Employer's representative. Gutters should be installed with all required anchors and flanges with the necessary binding and joining material.									
	Calculation per m1	m1	76,80	x 15,11 € =	1.160,52 €		76,80	x 15,11 € =	1.160,52 €	

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
8	Setting up "Demit" thermal facade.External thermal insulation of the facade reinforced concrete (hereinafter RC) and brick walls will be conducted with expanded EPS polystyrene, having heat transfer coefficient of $\lambda_{max} = 0,037$ W/mK, thickness 8 cm, produced by the relevant EN standards. External thermal insulation composite system (ETICS) is required to have an ETAG 004 certificate.									
	The lower part of the facade walls at the level of the ground floor (all parapets in the ground floor, pillars and parts of the full wall) will be treated with stiffer insulating material, XPS extruded polystyrene, thickness $d=8$ cm, resistant to mechanical damages, with nominal heat transfer coefficient of $\lambda=0,035-0,04$ W/mK.									
	Thermal boards with B1 flammability class (DIN 4102 B1 highly flammable, non-combustible and self-extinguishing) to be used. Install panels and vertical breaks of 50 cm width along the entire facade, with maximum horizontal distance between the breaks of 20m, and horizontal breaks of 50 cm width above facade openings (windows) in the area of floor slabs. These breaks should be made of pressed mineral wool reaching A1 flammability class.									
	Use EPS/XPS, thickness $d=3$ cm to treat jambs on the external side of the facade opening. Thermal plates are lap-joint attached to the facade wall with the relevant refined mineral adhesive and anchored with relevant dowels. Surface of the plates is protected with reinforced mortar, which is composed of the following elements:									
	*first layer – refined mortar based on cement binder, mineral aggregate and admixtures to improve elasticity and water repellence. Surface for this layer of mortar will be flat and smooth. Any unevenness at joints of the installed polystyrene boards will be filled with polyurethane foam.									
	Reinforcing mesh with adequate overlapping and extra protection at the facade openings and corners is placed in a fresh layer of this mortar. In case additional mechanical anchoring is required, impact bolt through the reinforcing mesh should be used 24 hours after applying this layer.									
	* reinforcing mesh * second layer of mortar, apply same procedure as with the first layer. This mortar is laid to well- dried first layer and polished afterwards. * contact coating made of the emulsion of synthetic resins and water-glass used for impregnation of the dried reinforced mortar.									
	* top coating is made of mineral binders, water-repellent admixtures, means for improving elasticity and resistance to mildew and algae. This top layer will be made in grainy and smooth structure, painted in colour defined by the Employer /Employer's representative, while the entire procedure will be conducted according to the design details.									
	Before setting up the thermal plates, the following works will be conducted: * All works on the flat roof, including sheet metal works * Replacement of façade joinery * Placing the entire envisaged installation in the facade									
	* Covering and protection of all non-treated surfaces – glass, stone... * Control and testing of the existing facility surface, including: Use the means of impregnation- basic coating at the most critical points of the facility. When the basic coating dries out, set up the EPS cube of 5x5x5 cm by using polystyrene adhesive. Once the adhesive completely settles, minimum 3 days after the working conditions are adequate, try to separate the cube manually.									
	If in the process of separating expanded polystyrene only the adhesive separates and not parts of the basis - the basis is sufficiently strong, solid and stable.									
	If in the process of separating expanded polystyrene, the adhesive remains, or if part of the adhesive remains on the wall and part on the polystyrene - it means that the adhesive is adequate and strong.									
	If in the process of separating expanded polystyrene, part of the glue and cradling is separated – it is a sign that the cradling is not solid enough, and shall not withstand new layer of thermal insulation.									
	Use the reinforcing mesh or angle profiles for the window corners and jambs. Facade ends along the plinth must have U-profile strip, adjusted to the thickness of thermal-plate.									

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
B.3 REPLACEMENT OF FACADE JOINERY										
1	Dismantling of the existing joinery, all its fittings and mechanisms, including its transportation to the town landfill or its hand-over to the Employer/Employer's Representative (according to the future agreement) for storing away. Calculation is done per m2 of dismantled joinery.									
	57/204 pcs 1 79/79 pcs 4 85/79 pcs 11 275/233 pcs 6 674/299 pcs 4 679/299 pcs 4									
	Calculation per m2	m2	190,46	x 7,35 €	= 1.399,88 €		190,46	x 7,35 €	= 1.399,88 €	
2	Production and installation of the facade PVC joinery. The price includes everything from description: the purchase of materials, manufacturing, transport and installation of fittings and blind frame, as well as the PVC sill of required width. Measures must be taken on site. Calculation is based per piece of the installed joinery, by the following description: -production and installation, -6-chamber PVC profiles, -heat transfer coefficient of U = 1.5 W / m² K, -minimal permeability factor of solar energy (solar factor) of glass surfaces g≤65%, -double low-emission glass 4 +16 +4 mm, -fittings, required set for hanging and closing, -type of the opening, side hung windows using mechanism with hinges or bottom hung with ventus mechanism, in line with drawings - joinery schemes, -include internal PVC sill of required width in the position, -PVC profile colour - white. Note: Depending on the size of the opening, where it is necessary, big windows/doors elements should have additional reinforcement/stiffening of the profiles.									
	14. 320/70 pcs 1,00 x 966,00 € = 966,00 €						1,00	x 966,00 € = 966,00 €		
	15. 312/70 pcs 1,00 x 955,50 € = 955,50 €						1,00	x 955,50 € = 955,50 €		
	16. 326/209 pcs 1,00 x 971,25 € = 971,25 €						1,00	x 971,25 € = 971,25 €		
	27. 85/79 pcs 12,00 x 105,00 € = 1.260,00 €						12,00	x 105,00 € = 1.260,00 €		
	41. 679/299 pcs 4,00 x 2.887,50 € = 11.550,00 €						4,00	x 2.887,50 € = 11.550,00 €		
	42. 674/299 pcs 4,00 x 2.782,50 € = 11.130,00 €						4,00	x 2.782,50 € = 11.130,00 €		
3	Dismantling and remantling of protective bars made of iron, on gym windows and item No 16, with their previous cleaning, scraping and painting with protective paint. The price includes all the work, material and such. Calculation per piece of treated and fitted protective bars.									
	42. 674/299 pcs 4,00 x 155,40 € = 621,60 €						4,00	x 155,40 € = 621,60 €		
	41. 679/299 pcs 4,00 x 155,40 € = 621,60 €						4,00	x 155,40 € = 621,60 €		
B.3 REPLACEMENT OF FACADE JOINERY					29.475,83					29.475,83
C NON-EE AND ANCILLARY WORKS ARISING FROM IMPLEMENTATION OF EE MEASURES										
1	Supply and installation of smooth wooden boards for covering the expansion joints inside the building, along the walls and ceilings. Boards shall be 2.5cm thick and 15cm width. After installing, boards shall be varnished (process: filling and grinding, primer, grinding, two layers of synthetic resin paint).									
	Calculated as per m	m	42,75	x 21,74 €	= 929,17 €		42,75	x 21,74 €	= 929,17 €	
TOTAL FOR NON-EE AND ANCILLARY WORKS ARISING FROM IMPLEMENTATION OF EE					929,17 €					929,17 €
D MEASURES TO ENABLE HIGHER COMFORT AND BETTER WORKING CONDITIONS										
1	Replacing of inspection shaft cover with substructure made of white marble adapted to existing floor (dimensions 60cm*60cm) in the corridor next to the boiler room.									
	Calculated as per piece	pcs	1,00	x 124,20 €	= 124,20 €		1,00	x 124,20 €	= 124,20 €	
2	Replacement of defect interior wooden door wings approx. 90 cm wide and 2.1 m high by a sturdy, heavy duty wooden unit with smooth surface. This position includes the repair of the door frame, an exactly adapted new laminated tubular chip board door leaf, the change of the door lock, the door handle set, the locking plate, the hinges and coating of frame and wing (process: grinding, primer, grinding, two layers of synthetic resin paint). All materials shall be first quality. The doors to be treated shall be determined by the Employer/Employer's Representative.									
	Calculated as per piece	pcs	75,00	x 257,51 €	= 19.313,10 €	3	0	x 257,51 €	=	Excluded by Client (communication 001/08/2014)

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS	
3	Scraping of the old paint from the walls in the corridors and classrooms, removal and loading of the debris onto a truck and its transportation to a landfill up to 5 km distance. The item includes all pre-works for new painting, and usage of scaffold. Calculation as per m2 of scraped painted area.	m2	5.772,61	x 0,31 € =	1.792,40 €		3	3.609,62	x 0,31 € =	1.120,79 €	Facade walls, bricked up, suspended ceilings/wall strip areas and gym only (communication 01/08/2014).
4	Polishing of internal walls. Skimming should be applied in required number of layers until completely flat surface is achieved. This item includes scraping, plastering, neutralization, impregnating. Calculation as per m2, including all material, work and required scaffolding.	m2	5.772,61	x 2,38 € =	13.741,70 €		3	3.609,62	x 2,38 € =	8.59270 €	Facade walls, bricked up, suspended ceilings/wall strip areas and gym only (communication 01/08/2014).
5	Painting of internal walls. Employer / Employer's representative will select the colour of semi dispersed distemper. Painting shall be done in the classrooms and corridors of the school building-ceilings and the walls in the area between 1,5 m and the ceiling, in the gym- from the 3,5 m to the ceiling,also painting of the newly build walls in the color and the manner of painting as the existing walls. This item includes pre-painting, and correction with the toned dispersive filler or pointing plaster. Final layer of paint should be applied twice										
	Calculation as per m2, including all material, work and required scaffolding.	m2	4.392,95	x 1,66 € =	7.274,73 €		3	2.758,58	x 1,66 € =	4.56821 €	Facade walls, bricked up, suspended ceilings/wall strip areas and gym only (communication 01/08/2014).
6	Painting of internal walls with oil based paint. Employer / Employer's representative will select the colour of greasy paint. Painting shall be done in the classrooms and corridors of the school building- in the area beneath 1,5 m and in the gym area beneath 3,5 m also painting of the newly build walls in the color and the manner of painting as the existing walls is included. This item includes pre-painting, and correction with the toned dispersive filler or pointing plaster. Final layer of paint should be applied twice.										
	Painting of visible pipes,instalations in bright child friendly colors (red, blue,yellow, green) and painting of hydrant and swich boxes determined by Employer / Employer's representative.										
	Calculation as per m2, including all material, work and required scaffolding.	m2	1.379,66	x 3,36 € =	4.640,83 €		3	851,04	x 3,36 € =	2.862,69 €	Facade walls, bricked up areas and gym up to level 3.5m only (communication 01/08/2014).
7	Supply and installation of metal blinds from white coated aluminium, following the attached scheme. Blinds should be made of sturdy quality material, mounted on a metal substructure. The substructure shall consist of two metal bars that shall be attached with stainless steel crews to the window frame. Blinds shall be fixed mounted with a slight slope, corresponding to the position of the best protection from the sun during the day and considering the orientation of the window. The blinds shall allow easy maintenance of the window, especially he cleaning of the panes. The blinds shall be sampled and approved by the Employer/Employer's Representative. Measures shall be taken on-site, adapted to each window frame.										
	ground floor rooms No 10, 11, 12, 13,14 ,16, 17										
	first floor rooms No 9, 10, 11										
	Calculation per m2	m2	52,43	x 89,25 € =	4.678,95 €		3	0	x 89,25 € =		Excluded by Client (communication 001/08/2014)
8	Planting lime (Tilia sp.) tree or some similar species, in accordance with Employer / Employer's representative, in the school courtyard in front of the school between the gym and the main building. Trees shall be planted on min 5m distance and min. 4 m distance from the buildings and 3m high. Dig a pit for planting throw out debris and dirt from the pit. Perform the planting by mixture of humus, fertilizer and sand in the ratio 6:3:1. During planting cover 2/3 of the depth of the pit with mentioned mixture and 1/3 with the addition of peat enriched fertilizer with 3 kg per tree. Having completed the planting of the seedlings trees shall be well watered.										
		pcs	45,00	x 51,75 € =	2.328,75 €		3	0	x 51,75 € =		Excluded by Client (communication 001/08/2014)
	GENERAL NOTE: If certain internal hindering items have been removed, they have to be re-installed or replaced by new ones and these costs shall be included in the respective line items (e.g. curtain rails, sports wall equipment in sport halls, etc.).										

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS	
TOTAL FOR MEASURES TO ENABLE HIGHER COMFORT AND BETTER WORKING					53.894,65 €				17.268,58 €		
E	LIST OF SPARE PARTS										
1	Purchase and delivery of the spare window handles. Calculated as per piece	pcs	3,00	x 7,35 € =	22,05 €		3,00	x 7,35 € =	22,05 €		
2	Purchase and delivery of the spare internal door handles. Calculated as per piece	pcs	1,00	x 20,48 € =	20,48 €		1,00	x 20,48 € =	20,48 €		
3	Purchase and delivery mounted door rubber stopper. Calculated as per piece	pcs	2,00	x 5,25 € =	10,50 €		2,00	x 5,25 € =	10,50 €		
4	Purchase and delivery of push bar mechanism to the floor, to keep external doors open. Calculated as per piece	pcs	2,00	x 31,50 € =	63,00 €		2,00	x 31,50 € =	63,00 €		
5	Purchase and delivery of rope operated Calculated as per piece	pcs	2,00	x 6,30 € =	12,60 €		2,00	x 6,30 € =	12,60 €		
TOTAL FOR SPARE PARTS					128,63 €				128,63 €		
NOTE Spare parts shall be submitted to school representatives in the presence of											
SUMMARY OF COSTS A-E											
A. SCHOOL											
A.1	THERMAL INSULATION OF FACADE WALLS				113.164,22 €				113.164,22 €		
A.2	THERMAL INSULATION AND WATERPROOFING OF THE ROOF				84.669,20 €				84.669,20 €		
A.3	REPLACEMENT OF FAÇADE JOINERY				106.090,73 €				106.090,73 €		
B. G Y M											
B.1	THERMAL INSULATION OF FACADE WALLS				24.447,31 €				24.447,31 €		
B.2	THERMAL INSULATION AND WATERPROOFING OF THE ROOF				35.219,31 €				35.219,31 €		
B.3	REPLACEMENT OF FAÇADE JOINERY				29.475,83 €				29.475,83 €		
C.					929,17 €				929,17 €		
D.					53.894,65 €				17.268,58 €		
E.					128,63 €				128,63 €		
TOTAL PRICE, VAT EXCLUDED:					448.019,05 €				411.392,98 €		
TOTAL PRICE WITH 3% DISCOUNT					434.578,48 €				399.051,19 €		
VAT (19 %):					82.569,91 €				75.819,73 €		
A-E TOTAL PRICE(WITH DISCOUNT), VAT INCLUDED					517.148,39 €				474.870,92 €		
F ADDITIONAL WORKS											
1	Dismantling of old damaged brick chimney 60x60x80cm, loading and transport of debris to the town landfill. Price taken from BR ARH BoQ IV - 14 41.4e	piece					4	1,00	x 41,40 € =	41,40 €	OFV 05, approved by Client on 23/09/2014.
2	Bricking of new chimney with thick bricks in cement plaster 60 x60 x80cm. Price taken from MI ARH BoQ III - 6.8 51.13e - 30% =35.79e/m2	m2					4	1,92	x 35,79 € =	68,72 €	OFV 05, approved by Client on 23/09/2014.
3	Purchase and installation of new metal cover for chimney. Price material 30e, installation 15e, profit 10%	piece					4	1,00	x 49,50 € =	49,50 €	OFV 05, approved by Client on 23/09/2014.
4	Purchase of the material, installation of metal substructure with metal boxes 60x40x3mm and covering with vertical sandwich panels of two roofs, detail arranged in accordance with supervision order on Monday 25.8.2014. Price taken from MN ARH BoQ A2- 6 52.37e/m2	m2					4	5,00	x 52,37 € =	261,85 €	OFV 05, approved by Client on 23/09/2014.
5	Dismantling of old damaged wooden parapet cover from some classrooms 90m2, loading and transport to the town landfill. Dismantling 168.18e, transport 25e, profit 10% - 2.5e/m2	m2					4	90,00	x 2,50 € =	225,00 €	OFV 05, approved by Client on 23/09/2014.
6	Plastering of old damaged walls after dismantling of wooden cover. Price taken from MN ARH BoQ A1- 11 8.07e/m2	m2					4	90,00	x 8,07 € =	726,30 €	OFV 05, approved by Client on 23/09/2014.

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS		
7	Dismantling of thermal insulation mineral wool 5cm, pvc foil, ter paper, wapoor barrier, reinforcement layer- mesh. In main bill of quantities it was predicted removal of 2-4cm of plaster below roof tiles, bat in situ it was 6cm. All debris must be loaded on truck and carried to the town landfill. Price analysis: removal of 2cm of plaster from roof 0.9e, removal of pvc foil, ter paper, wapoor barrier from roof 0.4e, removal of the ram insulation 0.4e, removal of reinforcement layer- metal mesh 9e, loading and transport to the landfill 0.6e. Calculation for machinery repairs- grinders, concrete cutters, jack hammers, drills is included in the price, and also providing special cutting discs for grinders- to cut reinforced concrete.	m2				4	1,000.00	x	3,20 €	=	3,200.00 €	OFV 08, approved by Client on 23/09/2014.
8	Supply of materials and installation aluminum door in windshield of porter's room in the entrance hall- in the main design was omitted- dimensions 90x215cm Price MLL ARH BoQ II-4 120x235cm (2.82m2) 467.25e- 90x215 (1.935m2)- 320.61e - 20% for fixed element- 256.49e	pcs				5	1,00	x	256,49 €	=	256,49 €	OFV 21, approved by Client on 31/10/2014.
9	Supply and installation of self closing mechanism GU - BKS with the stoper inside- difference in price is 45e per piece (old self closing mechanism + door stoper= 78,5e- Mileva Lajovic ARH BoQ II-3 new price 123.5e)	m2				5	2,00	x	45,00 €	=	90,00 €	OFV 21, approved by Client on 31/10/2014.
10	Supply of the material and installation of OSB plates d=12.5mm on vertical part of roofs – before putting EPS boards	m2				5	10,00	x	15,60 €	=	156,00 €	OFV 29, approved by Client on 31/10/2014.
11	Supply of the material and installation of EPS boards d= 10cm on the internal side of the roof valleys. Price from offer for variation no 6- 10.67e	m2				5	25,50	x	10,67 €	=	272,09 €	OFV 29, approved by Client on 31/10/2014.
12	Deduction: Production and installation of protective mesh for two gym windows behind the goal in the playground .Price from ML BoQ ARH II 9 pos 298x212cm= 478.8e- 682x300cm=1547.6e POS m - 682x300cm	pcs				5	2,00	x	1.547,60 €	=	3.095,20 €	OFV 49, approved by Client on 31/10/2014.
13	Production and installation of the vertical and horizontal gutters of 150/150mm square section, made of ready painted, galvanized and plastic coated sheet, colour will be selected by the Employer /Employer's representative. Gutters should be installed with all required anchors and flanges with the necessary binding and joining material.- Price M.N ARH BoQ- B1-7- 15.11e	m1				6	55,90	x	15,11 €	=	844,65 €	OFV 32, approved by Client on 31/10/2014.
14	Because of change of detail on roof which Supervision and Client gave to us on Kick off meeting there is additional work - installation of EPS d=3cm boards on the horizontal concrete gutter- 228.5m of horizontal gutter of d.w 47cm- 107.39m2 of EPS boards. Price from SM BoQ ARH I 1.13/ d=5cm 7.1e/m2- d= 3cm- 4.26e	m2				6	134,33	x	4,26 €	=	572,25 €	OFV 09, approved by Client on 23/09/2014.
15	Because of change of detail on roof which Supervision and Client gave to us on Kick off meeting there is additional work over the horizontal concrete gutter - on covering roof with roof polyurethane sandwich panels system, thickness d=80mm, heat transfer coefficient $\lambda_{max} = 0,025$ W/mK, standard modular width 1000mm, attached to box profiles 60/40/3mm at 60-150cm distance over existing timber roof structure. Replacing the worn-out parts of the roof construction with new ones which should represent 10 % from total roof area. Upper side of sheet metal is made of unique trapezoidal shape d=0,5mm, and lower side is made of SNVs d=0,5mm. After the installation of sandwich panels, it is necessary to install flashing on all covers along the walls, edges of gable walls and gutters with appropriate joining material (stainless steel screws, washers and EPDM sealants...). The price includes all the work and material, as described. Price JK ARH BoQ A2.7 53.41e/m2	m2				6	180,00	x	52,37 €	=	9.426,60 €	OFV 09, approved by Client on 23/09/2014.
16	Purchase of the material and installation of metal stairs with platform, made from metal boxes 60x40x3mm and with metal sheet- rost d=4mm for the platform and stairs top. Material 220e, transport 25e, assembling and installation 130e, profit 10%.	pcs				6	1,00	x	412,50 €	=	412,50 €	OFV 44, approved by Client on 23/09/2014.
17	Dismantling of floor marble tiles. Price B.R ARH BoQ V-1 - 3.62e	m2				6	7,00	x	3,62 €	=	25,34 €	OFV 52, approved by Client on 28/11/2014.
18	Dismantling of wall tiles in old toilet. Price B.R ARH BoQ V-1 - 3.62e	m2				6	9,00	x	3,62 €	=	32,58 €	OFV 52, approved by Client on 28/11/2014.

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
19	Replacement of damaged ceramic floor and wall tiles after laying new water and sewage installations Price B.R ARH BoQ V-11 - 22.25e	m2				6	19,00	x 22,25 € =	422,75 €	OFV 52, approved by Client on 28/11/2014.
20	Purchase of material and installation of new cement screed. Price B.R ARH BoQ V-8 - 9.83e	m2				6	7,00	x 9,83 € =	68,81 €	OFV 52, approved by Client on 28/11/2014.
21	Installation of new water and sewage pipes with all necessary fittings and valves for new hand wash and bowl for handicapped people with all necessary drilling in the concrete slab, making channels for pipes, and after installation reparation of concrete slab, installation of new waterproof layer and screed. Material, fittings valves 230e, transport 35e, 4 plumbers 10h-168e, 4 unskilled laborers 10h 120e, profit 10%	piece				6	1,00	x 608,30 € =	608,30 €	OFV 52, approved by Client on 28/11/2014.
22	Purchase and mounting of complete ceramic bowl, for handicapped people, with flush ceramic bowl with special seat 285e, flush 52e, delivery 10e, plumber 16.8, profit 10%-price from A11 fast rack- Vlado Milic	piece				6	1,00	x 400,00 € =	400,00 €	OFV 52, approved by Client on 28/11/2014.
23	Purchase and mounting of complete ceramic lavatory set, with its supports, chrome plated single-lever basin mixer (hot and cold), chrome plated trap, towel holder, mirror for handicapped people Hand wash- 121e, chrome mixer 35e, plated trap 22e, mirror 50e, towel holder 10e, delivery 10e, plumber 15.3e, profit 10%	piece				6	1,00	x 290,00 € =	290,00 €	OFV 52, approved by Client on 28/11/2014.
24	Purchase and installation of water proof insulation. Price from BR BoQ ARH V-9 21.74e/m2	m2				6	7,00	x 21,74 € =	152,18 €	OFV 52, approved by Client on 28/11/2014.
25	Purchase and mounting of two holders for handicapped people- material 135e, transport 10e, plumber 4.2e, profit 10%	piece				6	2,00	x 165,00 € =	330,00 €	OFV 52, approved by Client on 28/11/2014.
26	Purchase of the material and installation of the ceramic floor tiles Price from B.J BoQ ARH V 11 22.25e/m2	m2				6	7,00	x 22,25 € =	155,75 €	OFV 52, approved by Client on 28/11/2014.
27	Purchase of the material and installation of the ceramic wall tiles Price from B.R BoQ ARH V 12- 22.25e/m2	m2				6	25,00	x 21,50 € =	537,50 €	OFV 52, approved by Client on 28/11/2014.
28	Skimming and painting with semi dispersive paint of the ceiling and walls. Price from B.R BoQ ARH V-13 4.35e/m2	m2				6	27,40	x 4,20 € =	115,08 €	OFV 52, approved by Client on 28/11/2014.
29	Purchase and installation of one wall mounted air ventilator. Supply and delivery 60e, installation with making hole in the wall and cabling -50e, profit 10%-	piece				6	1,00	x 121,00 € =	121,00 €	OFV 52, approved by Client on 28/11/2014.
30	Delivery and mounting of ceiling mounted light fitting 1/28 W T16 IP54, opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material are calculated per unit. AS 1X28/1/IP54 OPAL, sa with light sources Mareil Bulgary	piece				6	1,00	x 34,50 € =	34,50 €	OFV 52, approved by Client on 28/11/2014.
31	Dismantling of old existing door together with frame and upper light . Price from M.T BoQ ARH 1.01 10.3e/m2.+ 5	piece				6	1,00	x 15,30 € =	15,30 €	OFV 52, approved by Client on 28/11/2014.
32	Extension of door hole, cutting walls and reinforcement of jambs for installation of a new door- dimensions 105/205cm. Cutting walls 70e, reinforcement of the jambs 65e, profit 10%	piece				6	1,00	x 148,50 € =	148,50 €	OFV 52, approved by Client on 28/11/2014.
33	Suply of the material assembling and installation of new aluminium door dimensions 205x105cm. Price from M.T BoQ ARH 4.10 a 10.3e/m2.	piece				6	1,00	x 340,93 € =	340,93 €	OFV 52, approved by Client on 28/11/2014.
34	Purchase of the material and installation of gypsum wall on metal substructure with double boards and with reinforcement for lavatory and holders. Material and work 26e	m2				6	5,40	x 26,00 € =	140,40 €	OFV 52, approved by Client on 28/11/2014.
35	Purchase of the material and installation of concrete ramp for handicapped persons in the entrance area of school. 7m long 1m width- 4.5m3 of concrete with reinforcenet . Material 220e, concrete 337e, workers 120e, transport 30e, profit 10%	piece				6	1,00	x 777,70 € =	777,70 €	OFV 52, approved by Client on 28/11/2014.
36	Purchase of the material and installation of snow stoppers on the roof, in two rows. Material 4e, cutting, assembling and installation 3.5e, profit 10%	m1				6	200,00	x 8,25 € =	1.650,00 €	OFV 46, approved by Client on 28/12/2014.
SUMMARY OF COSTS F										
TOTAL PRICE, VAT EXCLUDED:										26.065,16 €

Montenegro Energy Efficiency Program in Public Buildings (EEPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
	VAT (19%):								4.952,38 €	
F	TOTAL PRICE (WITHOUT DISCOUNT), VAT INCLUDED:								31.017,54 €	
SUMMARY OF COSTS A-F										
A-F	TOTAL PRICE, VAT INCLUDED:								505.888,46 €	

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
7	Purchase, delivery and installation of DN15 fill and discharge tap valve with a cap, chain and threaded connection.	pcs	2	x 9,64 € =	19,27 €		2	x 9,64 € =	19,27 €	
8	Purchase and installation of PP-R water pipes for connecting equipment for chemical water treatment, for operating pressure of 10 bars with all required fittings. Pipes need to be fixed to walls with double pipe clips at every 1.5 to 2.0 m. Pipes on branching need to be insulated with "plamafleksom" to prevent condensation. Pipes are welded with but welded joint. Pipe diameter is rated diameter of DN25.	m	8	x 10,43 € =	83,42 €		8	x 10,43 € =	83,42 €	
9	Purchase and delivery of "brinks" hose DN 20 with unions at ends, 5 m length, for filling and discharging the installation.	pcs	1	x 47,52 € =	47,52 €		1	x 47,52 € =	47,52 €	
10	Purchase, delivery and installation of flanged backflow preventers with mating flanges, bolts, nuts, gaskets PN6, following dimensions of connections: DN 80	pcs	2	x 204,60 € =	409,20 €		2	x 204,60 € =	409,20 €	
	DN 50	pcs	1	x 165,00 € =	165,00 €		1	x 165,00 € =	165,00 €	
11	Purchase, delivery and installation of flanged backflow preventer - wafer with counter flanges, bolts, nuts, gaskets PN16, connection size DN80	pcs	1	x 204,60 € =	204,60 €		1	x 204,60 € =	204,60 €	
12	Purchase, delivery and installation of the duplex circulating pump with electronic frequency controller used to supply the radiator heating in the school (without the gym) with the ability to control pressure on the thrust, proportionally and constantly, properties: Manufacturer: Grundfos or equivalent Type: Magna D 50-60 F Flow: 14,25 m³/h Thrust: 4.5 m Type of connection: Flanged DN50 Power supply: V=1x230V~ Maximum current: I = 1.7A Transferred power: P = 25 to 400W Pumps are delivered and installed jointly with the counter flanges, connecting and sealing material.	pcs	1	x 2,798,40 € =	2,798,40 €		1	x 2,798,40 € =	2,798,40 €	
13	Purchase, delivery and installation of elements for reduction of pipes diameter DN80 to DN 50.	pcs	2	x 9,90 € =	19,80 €		2	x 9,90 € =	19,80 €	
14	Purchase, delivery and installation of two-stage light distilled oil burner, manufacturer Weishaupt Switzerland or equivalent, type WL30Z-A, with installed oil pump, class NOx k2 in compliance with EN 267; effective thermal power 72 – 330 kW; oil flow 6.1-27.9 kg/h; rated motor power 0.42kW; motor supply electricity 50 Hz; 3~220/380 V; outlets for oil supply and discharge from pump DN8, hose length 1000mm; burner size: length 480+169mm, width 420mm, height 460mm; weight 28kg. The item includes adjusting of burner intake port and additional fuel filter.	pcs	1	x 2,654,52 € =	2,654,52 €		5	0 x 2,654,52 € =		OFV 24, approved by Client on 31/10/2014.
15	Dismantling, disassembling, cleaning, servicing, oiling and re-installation of expansion vessel in the boiler room with ancillary fittings and safety valve above the boilers. Calculated lump-sum	pcs	1	x 396,00 € =	396,00 €		1	x 396,00 € =	396,00 €	
16	Cleaning existing below-grade light distilled oil capacity 20m³, removal of sediments, dumping in set manner, replacement of suction group, maintenance service of safety valves and inspection of entire ancillary installation. Calculated lump-sum	pcs	1	x 1,742,40 € =	1,742,40 €		1	x 1,742,40 € =	1,742,40 €	
TOTAL B - Replacement of broken and installation of new equipment in the boiler room					10,706,92 €				8,052,40 €	
C - Measure No. 6: Installation of thermostatic valves and balancing heating system										
1	Purchase, delivery and installation of thermostatic radiator valves (replacement to be made on all 108 radiators, the specification is given according to the current situation, the contractor will select type of a valve according to the situation on the site). dimensions of the connection 1/2"	pcs	108	x 14,42 € =	1,557,79 €		108	x 14,42 € =	1,557,79 €	

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No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
2	Purchase, delivery and installation of thermostatic head for installation in buildings that accommodate many people, with flexural strength of the thermostatic head min. 1000 N (anti-theft). Continuous setting of temperature is done using special key without need to remove the protective cap. Thermostat has the liquid sensor. Manufacturer Heimeier type B or equivalent Setting range from 8 °C to 26 °C Number of poles: four poles Closing time 24 min.	pcs	108	x 17,42 €	= 1.881,79 €		108	x 17,42 €	= 1.881,79 €	
3	Purchase, delivery and installation of the radiator angular valves, radiator sub-valves, dimensions 1/2". The Contractor shall determine the type of the valve during installation depending on the situation at the site.	pcs	108	x 11,22 €	= 1.211,76 €		108	x 11,22 €	= 1.211,76 €	
4	Purchase, delivery and installation of differential pressure controller valve with no additional power feeding, for two-pipe systems with thermostatic valves fitted on heat emitters, with continuous temperature setting, with 1 m long capillary pipe (fitted on the return pipe of the manifold) size and properties: Manufacturer: TA or equivalent Type: STAP									
a)	DN32, connectors 1/4", 400-4500l/h for maximal flow on manifold of 3220l/h	pcs	1	x 166,32 €	= 166,32 €		1	x 166,32 €	= 166,32 €	
b)	DN40, connectors 1/4", 500-6000l/h for maximal flow on manifolds of 4970l/h and 6710l/h	pcs	2	x 184,80 €	= 369,60 €		2	x 184,80 €	= 369,60 €	
5	Purchase, delivery and installation valves for riser pipes with meter gauges in brass casing, pre-setting with digital reading (fitted on the feed pipe of the manifold), size and properties: Manufacturer: TA or equivalent Type: STAP									
a)	DN32, kvs = 20.67	pcs	1	x 82,10 €	= 82,10 €		1	x 82,10 €	= 82,10 €	
b)	DN40, kvs = 28.09	pcs	2	x 93,72 €	= 187,44 €		2	x 93,72 €	= 187,44 €	
6	Purchase, delivery and installation of wall mounted hot water calorifers with following properties: Manufacturer: Frico or equivalent Mark: SWS02 Thermal power at t=15°C: 19000W Heater type: Cu-Al (copper aluminium) Heating medium: hot water 90-70 oC Air flow: 2340 m3/h Dimensions: depth 275 mm width 540 mm height 545 mm Power supplying: 0,67 A Electrical outlet: 230V, 50 Hz Noise level: 57 dB Calorifer mass: 18 kg connection: 3/4" The position includes basic filter and mixing box for fresh and return air, intake facade grille, and preparation of connection box made of steel galvanized sheet metal thickness 0.5 mm.	pcs	4	x 1.425,60 €	= 5.702,40 €		4	x 1.425,60 €	= 5.702,40 €	
7	Purchase, delivery and installation of the five-stage fan controller for hot water calorifers, properties: Manufacturer: Systemair or equivalent Label: RE1,5 Maximum power: 1,5 A	pcs	1	x 108,90 €	= 108,90 €		1	x 108,90 €	= 108,90 €	
8	Purchase, delivery and installation of the room thermostat with concealed temperature setting, to control indoor temperature in the gym and manage operating of gym calorifers, complete with 2x0,75mm2 cable, 5 m long. Manufacturer: Systemair or equivalent Label: T10	pcs	1	x 60,72 €	= 60,72 €		1	x 60,72 €	= 60,72 €	
9	Purchase, delivery and mounting of oblique balancing valves in brass valve cone, size and properties: Manufacturer: TA Type: STAD or equivalent STAD 20, with draining 1/2" Kvs=5,70	pcs	4	x 49,63 €	= 198,53 €		4	x 49,63 €	= 198,53 €	
10	Purchase, delivery and installation of threaded block- ball valves, in brass cone, size 3/4" (DN20)	pcs	12	x 13,73 €	= 164,74 €		12	x 13,73 €	= 164,74 €	
11	Purchase, delivery and installation of bracket tray holders and bolts for mounting calorifers to the gym walls	pcs	4	x 105,60 €	= 422,40 €		4	x 105,60 €	= 422,40 €	

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No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
12	Making opening in the wall for fresh air supply to hot water calorifers, size 50x50 cm									
		pcs	4	63,36 €	253,44 €		4	63,36 €	253,44 €	
13	Purchase of material and installation of steel seamless pipeline in line with JUS standard C.B5.221 or DIN 2448, dimensions:									
	Ø48.3x2,6mm - DN40	m	35	11,35 €	397,32 €		35	11,35 €	397,32 €	
	Ø42.4x2,6mm - DN32	m	10	9,77 €	97,68 €		10	9,77 €	97,68 €	
	Ø33.7x2,6mm - DN25	m	45	8,32 €	374,22 €		45	8,32 €	374,22 €	
	Ø26.9x2,3mm - DN20	m	20	7,00 €	139,92 €		20	7,00 €	139,92 €	
14	Binding, hanging and joining material, elbows, branches and such are calculated as 60% of the previous pipe item. This item includes cleaning, prime coating and finishing layer of paint resistant to high temperatures.									
	Calculated as 60% of the previous item		0,6	1.009,14 €	605,48 €		0,6	1.009,14 €	605,48 €	
TOTAL C - Installation of thermostatic valves and balancing heating system					13.982,56 €				13.982,56 €	
D - Measure No. 7: Thermal insulation of boiler room equipment										
1	Purchase of material and coating the pipes with insulation made of rock wool, thickness 50 mm, with AL sheeting thickness 0.5 mm, complete with installation kit. Fire-resistance class flammability A1 in line with SIST EN 13501-1 & JUS U.J1.050. Calculated per m2 of insulation measured on the external side of the pipe. The position includes fitting of insulation on manifold in the area in front of the gym which is not being heated, and where existing insulation was removed.									
		m2	18	33,00 €	594,00 €		18	33,00 €	594,00 €	
2	Purchase of material and coating the rear side of the bigger boiler Viessmann Vitoplex 100, capacity 410kW with insulation made of rock wool, thickness 50 mm, with sheeting made of steel galvanized sheet metal thickness 0.5 mm, made in form of a lid over the boiler, complete with installation kit. Fire-resistance class flammability A1 in line with SIST EN 13501-1 & JUS U.J1.050. Calculated per m2 of insulation measured on the external side.									
		m2	1,5	132,00 €	198,00 €		1,5	132,00 €	198,00 €	
TOTAL D - Thermal insulation of boiler room equipment					792,00 €				792,00 €	
E - Measures added in the Design Brief and interventions required to capacitate the heating system										
1	Rinsing of the entire heating system in the school with the gym. Dismantling of all radiators (98 pieces) and removal of residue form the bottom of ribs. Fitting of new radiator brackets.									
		lump-sum			2.640,00 €				2.640,00 €	
2	Inspection of air-release network, clear the air way, inspect proper operating of air-release valves, where necessary, replace damaged or broken down parts.									
		lump-sum			264,00 €				264,00 €	
3	Fitting of ribbed radiators made of aluminium, total of 10 radiators, from the rib, axial separation of outlets h=500mm, depth d=95mm, ribs width s=80mm thermal output at manifold of 90/70°C 151W (the position includes fitting of new brackets for mounting with spacers).									
		pcs	74	5,28 €	390,72 €		74	5,28 €	390,72 €	
4	Purchase of material and installation of pipeline made of steel seamless pipes to connect new radiators, in line with JUS standard C.B5.221 or DIN 2448, following dimensions:									
	Ø21.3x2,0 - DN15	m	20	6,34 €	126,72 €		20	6,34 €	126,72 €	
5	Joining, tightening material and brackets, elbows, branches and such are calculated as 60% of the previous pipe item. This item includes cleaning, prime coating and painting with finishing paint resilient to high temperatures.									
	Calculated as 60% of the previous item		0,6	126,72 €	76,03 €		0,6	126,72 €	76,03 €	
6	Purchase, delivery and assemblage of air-release vessels with automatic air-release valves.									
		pcs	2	24,29 €	48,58 €		2	24,29 €	48,58 €	

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No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
7	Purchase, delivery and installation of radiator lockshield valve with air-release valve tailpiece 1", maximal working temperature 100°C, maximal working pressure 10 bar, maximal gas release pressure 6bar, EPDM rubber seal, with safety hygroscopic valve and protective casing.	pcs	3	x 26,40 €	= 79,20 €		3	x 26,40 €	= 79,20 €	
8	Purchase, delivery and installation of radiator cap, size 1".	pcs	20	x 1,32 €	= 26,40 €		20	x 1,32 €	= 26,40 €	
9	Elements for reduction of pipes diameter from 1" to 1/2".	pcs	25	x 1,32 €	= 33,00 €		25	x 1,32 €	= 33,00 €	
Preliminary and finishing works										
10	Preparation of the construction site for fitting of thermo-technical installations. Surveying on site situation. Installation of containers. Transportation of people, goods and materials.	lump-sum			= 462,00 €				= 462,00 €	
11	Putting the boiler facility into operation and trial testing of the entire heating system, as well as testing of proper operating of all installed radiator valves. The item also includes previous burner adjustment, cleaning of the flues and existing boilers.	lump-sum			= 528,00 €				= 528,00 €	
12	Training of personnel in charge of boiler operation and heating system maintenance, training of personnel for operation of newly incorporated equipment, as well as training for cases of emergency.	lump-sum			= 198,00 €				= 198,00 €	
13	Issuing of certificate for entire installed material and equipment.	lump-sum			= 198,00 €				= 198,00 €	
14	Preparation of "As-built" design.	lump-sum			= 396,00 €				= 396,00 €	
15	Installation of framed and glazed scheme of connections on a visible place in the boiler room.	lump-sum			= 264,00 €				= 264,00 €	
16	Mending walls and ceiling at penetration points of the old system pipes which were not used for the new system.	lump-sum			= 100,00 €				= 100,00 €	
17	Making holes in walls for putting pipes for the new heating system, including mending works at penetration points for bringing walls and ceilings in proper condition.	lump-sum			= 264,00 €				= 264,00 €	
18	Mending and painting walls behind radiators or other heating items which shall be removed or where new items shall be installed.	lump-sum			= 150,00 €				= 150,00 €	
TOTAL E - Additional measures from the Design Brief and interventions required to capacitate the heating system					6.244,65 €				6.244,65 €	
SUMMARY OF COSTS A-E										
A	ENERGY MANAGEMENT				6.623,76 €				3.001,68 €	
B	REPLACEMENT OF BROKEN AND INSTALLATION OF NEW EQUIPMENT IN THE BOILER ROOM				10.706,92 €		#REF!		8.052,40 €	
C	INSTALLATION OF THERMOSTATIC VALVES AND BALANCING HEATING SYSTEM				13.982,56 €				13.982,56 €	
D	THERMAL INSULATION OF BOILER ROOM EQUIPMENT				792,00 €				792,00 €	
E	MEASURES ADDED IN THE DESIGN BRIEF AND INTERVENTIONS REQUIRED TO CAPACITATE THE HEATING SYSTEM				6.244,65 €				6.244,65 €	
	TOTAL PRICE, VAT EXCLUDED				38.349,88 €				32.073,28 €	
	TOTAL PRICE WITH 3% DISCOUNT				37.199,38 €				31.111,08 €	
	VAT (19 %)				7.067,88 €				5.911,11 €	
A-E	TOTAL PRICE (WITH DISCOUNT), VAT INCLUDED				44.267,27 €				37.022,19 €	
F	ADDITIONAL WORKS									
1	Purchase, delivery and installation of two-stage light distilled oil burner, manufacturer Weishaupt Switzerland, type WL40Z-A, with installed oil pump, class NOx k2 in compliance with EN 267; effective thermal power 145 – 570 kW; oil flow 12.48 kg/h; rated motor power	piece					5	1,00 x 3.937,25 €	= 3.937,25 €	OFV 24, approved by Client on 31/10/2014.

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No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
2	Delivery and installation of fixed mounting bars at the door of the boiler room for natural circulation of air required for the combustion process of fuel in the boilers. 67 x 64 cm 68 x 68 cm- material 70e, 20installation, profit 10%	piece				5	2,00	x 99,00 €	= 198,00 €	OFV 38, approved by Client on 31/10/2014.
3	Repair of leaking pipe penetrations through ceilings and floor slabs with the installation of protective pipe i.e. „sliding pipe” . Pipe penetration ¾"-jagos kontic Pipe penetration 6/4"-jagos kontic Pipe penetration 2"-jagos kontic Pipe penetration 1/ 2"-milija nikcevic	piece piece piece piece				6	2,00 1,00 1,00 1,00	x 32,00 € x 42,00 € x 48,00 € x 30,00 €	= 64,00 € = 42,00 € = 48,00 € = 30,00 €	OFV 58, approved by Client on 28/11/2014.
4	Plastering of holes, skimming and painting with semimdispersive color	lumpsum				6	1,00	x 200,00 €	= 200,00 €	OFV 58, approved by Client on 28/11/2014.
SUMMARY OF COSTS F										
	TOTAL PRICE, VAT EXCLUDED:								4.519,25 €	
	VAT (19%):								858,66 €	
F	TOTAL PRICE (WITHOUT DISCOUNT), VAT INCLUDED:								5.377,91 €	
SUMMARY OF COSTS A-F										
A-F	TOTAL PRICE, VAT INCLUDED:								42.400,09 €	

No.		Item Description	Unit of measure	CONTRACT			VO	AMENDMENT 1			COMMENTS		
				Quantity	Unit price (€)	Amount (€)		Quantity	Unit price (€)	Amount (€)			
		GROUP A5.3.3											
		TABLE OF QUANTITIES											
		of electrical services for energy efficiency improvement in "Mijla Nikčević" Primary School in Nikšić											
		Investor:	Ministry of Economy of Montenegro, Energy Efficiency Sector										
		Project financed by:	KfW ENTWICKLUNGSBANK										
		Consultant:	Konsultant: FICHTNER GmbH&Co. KG										
		Sub-Consultant:	Lokalni projekt: KOPRING PMC, Podgorica /										
		School:	Objekat: Primary School "Mijla Nikčević", Nikšić										
		Doc. origin:	Dokumentacija: Final Design of Electrical Services										
		Date:	16 November 2013										
1		LIGHTING INSTALLATION											
1.1.		Delivery and laying of cables for lighting in the classrooms on the first floor. Due to mounting of the new suspended ceiling, new cables shall be connected to the existing cables using pendant terminal or "Raychem" joints. The item includes connecting cables on both sides. Average cable length is per one luminaire spot is 2.5m.											
		PP-Y 3x1,5 mm2	m	2,5			2,5						
		Works and material to be calculated per unit:	pcs	145	x	4,68	=	678,60 €	145	x	4,68	=	678,60 €
1.2.		Dismantling and mounting of existing luminaires in classrooms on the first floor after installation of suspended ceilings. Dismantled luminaires must be kept in a secured room on the site. Before the re-mounting, the luminaires shall be cleaned. Calculation to be made per luminaire spot											
			pcs	145	x	17,28	=	2.505,60 €	145	x	17,28	=	2.505,60 €
1.3.		Delivery and installation of simple switches 10A, 230V instead of existing broken switches. Total for the supply and installation of:											
			pcs	10	x	7,20	=	72,00 €	10	x	7,20	=	72,00 €
1.4.		Delivery and installation of single phase sockets 16A, 230V, 2P + E instead of existing broken sockets. Total for the supply and installation of:											
			pcs	25	x	10,08	=	252,00 €	25	x	10,08	=	252,00 €
1.5.		Delivery and installation of electric switchboxes in position of existing switchboxes. Switchboxes are ready-made, to be installed on wall with protection IP 44. The cables enter the box from the top. All necessary connection kit is included for connecting elements in the switchbox. Switchbox is equipped with following parts:											
		disconnecter "Interpact" INS 1-0, 63A, 3P	pcs	1					1				
		automatic switch IC60N-(6-32A), 1p; 6 kA.	pcs	40					40				
		Works and material to be included for:	pcs	8	x	705,60	=	5.644,80 €	8	x	705,60	=	5.644,80 €
		TOTAL FOR LIGHTING INSTALLATION						9.153,00 €					9.153,00 €
2		POWER SUPPLY AND ELECTRICAL INSTALLATION FOR BOILER ROOM AND HVAC SERVICES											
2.1.		Delivery and laying of cables on wall installations on existing PNK cable trays or through PVC rigid installation pipes, for construction of electrical circuits for hot water calorifiers in the gym. Power cables are taken from the existing electrical cabinet RO-S. Works and material are calculated per average unit:											
		PP-Y 3x2,5 mm2	m	92	x	3,46	=	317,95 €	92	x	3,46	=	317,95 €
2.2.		Replacement of equipment in existing electrical cabinet RO-S:											
		automatic switch 1p C60H 25A 10 kA IEC 898	pcs	3	x		=		3	x		=	
		automatic switch 1p C60H 16A 10 kA IEC 898	pcs	2	x		=		2	x		=	
		All necessary small connection kit is envisaged											
		TOTAL FOR SWITCHBOX	lump sum	1,00	x	43,20	=	43,20 €	1,00	x	43,20	=	43,20 €
		TOTAL FOR POWER SUPPLY AND ELECTRICAL INSTALLATION FOR BOILER ROOM AND HVAC SERVICES						361,15 €					361,15 €
3		LIGHTNING PROTECTION SYSTEM											
3.1.		Dismantling of existing lightning protection system.	lump sum	1,00	x	216,00	=	216,00 €	1,00	x	216,00	=	216,00 €
3.2.		Delivery and mounting of galvanized tape Fe-Zn 20x3mm, with connection to the grounding system and receiving element on the roof through the clip, according to all technical recommendations and regulations. The tapes shall be mounted on part of roof of the storage room and boiler room. Works and material are calculated per unit:											
			m	60	x	2,59	=	155,52 €	60	x	2,59	=	155,52 €
3.3.		Delivery and mounting of tape-tape junctions elements 58x58 mm for galvanized tape Fe-Zn 20x3 mm, according to JUS N.B4. 936, IEC standards and technical report. Works and material to be calculated per unit:											
			pcs	15	x	5,04	=	75,60 €	15	x	5,04	=	75,60 €
3.4.		Delivery and mounting of prefabricated tape carriers on every 1 m for lightning protection system, according to IEC standards and technical report. Works and material to be calculated per unit:											
		Prefabricated tape carrier unit with concrete foundation (P-S-K)	pcs	15	x	5,04	=	75,60 €	15	x	5,04	=	75,60 €

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No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS	
3.5.	Delivery and mounting of tape-roof cover, plate prefabricated junctions for galvanized tape Fe-Zn 20x3 mm according to JUS N.B4. 908, IEC standards and technical report. Works and material to be calculated per unit:	pcs	16,00	x 5,04	= 80,64 €		16,00	x 5,04	= 80,64 €		
3.6.	Connecting all metal conductive parts with lightning protection system. Works and material to be calculated per unit:	lump sum	1,00	x 72,00	= 72,00 €		1,00	x 72,00	= 72,00 €		
3.7.	Delivery and mounting of deep galvanized tape Fe/Zn 25x4 mm2 for grounding of gutters. Tape should be connected to nearest connection point to foundation earthing through earth trench and under new pavements. Works should be performed according to technical report and technical recommendation. Total for works and material:	m	342,00	x 2,59	= 886,46 €		342,00	x 2,59	= 886,46 €		
3.8.	Delivery and mounting of prefabricated tape junction elements for gutters according to JUS and IEC standards and technical report. Works and material to be calculated per unit:										
	NGO 15, AY JUS N.B4.914-0(P)	pcs	26,00	x 7,20	= 187,20 €		26,00	x 7,20	= 187,20 €		
TOTAL FOR LIGHTNING PROTECTION SYSTEM					1.749,02 €				1.749,02 €		
4	POTENTIAL EQUALIAZATION										
4.1.	Delivery and mounting of new bus bar (clip) for potential equalization in boiler room. Old bus bar shall be dismantled. Work and material to be calculated per unit:	pcs	1	x 72,00	= 72,00 €		1	x 72,00	= 72,00 €		
4.2.	Delivery and laying of cables P/F 1x16 mm2 on wall installations with PVC installation pipes and galvanized cable trays in boiler room for connecting all metal conductive parts with potential equalization bus bar. Works and material to be calculated per unit:										
	P/F 1x16mm2	m	80	x 2,88	= 230,40 €		80	x 2,88	= 230,40 €		
4.3.	Connecting metal casing of all luminaries with grounding wire of electric power supply cables. Work and material to be calculated per unit:	pcs	374	x 1,44	= 538,56 €		374	x 1,44	= 538,56 €		
TOTAL FOR POTENTIAL EQUALIAZATION					840,96 €				840,96 €		
5	TESTING & MAINTENANCE DESIGN										
5.1.	Testing of electrical grounding installation and lightning protection system with issuance of attest.	lump sum	1,00	x 360,00	= 360,00 €		1,00	x 360,00	= 360,00 €		
5.2.	Testing of new electrical power supply installation.	lump sum	1,00	x 216,00	= 216,00 €		1,00	x 216,00	= 216,00 €		
5.3.	Preparation of Maintenance Design.	lump sum	1,00	x 360,00	= 360,00 €		1,00	x 360,00	= 360,00 €		
TOTAL FOR TESTING & MAINTENANCE DESIGN					936,00 €				936,00 €		
SUMMARY OF COSTS 1-5											
1	LIGHTING INSTALLATION				9.153,00 €				9.153,00 €		
2	POWER SUPPLY AND ELECTRICAL INSTALLATION FOR BOILER ROOM AND HVAC SERVICES				361,15 €				361,15 €		
3	LIGHTNING PROTECTION SYSTEM				1.749,02 €				1.749,02 €		
4	POTENTIAL EQUALIAZATION				840,96 €				840,96 €		
5	TESTING & MAINTENANCE DESIGN				936,00 €				936,00 €		
	TOTAL PRICE, VAT EXCLUDED				13.040,14 €				13.040,14 €		
	TOTAL PRICE WITH 3% DISCOUNT				12.648,93 €				12.648,93 €		
	VAT (19 %)				2.403,30 €				2.403,30 €		
1-5	TOTAL PRICE(WITH DISCOUNT), VAT INCLUDED				15.052,23 €				15.052,23 €		
6	ADDITIONAL WORKS										
1	Delivery and laying cables PPOO 3x2,5mm2 from spotlight position to main GRO switchbox and GYM switchbox.Works and material included. Works and material per luminary	m					4	450	x 3,80	= 1.710,00 €	OFV 12, approved by Client on 31/10/2014
2	Delivery and laying cables PP-Y 3x1,5mm2 on wall installations for simple switch for HIT projectors through rigid PVC conduits of blackboards with repairing of damaged walls and ceilings, covering and bringing it back in previous conditions.Works and material included. Works and material per luminary	m					4	60	x 4,68	= 280,80 €	OFV 12, approved by Client on 31/10/2014
3	Delivery and installation of simple switches 10A, 230V for HIT projectors. Total for the supply and installation of:	pes					4	1	x 12,00	= 12,00 €	OFV 12, approved by Client on 31/10/2014
4	Delivery and mounting of HIT projectors 250W on the cornice, with ballast completely equipped with mounting gear and light source. PROTEC A, MH-NA 250W, E-40, IP65, HQI-T, ZinLux Greece Works and material included per unit:	pes					4	4	x 245,00	= 980,00 €	OFV 12, approved by Client on 31/10/2014

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No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
5	Mounting new equipment in existing electrical cabinet GRO: automatic circuit breaker 1P 16A 10 kA Doepke automatic circuit breaker 1P 6A 10 kA Doepke contactor HS 63A 40 3P Doepke Staircase time switch rotary cam switch 102 3P Rails, comb busbars,pvc canals for cable trunking, terminals ... Time duration of works: 4h X Engaged workers:2 TOTAL FOR SWITCHBOX	pes pes pes pes pes lump sum h x en.wor. lump sum				4	3 1 1 1 1 1 8 1			OFV 12, approved by Client on 31/10/2014
6	Mounting new equipment in existing electrical cabinet in GYM: automatic circuit breaker 1P 16A 10 kA Doepke automatic circuit breaker 1P 6A 10 kA Doepke contactor HS 20A 20 1P Doepke Staircase time switch rotary cam switch 102 1P Rails, comb busbars,pvc canals for cable trunking, terminals ... Time duration of works: 4h X Engaged workers:2 TOTAL FOR SWITCHBOX	pes pes pes pes pes lump sum h x en.wor. lump sum				4	1 1 1 1 1 1 8 1			OFV 12, approved by Client on 31/10/2014
7	Delivery and laying of cables PP-Y 3x1.5mm2 from position of thermostat to position in the Gym cabinet.Works and material included per unit: Price Mileva Lajovic Lalatovic EI BoQ 2-2.1. 2.74e	m1				5	37,00	x 2,74 € =	101,38 €	OFV 30, approved by Client on 31/10/2014.
8	Delivery and laying of cables PP-Y 3x2.5mm2 for calorifier supply in the Gym.Works and material included per unit: Price Mileva Lajovic Lalatovic EI BoQ 2-2.1. 3.46e	m1				5	102,00	x 3,46 € =	352,92 €	OFV 30, approved by Client on 31/10/2014.
9	Delivery and mounting PVC extinguishing tube 16/13.5 Univolt. Works and material included per unit: supply of the material 1.23e, installation 0.5e	m1				5	20,00	x 1,73 € =	34,60 €	OFV 30, approved by Client on 31/10/2014.
10	Delivery and mounting cable ducts 60x40mm. Works and material included per unit: supply of the material 4.5e, installation 1.25e	m1				5	10,00	x 5,75 € =	57,50 €	OFV 30, approved by Client on 31/10/2014.
11	Delivery and mounting surface-mounted terminal box on position in the Gym cabinet. Works and material included per unit: supply of the material10e, installation 2e	piece				5	5,00	x 12,00 € =	60,00 €	OFV 30, approved by Client on 31/10/2014.
12	Delivery and mounting elements in existing switchbox: automatic switch 1p C60H 10A 10 kA Works, material and small kit to be included per unit: supply of the material 6e, installation 2e	piece				5	1,00	x 8,00 € =	8,00 €	OFV 30, approved by Client on 31/10/2014.
13	Delivery and laying of cables on walls in PVC rigid installation pipes and on galvanized cable trays in boiler room, for electrical supply of new equipment in the boiler room. Power cord for new equipment is taken from the existing electrical cabinet in boiler room. Works and material to be calculated per average measure unit.: Price MLL EI BoQ 2.1- PP-Y 3x2.5mm2 3.46e, PP-Y 3x2.5 mm2 PP/L 2x0.75mm2	m1 m1				5	35,00 105,00	x 3,46 x 2,40	121,10 € 252,00 €	OFV 42, approved by Client on 31/10/2014.
14	Delivery and mounting elements in existing electrical cabinet in boiler room: rotary switch 16A 10U contactor CT 25A 1NO signal led indicator 220V Cable P/F 16mm2 Time duration of works: 4h X Engaged workers:1 Rails, comb busbars,pvc canals for cable trunking, terminals ... All necessary small connection kit is envisaged TOTAL FOR SWITCHBOX	pes pes pes m h x en.wor. lump sum lump sum				5	1,00 2,00 1,00 5,00 3,00 1,00	x 35,00 x 28,00 x 17,00 x 2,20 x 4,00 x 146,00		OFV 42, approved by Client on 31/10/2014.
SUMMARY OF COSTS 6										
	TOTAL PRICE, VAT EXCLUDED:								4.475,30 €	
	VAT (19%):								850,31 €	
6	TOTAL PRICE (WITHOUT DISCOUNT), VAT INCLUDED:								5.325,61 €	
SUMMARY OF COSTS 1-6										
1-6	TOTAL PRICE, VAT INCLUDED:								20.377,84 €	

Montenegro Energy Efficiency Program in Public Buildings (EEPPB)

No.		Item Description	Unit of measure	CONTRACT			AMENDMENT 1			COMMENTS					
				Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)		Amount (€)				
GROUP A5.4.1		Investor: Ministry of Economy of Montenegro, Energy Efficiency Sector Project financed by: KIW ENTWICKLUNGSBANK Consultant: Konsultant: FICHTNER GmbH&Co. KG Sub-Consultant: Lokalni projekti: KOPRING PMC, Podgorica School: Objekat: P.S "Braća Ribar", Nikšić Doc. origin: Dokumentacija: Final Architectural Design Date: 05 February 2014													
TABLE OF QUANTITIES		of building and trade works for energy efficiency improvement in "Braća Ribar" Primary School in Nikšić													
I		THERMAL INSULATION OF FACADE WALLS													
1		Clean the facade surface from dirt, moss and dust. Undertake the cleaning mechanically or chemically. During cleaning, be careful not to damage the surface. Surface strength and absorption should be provided. Prior to this, dirty, wet and non-bearing surface should be remedied. The interior mortar and coating should set prior to commencing the works. Works to be conducted depending on the surface: *smooth surfaced furrowed, *bubbling brushed with dry brush, *wet surfaces dried and protected, *mildew and algae cleaned by using algae remover, *binding mortar cleaned and coated with flexible and cement free adhesive, *dusty surface brushed, cleaned under high pressure, washed with water and dried, *lime mortar removed and covered with equalization coating, *mortar remains mechanically removed, *joints between bricks filled with cement mortar, filled joints cleaned with foam, paint cleaned with water and dried. Calculation as per m2 of the cleaned surface. Price includes usage of scaffolding.	m2	2,567,84	x	1,55 €	=	3,986,57 €		2,567,84	x	1,55 €	=	3,986,57 €	
2		Repair of damaged parts of facade using repairing mortar, with previous chasing of damaged parts and base preparation. Calculation per m2 of plastered position. The price includes usage of scaffold.	m2	290,00	x	8,07 €	=	2,341,17 €		290,00	x	8,07 €	=	2,341,17 €	
3		New parapet wall on the joinery No 9 and No 6 shall be built and the doorto the balcony shall be closed (as presented in the drawings) with gas concrete bricks d=20 cm ("Ytong" or equivalent with similar or better characteristics) with proper connection to existing wall and reinforcement, and vertical and horizontal beams in line with regulations. The price includes all required material, transport, scaffolding and work.													
		Calculation per m2	m2	18,92	x	39,95 €	=	755,87 €		18,92	x	39,95 €	=	755,87 €	
4		Plastering newly built walls with lime-cement plaster 1:2:6 by applying two layers with previous cleaning and flush mortar joining and fitting edge galvanized strips. Sand for plaster correction is made of sifted gravel size 0-4 mm. Plastered surfaces need to be smooth, with sharp edges and without deducted openings. The price includes all required material with strips, transport, scaffolding and work.													
		Sand for plaster correction is made of sifted gravel size 0-4 mm. Plastered surfaces need to be smooth, with sharp edges. The price includes all required material with strips, transport, scaffolding and work.													
		Calculation per m2	m2	37,84	x	8,07 €	=	305,48 €		37,84	x	8,07 €	=	305,48 €	
5		Setting up of "Demit" thermal facade. On the external side, thermal insulation of reinforced concrete (hereinafter RC) and brick facade walls will be made of expanded EPS polystyrene													
		having heat transfer coefficient of $\lambda_{max} = 0,037$ W/mK, thickness 10 cm, produced in line with the relevant EN standards. External thermal insulation composite system (ETICS) is required to have an ETAG 004 certificate. Thermal panels with flammability class (DIN 4102 B1 highly flammable, non-combustible and self-extinguishing) should be used.													
		The lower part of the facade walls reaching up to the height of h=1.6m from ground floor will be treated with stiffer insulating material, XPS extruded polystyrene, thickness d=10cm, resistant to mechanical damages, with heat transfer coefficient of $\lambda=0,035-0,04$ W/mK. Use EPS/XPS, thickness d=3cm to treat jambs on the external side of the openings. In zones above the opening, width of 50 cm, facade walls should be insulated with TP mineral wool 10cm flammability class A1.													
		Thermal plates are lap-joint, attached to facade wall with corresponding enriched mineral adhesive, anchored with relevant dowels. Surface of the plates is protected with reinforced mortar, which consists of the following elements:													
		*first layer – enriched plaster based on cement binder, mineral aggregate and additives to improve elasticity and water repellence. Surface for this layer of mortar should be flat and smooth. Any unevenness at joints of the installed polystyrene plates will be filled with polyurethane foam.													

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No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS		
	Reinforcing mesh with adequate overlapping and extra protection at the openings and corners is laid in a fresh layer of this mortar. In case of need for the additional mechanical anchoring, use impact bolt through the reinforcing mesh 24 hours after applying this layer.											
	* reinforcing mesh											
	* second layer of mortar , apply same procedure as with the first layer. This mortar is laid to well-settled first layer and polished afterwards.											
	* contact coating made of the emulsion of synthetic resins and water-glass used for impregnation of the dried reinforced mortar.											
	*top coat is made of mineral binders, water-repellent admixtures, means for improving elasticity and resistance to mildew and algae. This top layer will be made in grainy and smooth structure, painted in colour selected by a Employer /Employer's representative, while the entire procedure will be conducted in line with the design details.											
	Before setting up the thermal plates, the following works will be conducted:											
	* All works on the roof, including the covering and sheet metal works											
	* Windows and doors replacement											
	* Plastering of inside wall and ceiling surfaces											
	*Concrete pavement											
	*Setting up of all installations on the façade											
	*Covering and protection of all non-treated surfaces – glass, wood, aluminium...											
	*Control and testing of the existing facility surface: Use of impregnation- basic coating at the most critical points of the facility. When the basic coating sets, place the EPS cube of 5x5x5 cm using polystyrene adhesive. Once the adhesive has completely settled, minimum 3 days if working conditions are adequate, try to separate the cube manually.											
	If in the process of separating polystyrene only the adhesive separates and not parts of the basis- the basis is sufficiently strong, solid and stable. If in the process of separating polystyrene, the adhesive remains, or if part of the adhesive remains on the wall and part on the polystyrene - it means that the adhesive is adequate and strong. If in the process of separating polystyrene, part of the adhesive and cradling is separated - it means that the basis is not strong enough and it will withstand a new layer of thermal insulation.											
	Use the reinforcing mesh or corner profiles for the window corners and jambs. To complete the facade along the plinth, use reinforced layer or install U profile of the batten adjusted to thickness of a thermal plate.											
	At heights exceeding 8 meters, plates need additional anchoring with appropriate bolts											
	During installation of facade, cradling, mortar and adhesive, temperature of air must not drop below +5°C or be above +25°C. Mortars must not be applied in case of strong wind, rain or fog.											
	The price includes the purchase, installation of entire material, preparatory works, surface preparation, installation of thermal façade according to described layers and installation of the required scaffolding. Calculation is based on m2 of the installed facade.											
	NOTE:											
	Processing of jambs is included in the price, it won't be calculated separately.											
	The planned facade systems should be aligned with the appropriate EN standards.											
	External thermal insulation composite system (ETICS) is required to have an ETAG 004 certificate. ETA certificate (European Technical Approval) is a certificate issued by the European Organization for Technical Approval, which confirms that the thermal insulation system is in compliance with the parameters laid down by this organization - mechanical resistance and stability, safety in the event of fire, hygiene, health and environmental sustainability, safety of use, noise protection, energy efficiency and heat retention.											
	EPS	m2	1.921,30	x	20,18 €	=	38.776,64 €	1.921,30	x	20,18 €	=	38.776,64 €
	XPS	m2	314,56	x	25,36 €	=	7.976,46 €	314,56	x	25,36 €	=	7.976,46 €
	Pressed mineral wool	m2	148,70	x	22,05 €	=	3.278,17 €	148,70	x	22,05 €	=	3.278,17 €
6	Treating the facade surfaces with decorative ready-mixed lime-cement based render. "Bavali" type or similar with equivalent or better technical characteristics, where the installation of thermal plates has not been planned (reinforced concrete brise-soleil, eaves, ceilings and similar).											

Montenegro Energy Efficiency Program in Public Buildings (EEPPB)

No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS	
	Type and colour will be selected by the Employer /Employer's representative. The facade surface will be sound and dry. Surface will be cleaned and impregnated with insulation mass to achieve a better joining. Apply one layer with a painting brush, if the surface absorbs it quickly, apply it twice. To prepare the surface, apply a layer of adhesive with a mesh. Apply other layers following the same procedure as in the previous item.										
	*contact coating made of the emulsion of synthetic resins and water-glass used for impregnation of the set reinforced mortar.										
	*top coating is made of mineral binders, water-repellent admixtures, means for improving elasticity and resistance to mildew and algae. This top layer will be made in grainy and smooth structure, in colour determined by the Employer /Employer's representative, while the entire procedure will be conducted under the design details.										
	The openings should be protected with PVC foil.										
	Use angle profiles to treat corners and window jambs.										
	Price includes the purchase, installation of complete material, preparatory works, surface preparation and installation of the scaffolding. Calculation is per m2 of the installed façade.	m2	91,00	x 12,21 €	= 1.111,38 €		91,00	x 12,21 €	= 1.111,38 €		
7	Setting up of the facade (plinth h=30cm) with decorative ready mixed marble based mortar, created on grain ("Kulie") as splash guard. Surface should be cleaned, washed and sprinkled with acrylic base with granulate, color of the base by the color chart of the manufacturer. Render should be applied on cleaned and dried surface by manufacturer's instruction. The color should be determined by the Employer / Employer's representative, according to the color chart of manufacturer. Size of the granulate grain-1.5mm	m2	202,20	x 15,73 €	= 3.181,01 €		202,20	x 15,73 €	= 3.181,01 €		
8	Cleaning of existing flower pots at the school entrance to remove filth, moss and other. Cleaning is done manually, with metal brushes. Special attention is attached to cleaning and remediation of joints. Total treated area is cca 15 m2. Calculation is lump sum.	lump sum	1,00	x 103,50 €	= 103,50 €		1,00	x 103,50 €	= 103,50 €		
9	Fitting of the bottom side of existing roof top cover ("manholes") on the bottom side with 10 cm thick layer of thermal insulation, including cladding with galvanized metals sheeting and painting.	lump sum	1,00	x 103,50 €	= 103,50 €		1,00	x 103,50 €	= 103,50 €		
TOTAL FOR THERMAL INSULATION OF FACADE WALLS					61.919,75 €				61.919,75 €		
II REMEDIATION OF FLAT ROOFS											
1	Removal of existing flat roof layers of main school building, up to the concrete roof structure with following layers: *drainage layer of gravel average thickness d=4cm, gravel should be stored at the construction material depot (total roof area covered in gravel is cca 180m2); *waterproofing (3 layers of building paper and 4 layers with protection made of "albit fol"), *sloping layer (lean concrete d=5-16cm). The price includes removal of waterproofing from the attic and roof cornice. The price includes all the work and carting-away debris to a town landfill. During dismantling, make sure not to damage RC floor structure. Calculation per m2 of roof base.	m2	1.184,00	x 10,14 €	= 12.009,31 €		1	0	x 10,14 €	= 0	This position does not exist in WOLFIN system. Only position where gravel should be removed (cca 180 m2), will stay.
2	Removal of existing layers of flat gym roof, up to the concrete roof structure with following layers: *drainage layer of gravel average thickness d=4-6cm, *waterproofing (3 layers of building paper and 4 layers with protection made of "albit fol"), *sloping layer (lean concrete d=5-16cm). The price includes removal of waterproofing from the attic and roof cornice. The price includes all the work and carting-away debris to a town landfill. During dismantling, make sure not to damage RC floor structure. Calculation per m2 of roof base.	m2	280,00	x 10,14 €	= 2.840,04 €		1	0	x 10,14 €	= 0	This position does not exist in WOLFIN system. Only position where gravel should be removed (cca 280 m2), will stay.
3	Dismantling of the drains from the building's roof. Calculation per piece of fully dismantled drain and all its elements.	pcs	15,00	x 10,35 €	= 155,25 €		1	0	x 10,35 €	= 0	This position does not exist in WOLFIN system.
4	Purchase and installation of vapour-permeable-waterproof foil above the existing waterproofing of the building's roof. The price includes all works and material as per description. Calculation as per m2 of the lined foil.	m2	1.464,00	x 1,55 €	= 2.272,86 €		1	0	x 1,55 €	= 0	This position does not exist in WOLFIN system
5	Purchase and setting up of thermal insulation on the buildings roofs, using extruded polystyrene XPS d = 8 cm, heat transfer coefficient $\lambda_{max} = 0.033 \text{ W / mK}$, boards to be placed above an already lined foil.									#####	

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No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
	This position price includes lining of PVC foil d=0,01cm to protect thermal insulation during the processing of a sloping layer.									This position does not exist in WOLFIN system.
	Calculation as per m2 of installed thermal insulation with PVC foil.	m2	1.464,00	x 10,87 €	= 15.910,02 €	1	0	x 10,87 €	= 0 €	
6	Installation of sloping layer with lean concrete grade MB20, on a flat buildings roofs over thermal insulation boards, layer thickness d=4-20cm, descending 1.5%. Calculation per m2.	m2	1.494,00	x 13,66 €	= 20.411,03 €	1	0	x 13,66 €	= 0 €	This position does not exist in WOLFIN system.
7	Purchase and installation of vapour barrier on top of sloping layer on the buildings roofs, as set out in the design. The price includes all the work and material, as described. Calculation per m2.	m2	1.464,00	x 1,55 €	= 2.272,86 €	1	0	x 1,55 €	= 0 €	This position does not exist in WOLFIN system.
8	Installation of horizontal waterproofing on the flat buildings roofs. Surface preparation should be conducted previously. Waterproofing to be installed on clean and flat surface by applying hot bitumen coating or bitumen masses consumed per 1,5 kg/m2, followed by double layer of waterproofed bitumen strip. One strip is lined with aluminium foil, the other with glass fibre fleece. Every strip is d = 4 mm thick. The first layer is put freely over the hot bitumen with hot welded overlapping, the second layer is 100% hot welded to the first one. Horizontal overlapping of min 10-15 cm. Put the waterproofing at least 15cm up the walls. Special attention is attached to connections between horizontal and vertical waterproofing. Calculation as per m2 of the roof basis. The price includes all works and material as per description, including making of the required cover.B136	m2	1.464,00	x 20,18 €	= 29.547,18 €		0	x 20,18 €	= 0 €	See N16
	NOTE:									
	Entire waterproofed overlapping and putting waterproofing up the walls is to be included in the price of works.									
	The price includes preparation with cleaning, dedusting, removal of bubbles, cuts and wrinkles and such on existing insulation.									
9	Installation of waterproof dimpled foil, used as protection of the gym and the building's roof. Calculation as per m2.	m2	1.484,00	x 1,86 €	= 2.764,69 €	1	0	x 1,86 €	= 0 €	This position does not exist in WOLFIN system.
10	Purchase and spreading gravel across the roofs of the buildings and the overhang structure of the gym, as drainage-protective layer thickness d= min 5cm . Calculation per m2 of the roof base.	m2	1.484,00	x 2,59 €	= 3.839,85 €	1	0	x 2,59 €	= 0 €	This position does not exist in WOLFIN system.
11	Purchase and installation of drains on the buildings roofs. The drains should be timely embedded in waterproofing. Calculation as per piece. The price includes all necessary works and material, including installation of the protective grille.	pcs	15,00	x 39,33 €	= 589,95 €	1	0	x 39,33 €	= 0 €	See N17
12	Installation of waterproofing on the eaves. Previous surface preparation should be conducted. Waterproofing to be installed on clean and flat surface by applying hot bitumen coating or bitumen masses consumed per 1,5 kg/m2, followed by double layer of waterproofed bitumen strip. One strip is lined with aluminium foil, the other with glass fibre fleece. Every strip is d = 4 mm thick. The first layer is put freely over the hot bitumen with hot welded overlapping, the second layer is 100% hot welded to the first one. Horizontal overlapping of min 10-15 cm. Put the waterproofing at least 15 cm up the walls. Special attention is attached to connections between horizontal and vertical waterproofing. Calculation as per m2 of the roof basis. Price includes all works and material as per description, including making of the required cove.	m2	11,00	x 20,18 €	= 222,01 €	1	0	x 20,18 €	= 0 €	See N18
13	Use "KROVOPLAST" or similar coating with equal or better technical characteristics to protect waterproofing on the entrance and part of the eaves. The price includes complete work and material, in line with the description. Calculation as per m2 of the eaves base.	m2	30,00	x 1,55 €	= 46,58 €	1	0	x 1,55 €	= 0 €	This position does not exist in WOLFIN system.
N14	Supply of materials and goods for flat roof cornice - parapet wall flashing. The flashing shall be made of galvanized steel sheets, required sheet thickness is 0.6mm with one side covered with Waterproofing material prepared for welding. All works should be done according the Technical drawings which are part of documentation for this tender specification. Also, if the high of eaves is lower than 20 cm, than put EXP boards to increase high up to 20 cm.	m2				1	265,00	x 10,62 €	= 2.814,30 €	

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No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
N15	Purchase and setting up of thermal insulation on the buildings roofs, using extruded polystyrene XPS d = 8 cm, heat transfer coefficient $\lambda_{max} = 0.033 \text{ W / mK}$, boards to be placed above an already lined foil. This position price includes lining of PVC foil d=0,01cm to protect thermal insulation during the processing of a sloping layer. Calculation as per m2 of installed thermal insulation with PVC foil.	m2					1	1.464,00 x 10,67 € =	15.620,88 €	Optional offer in TD: Reduced unit price.
N16	Installation of horizontal waterproofing on the flat buildings roofs. This position with WOLFEN system include applying WOLFEN M, black PVC Thermoplastic waterproofing membrane. WOLFEN M membrane is applying with overlap of 10 cm and is mechanically fixed with Acnhors. Membrane joints has to be welded with hot air gun. All edges and corners has to be fixed with WOLFEN base angles and strips. WOLFEN waterproofing membrane has to be welded to the WOLFEN strips and base angles. Put the waterproofing at least 15cm up the walls. Special attention is attached to connections between horizontal and vertical waterproofing. Calculation as per m2 of the roof basis. The price includes all works and material as per description.	m2					1	1.464,00 x 49,36 € =	72.263,04 €	Optional offer in TD, instead of pos. II.8.
N17	Purchase and installation of drains on the buildings roofs. The drains should be timely embedded in waterproofing. Calculation as per piece. The price includes all necessary works and material, including installation of the protective grille.	pcs					1	15,00 x 57,48 € =	862,20 €	Optional offer in TD, instead of pos. II.11.
N18	Installation of waterproofing on the eaves. This position with WOLFEN system include applying WOLFEN M, black PVC Thermoplastic waterproofing membrane. WOLFEN M membrane is applying with overlap of 10 cm and is mechanically fixed with Acnhors. Membrane joints has to be welded with hot air gun. All edges and corners has to be fixed with WOLFEN base angles and strips. WOLFEN waterproofing membrane has to be welded to the WOLFEN strips and base angles. Put the waterproofing at least 15cm up the walls. Special attention is attached to connections between horizontal and vertical waterproofing. Calculation as per m2 of the roof basis. The price includes all works and material as per description.	m2					1	11,00 x 35,98 € =	395,78 €	Optional offer in TD, instead of pos. II.11.
	NOTE: Waterproofing to be placed over a layer of existing insulation. The price includes surface preparation: cleaning, dedusting, bubbles removal, cuts and folds, etc. from the existing insulation. An alternative technology for flat roof coveri can be offered as a deviation.									
	TOTAL FOR FLAT ROOFS REMEDIATION				92.881,62 €				91.956,20 €	
III	REPLACEMENT OF THE FAÇADE JOINERY									
1	Dismantling of façade joinery and all its elements and mechanisms. Transportation to the town landfill or hand-over to the Employer/Employer's Representative (according to the agreement) for storing. Calculation as per piece of dismantled joinery.									
	*windows									
	dim.260/220cm	pcs	80,00	x 31,50 € =	2.520,00 €		80,00	x 31,50 € =	2.520,00 €	
	dim.260/80cm	pcs	16,00	x 11,55 € =	184,80 €		16,00	x 11,55 € =	184,80 €	
	dim.300/80cm	pcs	4,00	x 13,65 € =	54,60 €		4,00	x 13,65 € =	54,60 €	
	dim80/80cm	pcs	23,00	x 7,35 € =	169,05 €		23,00	x 7,35 € =	169,05 €	
	dim.170/80cm	pcs	8,00	x 10,50 € =	84,00 €		8,00	x 10,50 € =	84,00 €	
	dim.300/310cm	pcs	2,00	x 52,50 € =	105,00 €		2,00	x 52,50 € =	105,00 €	
	dim.400/160cm	pcs	8,00	x 42,00 € =	336,00 €		8,00	x 42,00 € =	336,00 €	
	dim.700/305cm	pcs	1,00	x 115,50 € =	115,50 €		1,00	x 115,50 € =	115,50 €	
	*doors									
	dim.91/220cm	pcs	1,00	x 10,50 € =	10,50 €		1,00	x 10,50 € =	10,50 €	
2	Dismantling of the façade aluminium joinery with all its fittings and mechanisms. Transportation to the town landfill or hand-over to the Employer/Employer's Representative (according to the future agreement) for storing. Calculation as per piece of dismantled joinery.									
	*windows									
	dim.200/320cm	pcs	1,00	x 42,00 € =	42,00 €		1,00	x 42,00 € =	42,00 €	
	dim.260/100cm	pcs	1,00	x 15,75 € =	15,75 €		1,00	x 15,75 € =	15,75 €	
	glass panel with double-leaf doors									
	dim.700/320cm	pcs	2,00	x 126,00 € =	252,00 €		2,00	x 126,00 € =	252,00 €	

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No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
	*doors									
	dim.160/220cm	pcs	1,00	x 21,00 €	= 21,00 €		1,00	x 21,00 €	= 21,00 €	
	dim.140/220cm	pcs	2,00	x 15,75 €	= 31,50 €		2,00	x 15,75 €	= 31,50 €	
3	Production and installation of the facade PVC joinery . The price includes everything from the description:									
	* Production and assembling * 6-chamber PVC profiles, adequate thickness (3,5 mm) reinforced on the inside with galvanized steel U profiles, no thermal bridge * Non-recycled PVC to be used * Heat transfer coefficient $U_{max} = 1,5 \text{ W/m}^2\text{K}$ * Minimal required solar energy transmittance factor for glazed surfaces is $g_{s65\%}$. * Glass double-glazed 4+16+4 mm low emission with argon or some other inert gas between glass panes * Fittings: required set for hanging and closing * Opening - as shown in the drawings annexed * The item should include internal PVC sill (window bench) of required width, * Profile colour: white.									
	Measures to be taken onsite. Calculation per piece of installed joinery fully in line with the description.									
	Note: Depending on the size of the opening, where it is necessary, big windows/doors elements should have additional reinforcement/stiffening of the profiles.									
	Window.									
	Marked in the design as: 1									
	Clear opening 260/220cm	pcs	80,00	x 913,50 €	= 73.080,00 €		80,00	x 913,50 €	= 73.080,00 €	
	Window.									
	Marked in the design as: 2									
	Clear opening 260/80cm	pcs	14,00	x 336,00 €	= 4.704,00 €		14,00	x 336,00 €	= 4.704,00 €	
	Window.									
	Marked in the design as: 2'									
	Clear opening 260/80cm	pcs	2,00	x 336,00 €	= 672,00 €		2,00	x 336,00 €	= 672,00 €	
	Window.									
	Marked in the design as: 3									
	Clear opening 300/80cm	pcs	4,00	x 388,50 €	= 1.554,00 €		4,00	x 388,50 €	= 1.554,00 €	
	Window.									
	Marked in the design as: 4									
	Clear opening 80/80cm	pcs	19,00	x 162,75 €	= 3.092,25 €		19,00	x 162,75 €	= 3.092,25 €	
	Window.									
	Marked in the design as: 4'									
	Clear opening 80/80cm	pcs	4,00	x 162,75 €	= 651,00 €		4,00	x 162,75 €	= 651,00 €	
	Window.									
	Marked in the design as: 5									
	Clear opening 170/80cm	pcs	8,00	x 220,50 €	= 1.764,00 €		8,00	x 220,50 €	= 1.764,00 €	
	Window.									
	Marked in the design as: 6									
	Clear opening 300/225cm	pcs	2,00	x 1.533,00 €	= 3.066,00 €		2,00	x 1.533,00 €	= 3.066,00 €	
	Window.									
	Marked in the design as: 7									
	Clear opening 400/160cm	pcs	8,00	x 1.071,00 €	= 8.568,00 €		8,00	x 1.071,00 €	= 8.568,00 €	
	Window.									
	Marked in the design as: 8									
	Clear opening 240/220cm	pcs	1,00	x 341,25 €	= 341,25 €		1,00	x 341,25 €	= 341,25 €	
	Window.									
	Marked in the design as: 8'									
	Clear opening 240/220cm	pcs	1,00	x 3.528,00 €	= 3.528,00 €		1,00	x 3.528,00 €	= 3.528,00 €	
4	Production and installation of the facade aluminium joinery . The price includes everything from the description:									
	* Production and assembling * Self-closing mechanism * Profiles - aluminium, with thermal break * Infill: double-glass panel 4+16+4 mm, with argon or some other inert gas between the panes, with one glass as low-emission or infill: aluminium sandwich panel with polyurethane as infill * Heat transfer coefficient $U_{max} = 3,0 \text{ W/m}^2\text{K}$ * Solar energy transmittance factor $g_{s65\%}$ * Fittings: required set for hanging and closing * Knob - chrome plated - male * Fit rubber door stoppers on the floor * Opening as shown in the drawings annexed * Profile colour - natural aluminium.									
	Measures to be taken onsite. Calculation per piece of installed joinery, fully in line with the description.									
	Note: Only main entrance door shall be additionally equipped with emergency door handle, hydraulic closing mechanism and door pin stopper. Depending on the size of the opening, where it is necessary, big windows/doors elements should have additional reinforcement/stiffening of the profiles.									
	Doors									

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No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
	Marked in the design as: A									
	Clear opening 700/320cm	pcs	1,00	x 5.292,00 €	= 5.292,00 €		1,00	x 5.292,00 €	= 5.292,00 €	
	Doors									
	Marked in the design as: B									
	Clear opening 700/320cm	pcs	1,00	x 5.292,00 €	= 5.292,00 €		1,00	x 5.292,00 €	= 5.292,00 €	
	Partition wall.									
	Marked in the design as: C									
	Clear opening 200/320cm	pcs	2,00	x 1.585,50 €	= 3.171,00 €		2,00	x 1.585,50 €	= 3.171,00 €	
	Doors									
	Marked in the design as: D									
	Clear opening 160/220cm	pcs	1,00	x 845,25 €	= 845,25 €		1,00	x 845,25 €	= 845,25 €	
	Doors									
	Marked in the design as: E									
	Clear opening 140/220cm	pcs	1,00	x 745,50 €	= 745,50 €		1,00	x 745,50 €	= 745,50 €	
	Doors									
	Marked in the design as: E1									
	Clear opening 140/220cm	pcs	1,00	x 640,50 €	= 640,50 €		1,00	x 640,50 €	= 640,50 €	
	Window.									
	Marked in the design as: F									
	Clear opening 260/100cm	pcs	1,00	x 362,25 €	= 362,25 €		1,00	x 362,25 €	= 362,25 €	
5	Production and fitting of roof window. The price include everything from the description									
	- purchase and fitting of individual roof exit, - dim. 90x90cm, made of aluminium, with aluminium trimming on the windows (with necessary reinforcement) - opening system is ready-installed in the frame of the dome - system for opening consisting of two gas shock absorbers fitted on the side, allowing easy opening and closing of the dome - all gas shock absorbers and stable and firm to offer secure grip of the open dome - include system for dome locking with the key - windows to be installed following manufacturer's instructions.									
	Marked in the design as: KP									
	Clear opening 90/90cm	pcs	1,00	x 194,25 €	= 194,25 €		1,00	x 194,25 €	= 194,25 €	
	TOTAL FOR REPLACEMENT OF FACADE JOINERY				121.504,95 €				121.504,95 €	
IV	NON-EE AND ANCILLARY WORKS ARISING FROM IMPLEMENTATION OF EE MEASURES									
1	Dismantling of metal sheet flashings, drips, horizontal and vertical gutters. Flashings have different developed widths and they are made of galvanized, coloured sheet metal with double interlocking, d=0,68mm. Surfaces should be prepared for installation of new items without any special processing. The price includes all works, materials and debris transportation to the town landfill. Calculation as per m1 of dismantled flashing and its supporters.									
	-attic-wall flashing, developed width d.w.=65 cm.	m1	265,00	x 1,04 €	= 274,28 €		265,00	x 1,04 €	= 274,28 €	
	- drips, developed width d.w.=60cm	m1	92,00	x 1,04 €	= 95,22 €		92,00	x 1,04 €	= 95,22 €	
	- drips, developed width d.w.=40cm	m1	72,00	x 1,04 €	= 74,52 €		72,00	x 1,04 €	= 74,52 €	
	- standing, vertical, perforated welt with supporters, developed width d.w.=65cm	m1	46,00	x 1,04 €	= 47,61 €		46,00	x 1,04 €	= 47,61 €	
	-horizontal gutters, developed width d.w.=65cm. Note: The price includes dismantling of the connections between horizontal and vertical gutters.	m1	55,00	x 1,04 €	= 56,93 €		55,00	x 1,04 €	= 56,93 €	
	-vertical gutters, dim.12x12cm	m1	185,00	x 1,04 €	= 191,48 €		185,00	x 1,04 €	= 191,48 €	
	-window sill trimming, developed width 41-50cm	m1	231,44	x 1,04 €	= 239,54 €		231,44	x 1,04 €	= 239,54 €	
2	Repair of jamb damages, width up to d=50cm, caused by dismantling the joinery. Surfaces should be treated with cement mortar 1:3, to prepare the item for installing a new joinery with blind frame. The price includes all works and materials, including skimming and painting, to bring the jambs in previous condition. Calculation as per m2 of the treated damages.	m2	616,40	x 8,80 €	= 5.422,78 €		616,40	x 8,80 €	= 5.422,78 €	
3	Dismantling and re-installation of external air-conditioning units. Dismantled units should be registered and given to the Employer/Employer's Representative for storing. After completion of works on a new facade, these units will be reinstalled on the facility. Note: For re-installation of AC units, consider possible mounting of new metal support brackets and small extension of electric and freon lines due to position of external AC units.									
	Calculation as per piece	pcs	1,00	x 60,03 €	= 60,03 €		1,00	x 60,03 €	= 60,03 €	

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No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
4	Dismantling and remantling of national emblem of Republic of Montenegro - 1 piece, facade lights and reflectors from the facade - 7 pieces. Dismantled equipment needs to be recorded and handed over to the Employer/ Employer's Representative for storing, to be remantled on the building once construction of new facade is complete.									
	Calculation as per lump sum	lump sum	1,00	x 155,25 € =	155,25 €		1,00	x 155,25 € =	155,25 €	
5	Production and installation of the roof cornice flashings - attic from galvanized, coloured metal sheet d=0.68mm, colour to be selected by the Employer /Employer's representative. The item includes surface preparation and binding to be carried out in line with standards. The entire process should be carried out in line with the design, and sample selected by the Employer /Employer's representative. Calculation as per m1 of the treated flashing and entire binding and joining material. Developed width d.w.=65cm	m1	265,00	x 15,11 € =	4.004,42 €		265,00	x 15,11 € =	4.004,42 €	
6	Production and installation of standing perforated interlocking ready-painted galvanized sheet metal d=0.55mm, together with oblique supporters, in colour as selected by the Employer /Employer's representative. Developed width d.w.=60cm. The item includes base preparation and joining fully in line with standards. Installation is in line with the design, sample approved by the Employer /Employer's representative. Calculation per m1 of fitted drip, complete with bonding and joining material, and tightening with permanently elastic filler.	m1	65,00	x 15,11 € =	982,22 €		65,00	x 15,11 € =	982,22 €	
7	Production and installation of drips (sills) made of galvanized, coloured sheet metal, d=0,68 mm, colour to be selected by the Employer /Employer's representative. Developed width d.w.=40cm. The item includes surface preparation and binding to be carried out in line with standards. The entire process should be carried out in line with the design, and sample selected by the Employer /Employer's representative. Calculation as per m1 of the installed drip and entire binding and joining material, including conducting of the tightness by using permanently elastic filler.	m1	65,00	x 15,11 € =	982,22 €		65,00	x 15,11 € =	982,22 €	
8	Production and installation of drips (sills) - fillets made of galvanized, coloured sheet metal, d=0,68 mm, colour to be selected by the Employer /Employer's representative. Developed width d.w.=25cm. The item includes surface preparation and binding to be carried out in line with standards. The entire process should be carried out in line with the design, and sample selected by the Employer /Employer's representative. Calculation as per m1 of the installed drip and entire binding and joining material, including conducting of the tightness by using permanently elastic filler.	m1	36,00	x 13,04 € =	469,48 €		36,00	x 13,04 € =	469,48 €	
9	Production and installation of horizontal, laying gutters made of galvanized, ready coloured sheet metal, thickness d=0,68mm, colour to be selected by the Employer /Employer's representative. Developed width 80cm. The item includes surface preparation and binding to be carried out by standards. Calculation as per m1 of the installed gutter and entire binding and joining material.	m1	68,00	x 15,11 € =	1.027,55 €		68,00	x 15,11 € =	1.027,55 €	
10	Production and installation of the vertical gutters of 120/120mm square section, made of ready-made galvanized and plastic coated sheet, colour will be selected by the Employer /Employer's representative. Gutters should be installed with all required anchors and clips, with the necessary binding and joining material. Calculation as per m1 of the installed gutter, including a collecting cistern at the joint between horizontal and vertical gutters and entire binding and joining material.	m1	185,00	x 15,11 € =	2.795,54 €		185,00	x 15,11 € =	2.795,54 €	
11	Production and installation of the external window parapet sills, made of ready made plastic-laminated galvanized steel metal sheets=0.7mm, colour will be selected by the Employer /Employer's representative. Developed width up to 50cm. The item includes surface preparation and complete binding following the regulations. Undertake the entire procedure in compliance with the design and sample selected by the Employer /Employer's representative.	m1	346,00	x 15,11 € =	5.228,41 €		346,00	x 15,11 € =	5.228,41 €	
12	Dismantling and reinstallation of protective steel bars on gym windows, with previous cleaning, scraping and painting with protective paint. The price includes all the work, material and fastening elements. Calculation per piece of treated and fitted protective structure.									
	dim.400/165cm	pcs	8,00	x 65,52 € =	524,12 €	4	0	x 65,52 € =	0	See N17.

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No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
13	Dismantling of metal fence with all its fittings from the balcony. Transportation to the town landfill or hand-over to the Employer/Employer's Representative for storing.									
	Calculated per m1	m1	28,70	x 5,18 € =	148,52 €		28,70	x 5,18 € =	148,52 €	
14	Removal and closing of all brick chimneys to roof level (except the one that goes from the boiler room) on the flat roofs to be ready for installation of new roof cover. Closing of the inspection doors at lower end of the dismantled chimneys with bricks and mortar, preparation of surface for painting.									
	Calculated as per piece	pcs	8,00	x 41,40 € =	331,20 €		8,00	x 41,40 € =	331,20 €	
TOTAL FOR NON-EE AND ANCILLARY WORKS ARISING FROM IMPLEMENTATION OF EE MEASURES					23.111,28 €				22.587,16 €	
V MEASURES TO ENABLE HIGHER COMFORT AND BETTER WORKING CONDITIONS										
1	Removal of the existing, ceramic floor tiles with screed (tiles laid over terrazzo) in sanitary facilities, removal and loading onto a truck with their transportation to a location up to 5 km distance, with all their sub-layers until reaching existing waterproofing. Calculation as per m2 of the floor area.	m2	16,50	x 3,62 € =	59,77 €		16,50	x 3,62 € =	59,77 €	
2	Removal of existing floor coating made of terrazzo with screed in sanitary facilities, removal and loading onto a truck and its transportation to a location at up to 5 km distance, with all sub-layers until reaching existing layer of waterproofing. Calculation as per m2 of the floor area.	m2	77,20	x 3,62 € =	279,66 €		77,20	x 3,62 € =	279,66 €	
	Removal of the existing ceramic wall tiles with undercoat layer from the walls in sanitary facilities. Taking out, loading and transport to a location up to 5km distance. The price includes possible usage of the scaffold. Calculation as per m2 of the floor area.	m2	22,00	x 3,62 € =	79,70 €		22,00	x 3,62 € =	79,70 €	
3	Removal of the existing rotten mortar from the walls, removal of debris, loading onto a truck and its transportation to a location at up to 5 km distance, using scaffold. Calculation as per m2 of remove mortar.	m2	50,00	x 3,11 € =	155,25 €		50,00	x 3,11 € =	155,25 €	
4	Demolition of RC flume d=5cm in sanitary facilities of the gym, removal and loading of the debris onto a truck and its transportation to a landfill up to 5 km distance. Calculation per m2.	m2	50,00	x 3,11 € =	155,25 €		50,00	x 3,11 € =	155,25 €	
5	Scraping of the old paint from the inside ceiling and walls in sanitary facilities, removal and loading of the debris onto a truck, and its transportation to a landfill up to 5 km distance. This item includes all required pre-works for new painting and using of the scaffolding. Calculation as per m2 of the scraped painted area.	m2	255,00	x 0,31 € =	79,18 €		255,00	x 0,31 € =	79,18 €	
6	Scraping of oil-based paint off the walls in sanitary facilities, removal and loading of the debris onto a truck and its transportation to a landfill up to 5 km distance. This item include all pre-work for installation of wall ceramic tiles, and usage of scaffold. Calculation as per m2 of scraped painted area.	m2	343,20	x 1,45 € =	497,30 €		343,20	x 1,45 € =	497,30 €	
7	Dismantling of the inside, single wing, double layer plywood door. The price needs to include transportation to a landfill up to 5 km distance. Undamaged door should be registered and given to the Employer/Employer's Representative. Calculation as per piece.									
	- dim. 70/210cm	pcs	8,00	x 10,35 € =	82,80 €		8,00	x 10,35 € =	82,80 €	
	- dim. 80/210cm	pcs	30,00	x 10,35 € =	310,50 €		30,00	x 10,35 € =	310,50 €	
	- dim. 180/210cm	pcs	2,00	x 10,35 € =	20,70 €		2,00	x 10,35 € =	20,70 €	
8	Making of the scrimmed cement screed for a sloping layer in the toilets. The price includes installation of the mesh (1kg/m2) with and overlap 5cm (1,08 m2/m2). Floated coat is used as finishing layer. Screed thickness is d = 4 cm. Calculation as per m2 of the treated surface, including all work and material.	m2	111,10	x 9,83 € =	1.092,39 €		111,10	x 9,83 € =	1.092,39 €	
9	Setting up of horizontal waterproofing in the toilets, on different floors, in the following layers (from the bottom up): - bitulit + poliasbestos + glass mesh - poliasbestos + glass mesh - poliasbestos									
	Note: Entire waterproofing overlapping and putting the waterproofing up the walls to be included in the price of works.	m2	111,10	x 21,74 € =	2.414,76 €		111,10	x 21,74 € =	2.414,76 €	
10	Plastering of internal toilet walls with cement mortar 1:3 in two layers with the previous spraying of cement slurry to prepare the wall for ceramic tiles. Calculation is based on a m2 of the plastered wall, without the openings. The price includes all necessary works, materials with battens, transportation and scaffolding.	m2	50,00	x 8,07 € =	403,65 €		50,00	x 8,07 € =	403,65 €	

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No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
11	Tiling the toilet walls with the class I ceramic tiles, while the size, paint and tone of the tiles will be selected by the Employer /Employer's representative and approved sample by the Employer/Employer's Representative.									
	Line the tiles in layer of adhesive, placing them "joint to joint", by pointing the joints using pointing plaster.									
	Ceramic tiles to be placed up to the height of 2.20m.									
	Coating of the jambs and niches is included in the position price and it won't be calculated separately.									
	Calculation per m2 of the treated surface.	m2	343,20	x 22,25 € =	7.637,06 €		343,20	x 22,25 € =	7.637,06 €	
12	Tiling floor in the toilets and other premises with the class I anti-slip tiles. The size, colour and tone of the tiles will be selected by the Employer /Employer's representative and approved sample by the Employer/Employer's Representative.									
	Line the tiles in the waterproof adhesive layer "joint to joint", by using pointing plaster.									
	In the toilets where there is a grate in the floor, sloping toward the grate is at least 1% (regulate the sloping with the cement screed thickness).									
	Calculation per m2 of the treated surface.	m2	111,10	x 22,25 € =	2.472,25 €		111,10	x 22,25 € =	2.472,25 €	
13	Polishing and painting of the internal walls in toilets. Employer /Employer's representative will select the tone of semi dispersed distemper. Repeat the polishing until a completely flat surface is achieved, and apply layers of paint until reaching an even tone. This item includes scraping, plastering, neutralization, impregnating, pre-painting, and correction with the toned dispersive filler or pointing plaster. Final painting should be done twice. Calculation per m2, including all material, work and required scaffolding.									
	Calculation per m2 of the treated surface.	m2	255,00	x 4,35 € =	1.108,49 €		255,00	x 4,35 € =	1.108,49 €	
14	Polishing and painting of the ceilings in sanitary facilities. Employer /Employer's representative will select the tone of semi dispersed distemper. This item includes scraping, plastering, neutralization, impregnating, pre-painting, and correction with the toned dispersive filler or pointing plaster. Final painting should be done in double layer. Calculation as per m2, including all material, work and required scaffolding.									
	Calculation per m2 of the treated surface.	m2	111,10	x 4,35 € =	482,95 €		111,10	x 4,35 € =	482,95 €	
15	Production and installation of the interior PVC joinery. The price includes everything from the description:									
	- Production and assembling - 6-chamber PVC profiles reinforced on the inside with galvanized steel U profiles, no thermal bridge - Non-recycled PVC to be used - Heat transfer coefficient U _{max} = 1,5 W/m ² ·K - Infill: aluminium sandwich panel with infill made of polyurethane - Fittings: required set for hanging and closing - Mechanism for self-closing - Knob – chrome plated - mat - Rubber door stoppers to be installed on the floor - Opening as show in the diagram - Profile colour – white.									
	Measures to be taken onsite. Calculation per piece of installed joinery fully in line with the description.									
	Doors									
	Clear opening dim.69/210cm									
	Marked in the drawings as 1	pcs	8,00	x 357,08 € =	2.856,60 €		8,00	x 357,08 € =	2.856,60 €	
	Doors									
	Clear opening dim.79/210cm									
	Marked in the drawings as 2	pcs	16,00	x 222,53 € =	3.560,40 €		16,00	x 222,53 € =	3.560,40 €	
	Doors									
	Clear opening dim.79/210cm									
	Marked in the drawings as 3	pcs	14,00	x 222,53 € =	3.115,35 €		14,00	x 222,53 € =	3.115,35 €	
	Doors									
	Clear opening dim.180/210cm									
	Marked in the drawings as 4	pcs	2,00	x 243,23 € =	486,45 €		2,00	x 243,23 € =	486,45 €	
16	Purchase, delivery of the necessary material for repairing of the straw-based ceiling in the gym building. After completion of repairing work patched area shall be flattened and painted in line with rest of the ceiling. The price includes all required material, transport, scaffolding and work.									
	Calculation per m2,	m2	3,00	x 25,88 € =	77,63 €		3,00	x 25,88 € =	77,63 €	
17	Proper fixture of the existing climbing poles in the gym hall. The price includes work and necessary material.									
	Calculation per m2,	lump sum	1,00	x 51,75 € =	51,75 €		1,00	x 51,75 € =	51,75 €	

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No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
18	Scraping of the old paint from the walls in the corridors and classrooms, removal and loading of the debris onto a truck and its transportation to a landfill up to 5 km distance. The item includes all pre-works for new painting, and usage of scaffold. Calculation as per m2 of scraped painted area.	m2	6.144,27	x 0,31 € =	1.907,80 €	3	1.143,30	x 0,31 € =	354,99 €	Facade walls, bricked up areas and sanitary areas only (communication 01/08/2014).
19	Polishing of internal walls. Skimming should be applied in required number of layers until completely flat surface is achieved. This item includes scraping, plastering, neutralization, impregnating. Calculation as per m2, including all material, work and required scaffolding.	m2	6.144,27	x 2,38 € =	14.626,43 €	3	1.143,30	x 2,38 € =	2.721,63 €	Facade walls, bricked up areas and sanitary areas only (communication 01/08/2014).
20	Painting of internal walls. Employer / Employer's representative will select the colour of semi dispersed distemper. Painting shall be done in the classrooms and corridors of the school building-ceilings and the walls in the area between 1,5 m level and the ceiling level, in the gym- from the 2,20 m level up to the ceiling level. This item includes pre-painting, and correction with the toned dispersive filler or pointing plaster. Final layer of paint should be applied twice									
	Calculation as per m2, including all material, work and required scaffolding.	m2	4118,07	x 1,66 € =	6.819,52 €	3	565,7	x 1,66 € =	936,80 €	Facade walls, bricked up areas and sanitary areas only (communication 01/08/2014).
21	Painting of internal walls with oil based paint. Employer / Employer's representative will select the colour of greasy paint. Painting shall be done in the classrooms and corridors of the school building-the walls in the area beneath 1,5 m level, in the gym- beneath 2,20 m level. This item includes pre-painting, and correction with the toned dispersive filler or pointing plaster. Final layer of paint should be applied twice.									
	Painting of visible pipes, instalations in bright child friendly colors (red, blue, yellow, green) and painting of hydrant and switch boxes determined by Employer / Employer's representative.									
	Calculation as per m2, including all material, work and required scaffolding.	m2	2.026,20	x 3,36 € =	6.815,63 €	3	577,60	x 3,36 € =	1.942,90 €	Facade walls and bricked up areas only (communication 01/08/2014).
22	Supply and installation in existing wooden fanlight frame of a manual operated glass louver unit with metal structure elements; including removal of existing fixed glazing, all fastening material and making good of the adjacent frame by skimming/smoothing and oil coating. Operating lever to be placed in the lower part, for easy handling; size: approx. 90 cm wide and 1.0 m high; transparent float glass 4 mm thick.									
	Calculated as per piece	pcs	16,00	x 257,51 € =	4.120,13 €	3	0	x 257,51 € =		Excluded by Client (communication 01/08/2014)
23	Existing concrete pavements around the building, for facade protection against the storm water, shall be repaired, where necessary. Existing cracks/ holes shall be filled with MB 20 and properly smoothed and sloped. Width of repaired pavement shall be the same as the width of the existing one. This item also includes two concrete strips on the access road.									
	Calculation per m2.	m2	70,00	x 13,97 € =	978,08 €		70,00	x 13,97 € =	978,08 €	
	GENERAL NOTE: If certain internal hindering items have be removed, they have to be re-installed or replaced by new ones and these costs shall be included in the respective line items (e.g. curtain rails, sports wall equipment in sport halls, etc.).									
TOTAL FOR MEASURES TO ENABLE HIGHER COMFORT AND BETTER WORKING CONDITIONS					62.747,41 €				34.414,22 €	
VI	LIST OF SPARE PARTS									
1	Purchase and delivery of the spare window handles.									
	Calculated as per piece	pcs	3,00	x 7,25 € =	21,74 €		3,00	x 7,25 € =	21,74 €	
2	Purchase and delivery of the spare internal door handles.									
	Calculated as per piece	pcs	1,00	x 20,18 € =	20,18 €		1,00	x 20,18 € =	20,18 €	
3	Purchase and delivery mounted door rubber stopper.									
	Calculated as per piece	pcs	2,00	x 5,18 € =	10,35 €		2,00	x 5,18 € =	10,35 €	
4	Purchase and delivery of push bar mechanism to the floor, to keep external doors open.									
	Calculated as per piece	pcs	2,00	x 31,05 € =	62,10 €		2,00	x 31,05 € =	62,10 €	
5	Purchase and delivery of rope operated opening mechanism for the windows at high .									
	Calculated as per piece	pcs	2,00	x 6,21 € =	12,42 €		2,00	x 6,21 € =	12,42 €	
TOTAL FOR SPARE PARTS					126,79 €				126,79 €	
	NOTE Spare parts shall be submitted to school representatives in the presence of Employer / Employer's representative, followed up by signing hand over document.									

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No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
SUMMARY OF COSTS I-VI										
I	THERMAL INSULATION OF FACADE WALLS				61.919,75 €				61.919,75 €	
II	REMEDICATION OF FLAT ROOFS				92.881,62 €				91.956,20 €	
III	REPLACEMENT OF FAÇADE JOINERY				121.504,95 €				121.504,95 €	
IV	NON-EE AND ANCILLARY WORKS ARISING FROM IMPLEMENTATION OF EE MEASURES				23.111,28 €				22.587,16 €	
V	MEASURES TO ENABLE HIGHER COMFORT AND BETTER WORKING CONDITIONS				62.747,41 €				34.414,22 €	
VI	SPARE PARTS				126,79 €				126,79 €	
	TOTAL PRICE, VAT EXCLUDED:				362.291,80 €				332.509,06 €	
	TOTAL PRICE WITH 3% DISCOUNT				351.423,04 €				322.533,79 €	
	VAT (19 %):				66.770,38 €				61.281,42 €	
I-VI	TOTAL PRICE (WITH DISCOUNT), VAT INCLUDED:				418.193,42 €				383.815,21 €	
VII	ADDITIONAL WORKS									
N15	Purchase of material and plastering of existing walls behind radiators (they have never been plastered before). Price: BR-ARH-ToQ- V10- 8.07€/m2- order from FI and minutes of meeting 2.16	m2	4	60,00 x 8,07 € =	484,20 €					OFV 01, approved by Client on 23/09/2014.
N16	Purchase of material and installation of monolith suspended ceiling using plasterboards type "Rigips" or equivalent/better quality RB 12.5mm on standard metal substructure CD/UD in the rooms marked on the drawings. The price includes jointing with bandage tapes, flattening with putty and skimming, substructure and hanging kit. The price includes usage of light mobile scaffold. The existing damaged ceiling in the toilet cabins on the ground floor is made from cane mortar. In the quantity is included 2.2m of plaster cardboard mask for sewer pipe in the gyms toilet to enable door installation. Price taken from Milija Nikcevic ARH BoQ A1-12	m2	4	23,72 x 18,32 € =	434,55 €					OFV 01, approved by Client on 23/09/2014.
N17	Purchase of material and installation of protective exterior bars for gym windows. Protection is made of metal L profiles and metal mesh as infill. All bars should be painted with anticorrosive paint and with final paint for metal. Dimension of protective bars are 390x170cm. Price analysis: material L profiles and grif mesh, paint, material for conection- 187.52€, transport to the site 25€, assembling painting and installation 176€, profit 10%- 64.46€/m2 order from FI and minutes of meeting 2.25	pcs	4	5,00 x 427,37 € =	2.136,85 €					OFV 01, approved by Client on 31/10/2014
N18	Production and installation of meshes manufactured from ropes. Meshes shall be attached on ceilings/ walls over the windows in the gym as a glass protection. Dimension of mesh, both sides included 35x2.5m= 90m2. Price analysis: material-rope and anchors 200€, transport to the site 35€, knitting mesh 190€, installation with scaffolding 85€, profit 10%- 6.23€/m2 order from FI and minutes of meeting 2.25	pcs	4	1,00 x 561,00 € =	561,00 €					OFV 01, approved by Client on 31/10/2014
N19	Supply of material, assembling and installation of balcony door dimensions 90x220cm, door is made of PVC Trocal profiles (6 chambers), lower side with panel infill and upper with glass. Hinges, handles, lock with three keys and door stoper are included in price. Price taken from JK ARH BoQ A3-2-20 288.75€ + 7€ because this door is bigger. Deduction of bricking 0.9x2.2m= 1.98m2 x 39.95€= 79.1€. In total 216.65€. order from FI and minutes of meeting 2.19	pcs	4	1,00 x 216,65 € =	216,65 €					OFV 01, approved by Client on 23/09/2014.
N20	Dismantling of wall and floor ceramic tiles (from finished walls and floors in two cabins, loading and transport to the town landfill) Price: BR-ARH-ToQ- V1-V2- 3.62€/m2-	m2	4	3,50 x 3,62 € =	12,67 €					OFV 11, approved by Client on 23/09/2014.
N21	Purchase of material and installation of monolith suspended ceiling using plasterboards type "Rigips" or equivalent/better quality RB 12.5mm on standard metal substructure CD/UD in the rooms marked on the drawings. The price includes jointing with bandage tapes, flattening with putty and skimming, substructure and hanging kit. The price includes usage of light mobile scaffold. The existing damaged ceiling in main hall on the ground floor is made from cane mortar, and after installation of aluminium entrance joinery it is very unstable and movable. Price taken from Milija Nikcevic ARH BoQ A1-12+ 1€/m2 mineral wool d=5cm	m2	4	16,00 x 19,32 € =	309,12 €					OFV 11, approved by Client on 23/09/2014.
N22	Instalation of new water and sewage pipes with all necessary fittings and valves for new hand wash and bowl for handicapped people with all necessary drilling in the concrete slub, making channels for pipes, and after installation repairation of concrete slub, installation of new waterproof layer and screed. Material, fittings valves 130€, transport 35€, 3 plumbers 10h- 126€, 2 unskilled laborers 10h 60€, profit 10%- price from A11 fast rack- Vlado Milic	pcs	4	1,00 x 385,00 € =	385,00 €					OFV 11, approved by Client on 23/09/2014.

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No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
N23	Purchase and mounting of complete ceramic bowl, for handicapped people, with flush ceramic bowl with special seat 285e, flush 52e, delivery 10e, plumber 16.8, profit 10%-price from A11 fast track- Vlado Milic	pcs					4	1,00 x 400,00 € =	400,00 €	OFV 11, approved by Client on 23/09/2014.
N24	Purchase and mounting of complete ceramic lavatory set, with its supports, chrome plated single-lever basin mixer (hot and cold), chrome plated trap, towel holder, mirror for handicapped people Hand wash- 121e, chrome mixer 35e, plated trap 22e, mirror 50e, towel holder 10e, delivery 10e, plumber 15.3e, profit 10%	pcs					4	1,00 x 290,00 € =	290,00 €	OFV 11, approved by Client on 23/09/2014.
N25	Purchase and installation of white film foil for the lower window. Price from offer no.10 for Marsal Tito 16.39e/m2	m2					4	1,50 x 16,39 € =	24,59 €	OFV 11, approved by Client on 23/09/2014.
N26	Purchase and mounting of two holders for handicapped people- material 135e, transport 10e, plumber 4.2e, profit 10%	pcs					4	3,00 x 165,00 € =	495,00 €	OFV 11, approved by Client on 23/09/2014.
N27	Purchase of the material and installation of the metal ramp for handicapped people in school entrance. Ramp is constructed by metal boxes 30x30x3mm, fixed for concrete pavement on the back entrance, with metal sheet d=4mm on top, all metal elements are painted with anticorrosive and final layer of paint for metal. Material 190e, transport 25e, assembling and installation 180e, profit 10%	pcs					4	1,00 x 434,50 € =	434,50 €	OFV 11, approved by Client on 23/09/2014.
N28	Purchase and installation of metal hand rails for handicapped people which are installed on the ramp. Rails are made from metal boxes fi 30x3mm, according to the low regulatives for handicapped people, all metal elements are painted with anticorrosive and final layer of paint for metal. Material 70e, transport,assembling and installation 65e, profit 10%	pcs					4	2,00 x 148,50 € =	297,00 €	OFV 11, approved by Client on 23/09/2014.
N29	Purchase and mounting of cisterns (transfer from horizontal to vertical gutters) made of galvanised sheet metal d=0,70mm. Price taken from fast track Njegos ARH BoQ AI 10 - 35e/piece	pcs					4	19,00 x 35,00 € =	665,00 €	OFV 13, approved by Client on 23/09/2014.
N6	Supply of materials and installation of white pvc foil on windows of the ground and first floor pos4 8pieces and pos5 2 pieces- total area 7.84m2. Matterial 12.5e, installation 2.4e profit 10%	m2					5	7,84 x 16,39 € =	128,50 €	OFV 19, approved by Client on 31/10/2014.
N7	Supply and installation of self closing mechanism GU - BKS with the stoper inside-difference in price is 45e per piece (old self closing mechanism + door stoper= 78.5e- Mileva Lajovic ARH BoQ II-3 new price 123.5e)	m2					5	2,00 x 45,00 € =	90,00 €	OFV 19, approved by Client on 31/10/2014.
N30	Purchase of the material and installation of floor metal grille in the entrance of the boiler house. Grille is made from L profiles and metal bars, painted with protective and final layer of paint for metal. Dimensions 220x65cm:Material 105e,transport 20e assembling and installation 85e, profit 10%	piece					5	1,00 x 231,00 € =	231,00 €	OFV 31, approved by Client on 31/10/2014.
N31	Purchase of the material and installation of cement screed in the boiler housed=5-6cm, with reinforcement- metal mesh; Price Braca Ribar BoQ ARH V 8- 9.83e/m2+ because of inaccessible locationn in the basement everything have to be done manually +3e/m2	m2					5	34,00 x 12,83 € =	436,22 €	OFV 31, approved by Client on 31/10/2014.
N32	Digging and drilling in the floor concrete slab of the boiler house and making concrete collecting channels - ditches 30cm width: material and installation 12.5e	m1					5	20,00 x 12,50 € =	250,00 €	OFV 31, approved by Client on 31/10/2014.
SUMMARY OF COSTS VII										
TOTAL PRICE, VAT EXCLUDED:									8.281,84 €	
VAT (19%):									1.573,55 €	
VII TOTAL PRICE (WITHOUT DISCOUNT), VAT INCLUDED:									9.855,39 €	
SUMMARY OF COSTS I-VII										
I-VII TOTAL PRICE, VAT INCLUDED:									393.670,60 €	

GROUP A5.4.2		Investor:		Ministry of Economy of Montenegro, Energy Efficiency Sector									
TABLE OF QUANTITIES		Project financed by:		KIW ENTWICKLUNGSBANK									
of thermal-technical (heating) services for energy efficiency improvement in "Braća Ribar" Primary School in Nikšić		Consultant/ Konsultant:		FICHTNER GmbH&Co. KG									
		Sub-Consul/ Lokalni projekt:		KOPRING PMC, Podgorica									
		School/ Objekat:		P.S "Braća Ribar", Nikšić									
		Doc. origin/ Dokumentacija:		Final Heating Design									
		Date:		16 November 2013									
No.	Item Description	Unit of measure	CONTRACT			VO	AMENDMENT 1			COMMENTS			
			Quantity	Unit price (€)	Amount (€)		Quantity	Unit price (€)	Amount (€)				
A - Measure No. 1: Energy management													
1	Purchase, supply and installation of ultrasonic heat gauge and cable from computer unit to heat gauge of 1.5m, for mounting into return piping line. The gauge is battery powered. Together with gauge a pair of temperature sensors Pt500 is delivered, one sensor mounted directly into flow gauge body, M-Bus module, brass bushing for sensors mounting, and set threaded unions.												
	Manufacturer: Siemens or equivalent												
	Type: "UH50 Ultraheat"												
	Nominal flow: 10 m ³ /h												
	Connector: 2"												
		pcs	1	x	1.240,80 €	=	1.240,80 €		1	x	1.240,80 €	=	1.240,80 €
2	Purchase, supply and installation of electronic flow gauge for light fuel oil.												
	Manufacturer: Aqua metro or equivalent												
	Type: VZO 4 RE												
	Nominal flow: 50 l/h												
	Minimum flow: 1 l/h												
		pcs	2	x	576,84 €	=	1.153,68 €		2	x	576,84 €	=	1.153,68 €
3	Purchase, supply and installation of control unit with M-Bus communication and display.												
	Manufacturer: Siemens or equivalent												
	Type: "Climatix POL638"												
		pcs	1	x	2.830,08 €	=	2.830,08 €	3	0	x	2.830,08 €	=	0 Excluded (communication 01/08/2014).
4	Software development and staff training.												
		pcs	1	x	792,00 €	=	792,00 €	3	0	x	792,00 €	=	0 Excluded (communication 01/08/2014).
TOTAL A - ENERGY MANAGEMENT													
							6.016,56 €					2.394,48 €	
B - Measure No. 7: Installation of central heating system													
B.I Boiler room elements and fittings													
1	Purchase, delivery and installation of the duplex circulating pump with electronic frequency controller used to supply the radiator heating with the ability to control pressure on the thrust, proportionally and constantly, having the following characteristics:												
	Manufacturer: Grundfos or equivalent												
	Type: Magna3 D 40-80 F												
	Flow: 3,3 m ³ /h												
	Stress: 3 m												
	Type of connection: Flanged DN40												
	Power supply: V=1x230V-												
	Maximum current: I=1,21A												
	Transferred power: P=17 - 0,269kW												
	Pumps are delivered and installed jointly with the counter flanges, connecting and sealing material.												
		pcs	1	x	1.891,56 €	=	1.891,56 €		1	x	1.891,56 €	=	1.891,56 €
2	Purchase, delivery and installation of three-stage circulating pump with fixed number of runs for heating in the gym with hot water calorifiers and radiators, rotor made of composite materials and casing made of cast iron, liquid temperature up to 110°C, following properties:												
	Manufacturer: Grundfos or equivalent												
	Type: UPS 32-100 N 180												
	Flow: 3,7 m ³ /h												
	Stress: 5,4 m												
	Type of connection: flanged DN40												
	Power supply: V=1x230V-												
	Maximum current: I = 1,52A												
	Transferred power: P = 280 /340 / 345W												
		pcs	1	x	475,20 €	=	475,20 €		1	x	475,20 €	=	475,20 €
3	Purchase, delivery and installation of flanged back-flow preventers with mating flanges, screws and nuts, gaskets PN6 connection size:												
	DN40 PN6												
		pcs	2	x	86,86 €	=	173,71 €		2	x	86,86 €	=	173,71 €
4	Purchase, delivery and installation of threaded ball valves with mating flanges, screws and nuts, gaskets PN6 connection size DN40:												
		pcs	2	x	63,70 €	=	127,39 €		2	x	63,70 €	=	127,39 €
5	Purchase, delivery and assemblage of air-release vessels with overflow pipe and valve DN 15, made of black steel pipe, DN100 length 350 mm.												
		pcs	4	x	53,86 €	=	215,42 €		4	x	53,86 €	=	215,42 €

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No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
6	Purchase of material and insulation of non-insulated equipment in the boiler room by using 50 mm thick mineral wool, with 0.5mm thick aluminium sheet coating, a set with the installation material. Flammability class A1 in compliance with SIST EN 13501-1 and JUS U.J.1.050. Price is based on a m2 of the insulation measured from the external side of pipes.	m2	15	x 33,00 €	= 495,00 €		15	x 33,00 €	= 495,00 €	
TOTAL B.I - Boiler room elements and fittings					3.378,29 €				3.378,29 €	
B.II Installation of radiator heating system, piping and fittings										
1	Purchase, delivery and installation of cast ribbed radiators, following properties: Manufacturer: Termik Zrenjanin or equivalent Mark: 580/4 No. of channels: four-channeled rib Height: 580mm Rib width: 110mm Axis separation: 500mm Rib length: 60mm Heating surface: 0,188m2 Water capacity: 0,800lit Rib weight: 4,9kg Thermal power per rib at 90/70°C: 99W	pcs	1166	x 11,69 €	= 13.628,21 €		1166	x 11,69 €	= 13.628,21 €	
2	Purchase, delivery and installation of cast ribbed radiators, following properties: Manufacturer: Termik Zrenjanin or equivalent Mark: 580/4 No. of channels: four-channeled rib Height: 580mm Rib width: 160mm Axis separation: 500mm Rib length: 60mm Heating surface: 0,268m2 Water capacity: 1,020lit Rib weight: 6,28kg Thermal power per rib at 90/70°C: 139,1W	pcs	22	x 14,26 €	= 313,63 €		22	x 14,26 €	= 313,63 €	
3	Purchase, delivery and installation of thermostatic valve 1/2"	pcs	78	x 14,42 €	= 1.125,07 €		78	x 14,42 €	= 1.125,07 €	
4	Purchase, delivery and installation of thermostatic head for installation in buildings that accommodate many people, with flexural strength of the thermostatic head min. 1000 N (anti-theft). Continuous setting of temperature is done using special key without having to remove protective cap. The thermostat has liquid sensor. Manufacturer: Heimeier or equivalent Type: B Temperature range from 8 °C to 26 °C Closing time 24 min.	pcs	78	x 17,42 €	= 1.359,07 €		78	x 17,42 €	= 1.359,07 €	
5	Purchase, delivery and installation of angle valves, size 1/2".	pcs	78	x 11,22 €	= 875,16 €		78	x 11,22 €	= 875,16 €	
6	Purchase, delivery and installation of radiator cap, size 5/4".	pcs		x 1,58 €	= 247,10 €			x 1,58 €	= 247,10 €	
	Elements for reduction of pipes diameter 5/4" to 1/2".	pcs	156	x 1,58 €	= 247,10 €		156	x 1,58 €	= 247,10 €	
7	Purchase, delivery and mounting of filling and draining valve, connection size from 1/2"	pcs	10	x 5,50 €	= 54,96 €		10	x 5,50 €	= 54,96 €	
8	Purchase, delivery and installation of radiator lockshield valve with air-release valve tailpiece 1", maximal working temperature 100°C, maximal working pressure 10 bar, maximal gas release pressure 6bar, EPDM rubber seal, with safety hygroscopic valve and protective casing.	pcs	1	x 26,40 €	= 26,40 €		1	x 26,40 €	= 26,40 €	
9	Purchase, delivery and installation of brackets for heat emitters (set).	pcs	78	x 7,92 €	= 617,76 €		78	x 7,92 €	= 617,76 €	
10	Purchase, delivery and mounting of oblique balancing valves in brass casing, size and properties: Manufacturer: TA or equivalent Type: STAD									
a)	STAD 15/14, with draining 1/2" Kvs=2,52	pcs	2	x 36,96 €	= 73,92 €		2	x 36,96 €	= 73,92 €	
b)	STAD 20, with draining 1/2" Kvs=5,70	pcs	2	x 45,94 €	= 91,87 €		2	x 45,94 €	= 91,87 €	
c)	STAD 25, with draining 1/2" Kvs=8,70	pcs	1	x 50,16 €	= 50,16 €		1	x 50,16 €	= 50,16 €	
c)	STAD 32, with draining 1/2" Kvs=14,20	pcs	1	x 82,10 €	= 82,10 €		1	x 82,10 €	= 82,10 €	
11	Purchase, delivery and installation of differential pressure controller, following dimensions and properties: Manufacturer: TA or equivalent Type: STAP									

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No.	Item Description	Unit of measure	Quantity		Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
a)	STAP - DN15	pcs	2	x	58,08 €	116,16 €		2	58,08 €	116,16 €	
b)	STAP - DN20	pcs	2	x	86,72 €	173,45 €		2	86,72 €	173,45 €	
c)	STAP - DN25	pcs	1	x	105,60 €	105,60 €		1	105,60 €	105,60 €	
c)	STAP - DN32	pcs	1	x	166,32 €	166,32 €		1	166,32 €	166,32 €	
12	Purchase of material and installation of steel seamless pipeline in line with JUS standard C.B5.221 or DIN 2448, dimensions:										
	Ø48,3x2,9 - DN40	m	184	x	11,35 €	2.088,77 €		184	11,35 €	2.088,77 €	
	Ø42,4x2,6 - DN32	m	64	x	9,77 €	625,15 €		64	9,77 €	625,15 €	
	Ø33,7x2,6 - DN25	m	154	x	8,32 €	1.280,66 €		154	8,32 €	1.280,66 €	
	Ø26,9x2,3 - DN20	m	96	x	7,00 €	671,62 €		96	7,00 €	671,62 €	
	Ø21,3x2,0 - DN15	m	607	x	6,34 €	3.845,95 €		607	6,34 €	3.845,95 €	
	Ø17,2x1,8 - DN10	m	276	x	5,41 €	1.493,71 €		276	5,41 €	1.493,71 €	
13	Binding, hanging and joining material, elbows, branches and such are calculated as 60% of the previous pipe item. This item includes cleaning, prime coating and finishing layer of paint resistant to high temperatures.										
	Calculated as 60% of the previous item		0,6	x	10.005,86 €	6.003,52 €		0,6	10.005,86 €	6.003,52 €	
TOTAL B.II - Installation of radiator heating system, pipework and fittings						35.363,43 €				35.363,43 €	
C - Measure. 7: Installation of hot water calorifers											
C.I Installation of calorifer heating, piping and fittings											
1	Purchase, delivery and installation of the wall mounted hot water calorifers, properties: Manufacturer: Frico or equivalent Mark: SWS12 Thermal power at t=15°C: 19000W Type of heater: Cu-Al (copper-aluminium) Heating medium: hot water 80-80 oC Air Flow: 2340 m3/h Dimensions: depth 275 mm width 540 mm height 545 mm Electricity power: 0,67 A Electrical connection: 230V, 50 Hz Noise level: 57 dB Calorifer volume: 18 kg Connection: 3/4" The position includes basic filter and mixing box for fresh and return air, intake facade grille, and preparation of connection box made of steel galvanized sheet metal thickness 0.5 mm.										
		pcs	4	x	1.524,60 €	6.098,40 €		4	1.524,60 €	6.098,40 €	
2	Purchase, delivery and installation of the five-stage fan controller for hot water calorifers, properties: Manufacturer: Systemair or equivalent Label:RE1,5 Maximum power: 1,5 A										
		pcs	1	x	108,90 €	108,90 €		1	108,90 €	108,90 €	
3	Purchase, delivery and installation of the room thermostat with concealed temperature setting, to control indoor temperature in the gym and manage operating of gym calorifers, complete with 2x0,75mm2 cable, 5 m long. Manufacturer: Systemair or equivalent Label: T10										
		pcs	1	x	60,72 €	60,72 €		1	60,72 €	60,72 €	
4	Purchase, delivery and mounting of oblique balancing valves in brass casing, size and properties: Manufacturer: TA or equivalent Type: STAD STAD 20, with draining 1/2" Kvs=5,70										
		pcs	4	x	49,63 €	198,53 €		4	49,63 €	198,53 €	
5	Purchase, delivery and installation of threaded block valves, in brass casing, size 3/4" (DN20).										
		pcs	12	x	13,73 €	164,74 €		12	13,73 €	164,74 €	
6	Purchase, delivery and installation of bracket tray holders and bolts for mounting calorifers to the gym ceiling.										
		pcs	4	x	105,60 €	422,40 €		4	105,60 €	422,40 €	
7	Making opening in the wall for fresh air supply to hot water calorifers, size 50x50 cm.										
		pcs	4	x	63,36 €	253,44 €		4	63,36 €	253,44 €	
TOTAL C.I - Installation of calorifer heating, piping and fittings						7.307,12 €				7.307,12 €	
C.II Preliminary and finishing works											

Montenegro Energy Efficiency Program in Public Buildings (EEPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS		
1	Preparation of the construction site for construction works on thermo-technical installations. Surveying on site situation. Installation of containers. Transportation of people, goods and materials.											
		lump sum			= 462,00 €				= 462,00 €			
2	Putting the boiler facility into operation and trial testing of the entire heating system, as well as testing of proper operating of all installed radiator valves. The item also includes previous burner adjustment, cleaning of the flues and existing boilers.											
		lump sum			= 528,00 €				= 528,00 €			
3	Training of personnel in charge of boiler operation and heating system maintenance, training of personnel for operation of newly incorporated equipment, as well as training for cases of emergency.											
		lump sum			= 198,00 €				= 198,00 €			
4	Installation of four dry powder fire extinguishers (S-9), a vessel with sand, volume 0.25m ³ , shovel and pick axe. Fully aligned with the Fire Protection Design.											
		lump sum			= 462,00 €				= 462,00 €			
5	Issuing of certificate for entire installed material and equipment											
		lump sum			= 198,00 €				= 198,00 €			
6	Preparation of "As-built" design											
		lump sum			= 396,00 €				= 396,00 €			
7	Installation of framed and glazed scheme of connections on a visible place in the boiler room											
		lump sum			= 264,00 €				= 264,00 €			
8	Installation of signage and stop and warning signs on a visible place in the boiler room fully in line with the Fire Protection Design											
		lump sum			= 132,00 €				= 132,00 €			
9	Mending walls and ceiling at penetration points of the old system pipes which were not used for the new system.											
		lump-sum			= 100,00 €				= 100,00 €			
10	Making holes in walls for putting heating pipes, including mending works at penetration points for bringing walls and ceilings in proper condition.											
		lump sum			= 264,00 €				= 264,00 €			
11	Mending and painting walls behind radiators or other heating items which shall be removed or where new items shall be installed.											
		lump-sum			= 150,00 €				= 150,00 €			
TOTAL C.II - Preliminary and finishing works					3.154,00 €				3.154,00 €			
								5.646,36 €				
SUMMARY OF COSTS A-C												
A	ENERGY MANAGEMENT				6.016,56 €				2.394,48 €			
B	INSTALLATION OF CENTRAL HEATING SYSTEM				38.741,72 €				38.741,72 €			
B.I	Boiler room elements and fittings				3.378,29 €				3.378,29 €			
B.II	Installation of radiator heating system, piping and fittings				35.363,43 €				35.363,43 €			
C	INSTALLATION OF HOT WATER CALORIFIERS				10.461,12 €				10.461,12 €			
C.I	Installation of calorifier heating, piping and fittings				7.307,12 €				7.307,12 €			
C.II	Preliminary and finishing works				3.154,00 €				3.154,00 €			
	TOTAL PRICE, VAT EXCLUDED				55.219,41 €				51.597,33 €			
	TOTAL PRICE WITH 3% DISCOUNT				53.562,82 €				50.049,41 €			
	VAT (19 %)				10.176,94 €				9.509,39 €			
A-C	TOTAL PRICE, VAT INCLUDED				63.739,76 €				59.558,79 €			
D	ADDITIONAL WORKS											
1	Dismantling of the existing heating system equipment, radiators (78 pcs.), pipes (total length of 1400 m), air-release network (total length of 300 m), pumps, air-release valves and other fittings)- Price M.Lajovic Lala BoQ TTI BI 1	lumpsum				5	1,00	x	2.472,50 €	=	2.472,50 €	OFV 22, approved by Client on 31/10/2014.
2	Purchase, delivery and installation of radiator cap, size 5/4". Price BRAC RIBAR BoQ TTI BI 36 1.58e	piece				5	156,00	x	1,58 €	=	246,48 €	OFV 22, approved by Client on 31/10/2014.
3	Preparation, delivery and installation of expansion vessel for heating system, volume: V=400l. The vessel is made of steel with all necessary connections, anti-corrosion protected on the inside by two coats of primer paint, and with two coats of primary and two coats of final white paint on the outside	piece				5	1,00	x	474,25 €	=	474,25 €	OFV 22, approved by Client on 31/10/2014.
4	Dismantling of the existing mechanical installation of fuel, with daily fuel tank, pressure pumps and support structure, and associated electrical installations for the drive of the pumps as well.	lumpsum				5	1,00	x	550,00 €	=	550,00 €	OFV 37, approved by Client on 31/10/2014.
5	Adaptation of the existing terminal connections on seasonal fuel tank for the construction of new single-pipe distribution	lumpsum				5	1,00	x	255,00 €	=	255,00 €	OFV 37, approved by Client on 31/10/2014.

Montenegro Energy Efficiency Program in Public Buildings (EEPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
6	Delivery and installation of new pipe distribution of fuel of black seamless pipes 5/4" (C.1212), length L=35m. Supply and installation	m1				5	35,00	x 8,80 € =	308,00 €	OFV 37, approved by Client on 31/10/2014.
7	Delivery and installation of fuel filters for single-pipe fuel installations. Supply and installation	piece				5	2,00	x 78,00 € =	156,00 €	OFV 37, approved by Client on 31/10/2014.
8	Delivery and installation of terminal connections from fuel filter to the burner, of copper pipes Ø 12mm, length: L= 12m Supply and installation	m1				5	12,00	x 6,60 € =	79,20 €	OFV 37, approved by Client on 31/10/2014.
9	Anti-corrosion protection of pipe distribution with two coatings of primary paint and two coatings of finish paint. Supply and installation	m2				5	5,00	x 7,20 € =	36,00 €	OFV 37, approved by Client on 31/10/2014.
10	For fittings, pipe bends, pipe holders, acetylene and oxygen, wire for welding, material for connecting and sealing, as well as for other supplies 30% is taken from the items 3. and 5.	%				5	0,30	x 387,20 € =	116,16 €	OFV 37, approved by Client on 31/10/2014.
11	Delivery and installation of fixed mounting bars at the door of the boiler room for natural circulation of air required for the combustion process of fuel in the boilers. 68 x 68 cm-material 70e, 20installation, profit 10%	piece				5	2,00	x 99,00 € =	198,00 €	OFV 38, approved by Client on 31/10/2014.
SUMMARY OF COSTS D										
	TOTAL PRICE, VAT EXCLUDED:								4.891,59 €	
	VAT (19%):								929,40 €	
D	TOTAL PRICE (WITHOUT DISCOUNT), VAT INCLUDED:								5.820,99 €	
SUMMARY OF COSTS A-D										
A-D	TOTAL PRICE, VAT INCLUDED:								65.379,79 €	

GROUP A5.4.3 TABLE OF QUANTITIES of electrical services for energy efficiency improvement in "Braća Ribar" Primary School in Nikšić		Investor:		Ministry of Economy of Montenegro, Energy Efficiency Sector										
		Project financed by:		KfW ENTWICKLUNGSBANK										
		Consultant:		FICHTNER GmbH&Co. KG										
		Sub-Consultant:		Lokalni projekti KOPRINER PMC, Podgorica / SIENERSYS, Podgorica										
		School:		Objekat: Primary School "Braća Ribar", Nikšić										
		Doc. origin:		Dokumentacija: Final Design of Electrical Services										
		Date:		16 November 2013										
No.	Item Description	Unit of measure	CONTRACT				AMENDMENT 1				COMMENTS			
			Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)					
1.	LIGHTING INSTALLATION													
1.1.	Delivery and laying of cables on wall installations for light fitting for lighting in the gym and boiler room through rigid PVC conduits of blackboards with repairing of damaged walls and ceilings, covering and bringing it back in previous conditions. Connection is from nearest existing junction box. Commands are from existing switches in the centralized place. All necessary small connection kits is envisaged. Average cable length per one outgoing connection point:													
	PP-Y 3x1,5 mm2	m	12,00					12,00						
	Works and material	pcs	15	x	51,84	=	777,60 €	15	x	51,84	=	777,60 €		
1.2.	Dismantling of existing luminaires. Work to be calculated per unit.	pcs	24	x	4,32	=	103,68 €	24	x	4,32	=	103,68 €		
1.3.	Delivery and mounting of ceiling mounted luminaires 2/18 W TC-L IP50 opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material to be calculated per unit:	pcs	2	x	118,08	=	236,16 €	4	0	x	118,08	=	0	OFV 02, approved by Client on 23/09/2014.
	Spare bulb for this type of luminaire	pcs	1	x	6,77	=	6,77 €		0	x	6,77	=	0	
1.4.	Delivery and mounting of ceiling mounted luminaires 2/18 W TC-L IP54 opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material to be calculated per unit:	pcs	11	x	129,60	=	1.425,60 €	4	0	x	129,60	=	0	OFV 02, approved by Client on 23/09/2014.
	Spare bulb for this type of luminaire	pcs	1	x	6,77	=	6,77 €		0	x	6,77	=	0	
1.5.	Delivery and mounting of ceiling mounted luminaires 4/80W T16 EVG vandal proof; T16, completely equipped with mounting gear and light source, DIN 18032. Works and material to be calculated per unit:	pcs	8	x	345,60	=	2.764,80 €		8	x	345,60	=	2.764,80 €	
	Spare bulb for this type of luminaire	pcs	1	x	8,06	=	8,06 €		1	x	8,06	=	8,06 €	
1.6.	Delivery and mounting of ceiling mounted luminaires with electronic control gear 2x35W, T16, completely equipped with mounting gear and light source. Works and material to be calculated per unit:	pcs	7	x	126,72	=	887,04 €	4	0	x	126,72	=	0	OFV 02, approved by Client on 23/09/2014.
	Spare bulb for this type of luminaire	pcs	1	x	6,77	=	6,77 €		0	x	6,77	=	0	
1.7.	Delivery and installation of simple switches 10A, 230V instead of existing broken switches. Total for the supply and installation of:	pcs	10	x	7,20	=	72,00 €		10	x	7,20	=	72,00 €	
1.8.	Delivery and installation of single phase sockets 16A, 230V, 2P + E instead of existing broken sockets. Total for the supply and installation of:	pcs	10	x	10,08	=	100,80 €		10	x	10,08	=	100,80 €	
TOTAL FOR LIGHTING INSTALLATION							6.396,05 €					3.826,94 €		
2.	POWER SUPPLY AND ELECTRICAL INSTALLATION FOR BOILER ROOM AND HVAC SERVICES													
2.1.	Delivery and laying of cables on wall installations in rigid PVC installation pipes in boiler room and ground floor rooms. Works and material to be calculated per unit:													
	PP-Y 3x2,5 mm2	m	105,00	x	3,46	=	362,88 €		105,00	x	3,46	=	362,88 €	
2.2.	Replacement of equipment in existing switchbox in boiler room:													
	automatic switch 1p C60H 16A 10 kA IEC 898		2											
	All necessary small connection kits is envisaged													
	TOTAL FOR SWITCHBOX	pcs	1,00	x	17,28	=	17,28 €		1,00	x	17,28	=	17,28 €	
TOTAL FOR POWER SUPPLY AND ELECTRICAL INSTALLATION FOR BOILER ROOM AND HVAC SERVICES							380,16 €					380,16 €		
3.	LIGHTNING PROTECTION SYSTEM													
3.1.	Dismantling of existing lightning protection system.	lump sum	1,00			=	216,00 €		1,00			=	216,00 €	
3.2.	Delivery and mounting of lightning protection system (galvanized tape Fe-Zn 20x3 mm) on prefabricated tape carriers according to IEC standards and technical report. Works and material to be calculated per unit:	m	290,00	x	2,59	=	751,68 €		290,00	x	2,59	=	751,68 €	
3.3.	Delivery and mounting of tape-tape junctions elements 58x58 mm for galvanized tape Fe-Zn 20x3 mm, according to JUS N.B4. 936, IEC standards and technical report. Works and material to be calculated per unit:	pcs	60,00	x	5,04	=	302,40 €		60,00	x	5,04	=	302,40 €	
3.4.	Delivery and mounting of prefabricated tape carriers on every 1 m for lightning protection system, according to IEC standards and technical report. Works and material to be calculated per unit:													
	C.L. JUS N.B4.925-P	pcs	120,00	x	5,04	=	604,80 €		120,00	x	5,04	=	604,80 €	
	Prefabricated tape carrier unit with concrete foundation (P-S-K)	pcs	270,00	x	5,04	=	1.360,80 €		270,00	x	5,04	=	1.360,80 €	

No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
3.5.	Connecting all metal conductive parts with lightning protection system. Works and material to be calculated:	lump sum	1,00	x 72,00 € =	72,00 €		1,00	x 72,00 € =	72,00 €	
3.6.	Delivery and mounting of deep galvanized tape Fe/Zn 25x4 mm2 for grounding of gutters. Tape should be connected to nearest connection point to foundation earthing through earth trench and under new pavements. Works should be performed according to technical report and technical recommendation. Total for works and material:	m	264,00	x 2,59 € =	684,29 €		264,00	x 2,59 € =	684,29 €	
3.7.	Delivery and mounting of prefabricated tape junction elements for gutters according to JUS and IEC standards and technical report. Works and material to be calculated per unit:	pcs	22,00	x 7,20 € =	158,40 €		22,00	x 7,20 € =	158,40 €	
TOTAL FOR LIGHTNING PROTECTION SYSTEM					4.150,37 €				4.150,37 €	
4 TESTING & MAINTENANCE DESIGN										
4.1.	Testing of electrical grounding installation and lightning protection system with issuance of attest.	lump sum	1,00	x 360,00 € =	360,00 €		1,00	x 360,00 € =	360,00 €	
4.2.	Testing of new electrical power supply installation.	lump sum	1,00	x 216,00 € =	216,00 €		1,00	x 216,00 € =	216,00 €	
4.3.	Preparation of Maintenance Design.	lump sum	1,00	x 360,00 € =	360,00 €		1,00	x 360,00 € =	360,00 €	
TOTAL FOR TESTING & MAINTENANCE DESIGN					936,00 €				936,00 €	
SUMMARY OF COSTS 1-4										
1	LIGHTING INSTALLATION				6.396,05 €				3.826,94 €	
2	POWER SUPPLY AND ELECTRICAL INSTALLATION FOR BOILER ROOM AND HVAC SERVICES				380,16 €				380,16 €	
3	LIGHTNING PROTECTION SYSTEM				4.150,37 €				4.150,37 €	
4	TESTING & MAINTENANCE DESIGN				936,00 €				936,00 €	
TOTAL PRICE, VAT EXCLUDED					11.862,58 €				9.293,47 €	
VAT (19 %)					2.186,27 €				1.712,79 €	
1-4 TOTAL PRICE,(WITH DISCOUNT) VAT INCLUDED					13.692,97 €				10.727,45 €	
5 ADDITIONAL WORKS										
1	Delivery and mounting of ceiling mounted luminaries 2/18 W TC-L IP50 opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material to be calculated per unit: ORION IP54 1xE27 max 23W CFL Spare bulb for this type of luminaire CFL 20W E27	pcs				4	2	x 28,75 =	57,50	OFV 02, approved by Client on 23/09/2014.
		pcs					1	x 5,41 =	5,41	
2	Delivery and mounting of ceiling mounted luminaries 2/18 W TC-L IP54 opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material to be calculated per unit: ORION IP54 1xE27 max 23W CFL Spare bulb for this type of luminaire CFL 20W E27	pcs				4	11	x 28,75 =	316,25	OFV 02, approved by Client on 23/09/2014.
		pcs					1	x 5,41 =	5,41	
3	Delivery and mounting of ceiling mounted luminaries with electronic control gear 2x35W, T16, completely equipped with mounting gear and light source. Works and material to be calculated per unit: RCS236 2x36W T8 EB IP65 MARELI Spare bulb for this type of luminaire T8 G13 36W	pcs				4	7	x 40,25 =	281,75	OFV 02, approved by Client on 23/09/2014.
		pcs					1	x 2,3 =	2,30	
4	Delivery and laying of cables on walls in PVC rigid installation pipes and on galvanized cable trays in boiler room, for electrical supply of new equipment in the boiler room. Power cord for new equipment is taken from the existing electrical cabinet in boiler room. Works and material to be calculated per average measure unit. Price MLL EI BoQ 2.1- PP-Y 3x2,5mm2 3.46e, PP-Y 3x2,5 mm2 PP/L 2x0,75mm2	m1				5	40	x 3,46 =	138,40 €	OFV 41, approved by Client on 31/10/2014.
		m1					95	x 2,4 =	228,00 €	

No.	Item Description	measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
5	Delivery and mounting elements in existing electrical cabinet in boiler room: rotary switch 10A 90U contactor CT 25A 1NO signal led indicator 220V Cable P/F 16mm2 Time duration of works: 4h X Engaged workers:1 Rails, comb busbars,pvc canals for cable trunking, terminals ... All necessary small connection kit is envisaged TOTAL FOR SWITCHBOX	pes pes pes m h x en.wor. lump sum lump sum				5	1 x 3 x 2 x 5 x 3 x 1 x	28 28 17 2,2 4 184 =		OFV 41, approved by Client on 31/10/2014.
6	Dismantling of existing old ceiling luminaries	piece piece piece				6	4,00 x 1,00 x 4,00 x	4,32 = 40,25 = 56 =		OFV 61, approved by Client on 24/12/2014.
SUMMARY OF COSTS 5										
	TOTAL PRICE, VAT EXCLUDED:								1.500,55 €	
	VAT (19%):								285,10 €	
5	TOTAL PRICE (WITHOUT DISCOUNT), VAT INCLUDED:								1.785,65 €	
SUMMARY OF COSTS 1-5										
1-5	TOTAL PRICE, VAT INCLUDED:								12.513,11 €	

No.		Item Description	Unit of measure	CONTRACT			VO	AMENDMENT 1			COMMENTS		
				Quantity	Unit price (€)	Amount (€)		Quantity	Unit price (€)	Amount (€)			
GROUP A5.4.4 TABLE OF QUANTITIES of sanitary (water supply and sewage) services for energy efficiency improvement in "Braća Ribar" Primary School in Nikšić													
Investor:			Ministry of Economy of Montenegro, Energy Efficiency Sector										
Project financed by:			KfW ENTWICKLUNGSBANK										
Consultant; Konsultant:			FICHTNER GmbH&Co. KG										
Sub-Consult; Lokalni projekt:			KOPRING PMC, Podgorica										
School; Objekt:			Primary School "Braća Ribar", Nikšić										
Doc. origin; Dokumentacija:			Final Design of Sanitary (Water Supply and Sewage) Services										
Date:			05 February 2014										
I WORKS ON REMOVAL OF SANITARY EQUIPMENT, WATER SUPPLY AND SEWAGE DISTRIBUTION LINES													
1	Removal of existing showers with belonging elements. Carrying, truck loading, transport and disposal to the waist depot are included within the price.												
	Calculation as per piece		piece	38,00	x	10,35 €	=	393,30 €					
2	Removal of existing concrete lavatory beds, with belonging elements. Carrying, truck loading, transport and disposal to the waist depot are included within the price.												
	Calculation as per piece		piece	2,00	x	10,35 €	=	20,70 €					
3	Removal of existing sewage installations made of cast iron, with belonging elements. Concrete floor smashing, excavation, removal, truck loading, transport and disposal to the waist depot are included within the price.												
	Calculation as per m'		m'	30,00	x	7,25 €	=	217,35 €					
4	Removal of existing water supply installations made of zinc-plated steel pipes within the wall, with belonging elements (valves, fittings etc.). Wall chase cutting, removal, carrying, truck loading, transport and disposal to the waist depot are included within the price.												
	Calculation as per m'		m'	20,00	x	7,25 €	=	144,90 €					
5	Removal of existing water supply installations made of zinc-plated steel pipes within the floor, with belonging elements (valves, fittings etc.). Concrete floor smashing, excavation, removal, truck loading, transport and disposal to the waist depot are included within the price.												
	Calculation as per m'		m'	15,00	x	7,25 €	=	108,68 €					
TOTAL REMOVAL WORKS								884,93 €			884,93 €		
II WATER-SUPPLY INDOOR INSTALLATIONS													
1	Purchase and installation of water supply PP-R pipes for operating pressure of 10,00 bars, together with all required fittings. Pipes must be anchored to the wall by saddles and covered by flexible thermal insulation to prevent condensation. Hot water pipeline has to be thermally insulated on order to prevent heat losses. Pipe joints should be butt welded all in accordance with pipe manufacturer's recommendations. Installed pipes should be tested at 12 bars pressure. Pipe diameter enclosed within item is nominal pipe diameter "DN". All chase cuttings, hole perforations and restoration to the original state, should be incalculated within the works performance price.												
	Calculation as per m' of installed pipe												
	DN20mm		piece	30,00	x	3,62 €	=	108,68 €	30,00	x	3,62 €	=	108,68 €
	DN25mm		piece	30,00	x	4,66 €	=	139,73 €	30,00	x	4,66 €	=	139,73 €
	DN32mm		piece	0,10	x	5,80 €	=	0,58 €	0,10	x	5,80 €	=	0,58 €
2	Purchase and installation of straight stop valves. The valves should be consisted of chrome plated cap and installed on each outflow point at the separate distribution line branches within sanitary facilities according to the design.												
	Calculation as per installed piece												
	DN20mm		kom	38,00	x	12,42 €	=	471,96 €	38,00	x	12,42 €	=	471,96 €
3	Purchase and installation of "EK" angle valves DN 20mm. The valves should be installed on each outflow point, except showers, both on cold and hot water distribution lines.												
	Calculation as per installed piece												
	EK DN20mm		piece	20,00	x	14,49 €	=	289,80 €	20,00	x	14,49 €	=	289,80 €
4	Complete water supply installations test at test pressure of 12 bars. Upon completed test the Report should be made. The Report should be signed by Contractor and Supervisor. Complete material and equipment are included within the price.												
	Calculation as per m of tested pipeline		m	60,00	x	2,07 €	=	124,20 €	60,00	x	2,07 €	=	124,20 €
5	Disinfection of complete water supply installations. The following actions should be done: Chlorination, chemical and bacteriological tests of water from installations. Complete material, equipment and prescribed analyses are included within the price. Disinfection works should be done by certified organization.												
	Calculation as per m of disinfected pipeline		m	60,00	x	3,62 €	=	217,35 €	60,00	x	3,62 €	=	217,35 €

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No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
6	Ditch backfilling 40 cm wide, where underfloor installations should be laid down, by manually compacted sand and making of concrete slab of 20cm thickness.									
	Calculation as per m'	m	15,00	x 28,98 €	= 434,70 €		15,00	x 2898 €	= 434,70 €	
7	Other unpredictable works as a result of revealing of the existing installations and adapting the ways of joining process of new installations to the existing ones.	lump sum	1,00	x 155,25 €	= 155,25 €		1,00	x 155,25 €	= 155,25 €	
TOTAL WATER-SUPPLY INDOOR INSTALLATIONS					1.942,24 €				1.942,24 €	
III SANITARY SEWAGE INDOOR INSTALLATIONS										
1	Purchase and installation of plastic sewage pipes for interior installations, together with all required sealing equipment for proper network operation. Pipe connecting should be performed by rubbers. Upon finished pipes assembling to rinse pipelines and performed distribution lines has to be waterproof tested. All chase cuttings and hole perforations within walls and structures, as well as bringing the walls back into original state should be incalculated within the price. Calculation as per m' of installed pipes.									
	DN50mm	m	15,00	x 6,21 €	= 93,15 €		15,00	x 6,21 €	= 93,15 €	
	DN75mm	m	15,00	x 9,11 €	= 136,62 €		15,00	x 9,11 €	= 136,62 €	
	DN110mm	m	30,00	x 11,39 €	= 341,55 €		30,00	x 11,39 €	= 341,55 €	
2	Purchase and installation of required supports and fixing saddles with rubbers for sewage pipelines: DN 50, DN 75, DN 110 mm. The pipes should be anchored to the walls and interfloor structure.									
	Calculation as per m' of anchored pipe	m	12,00	x 5,18 €	= 62,10 €		12,00	x 5,18 €	= 62,10 €	
3	Purchase and installation of fittings for interior sewage installations, made of hard PVC. All the fittings should be sealed by gaskets of corresponding diameter.									
	Calculation as per piece									
	"Y" branch Ø 110 / 75	piece	1,00	x 2,17 €	= 2,17 €		1,00	x 2,17 €	= 2,17 €	
	"Y" branch Ø 50 / 50	piece	5,00	x 1,97 €	= 9,83 €		5,00	x 1,97 €	= 9,83 €	
	"Y" branch Ø 110 / 50	piece	1,00	x 2,59 €	= 2,59 €		1,00	x 2,59 €	= 2,59 €	
	"Y" branch Ø 110 / 110	piece	9,00	x 3,11 €	= 27,95 €		9,00	x 3,11 €	= 27,95 €	
	"Y" branch Ø 75 / 75	piece	2,00	x 2,90 €	= 5,80 €		2,00	x 2,90 €	= 5,80 €	
	"T" branch Ø 50/50	piece	1,00	x 2,59 €	= 2,59 €		1,00	x 2,59 €	= 2,59 €	
	Siphon arch trap 50	piece	20,00	x 5,18 €	= 103,50 €		20,00	x 5,18 €	= 103,50 €	
	Elbow 15° / 110	piece	1,00	x 1,55 €	= 1,55 €		1,00	x 1,55 €	= 1,55 €	
	Elbow 45° / 110	piece	6,00	x 1,55 €	= 9,32 €		6,00	x 1,55 €	= 9,32 €	
	Elbow 45° / 50	piece	11,00	x 1,24 €	= 13,66 €		11,00	x 1,24 €	= 13,66 €	
	Elbow 90° / 110	piece	4,00	x 1,86 €	= 7,45 €		4,00	x 1,86 €	= 7,45 €	
	Elbow 90° / 50	piece	2,00	x 1,24 €	= 2,48 €		2,00	x 1,24 €	= 2,48 €	
	Elbow 90° / 75	piece	4,00	x 1,55 €	= 6,21 €		4,00	x 1,55 €	= 6,21 €	
	PP (poly-propylene) reducer 75/50	piece	1,00	x 2,90 €	= 2,90 €		1,00	x 2,90 €	= 2,90 €	
	PP reducer 110/75	piece	1,00	x 3,62 €	= 3,62 €		1,00	x 3,62 €	= 3,62 €	
	PP clean-out DN75	piece	1,00	x 10,35 €	= 10,35 €		1,00	x 10,35 €	= 10,35 €	
	PP clean-ou DN110	piece	1,00	x 10,56 €	= 10,56 €		1,00	x 10,56 €	= 10,56 €	
	Cross over fitting, as a transition from poly-propylene (PP) to cast-iron (CI) piping with bushing DN100	piece	1,00	x 10,35 €	= 10,35 €		1,00	x 10,35 €	= 10,35 €	
	Prochrome coupling DN100 for joining purposes of poly-propylene with the cast-iron piping.	piece	1,00	x 46,58 €	= 46,58 €		1,00	x 46,58 €	= 46,58 €	
4	Purchase and installation of floor drains in order to prevent odors and possible vapors out of water trap, type "HL310NPr" or similar. Calculation as per piece									
	Floor drain, type: "HL310NPr"	piece	8,00	x 31,05 €	= 248,40 €		8,00	x 31,05 €	= 248,40 €	
5	Purchase and installation of ventilation head, type "HL900N" or similar. Calculation as per piece.									
	Ventilation head, type: "HL900N"	piece	8,00	x 15,53 €	= 124,20 €		8,00	x 15,53 €	= 124,20 €	
6	Purchase and installation of clean-out for ventilation head "HL900N" or similar. Calculation as per piece.									
	Clean-out for ventilation head "HL900N"	piece	1,00	x 10,35 €	= 10,35 €		1,00	x 10,35 €	= 10,35 €	
7	Ditch backfilling 40 cm wide, where underfloor installations should be laid down, by manually compacted sand and making of concrete slab of 20cm thickness.									
	Calculation as per m'	m	25,00	x 28,98 €	= 724,50 €		25,00	x 2898 €	= 724,50 €	
8	Other unpredictable works as a result of revealing of the existing installations and adapting the ways of joining process of new installations to the existing ones.	lump sum	1,00	x 155,25 €	= 155,25 €		1,00	x 155,25 €	= 155,25 €	
TOTAL SANITARY SEWAGE INDOOR INSTALLATIONS					2.175,57 €				2.175,57 €	
IV SANITARY EQUIPMENT										

Montenegro Energy Efficiency Program in Public Buildings (EPPB)

No.	Item Description	Unit of measure	Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)	COMMENTS
1	Purchase and installation of toilet bowl completely made of ceramics, type "simplon", with plastic low mounted water tank, connection pipes, sealing and gaskets, including all other bits and pieces necessary for proper installation of the toilet bowl. Calculation as per piece.									
	Type: "Simplon"	piece	20,00	x 161,46 €	= 3.229,20 €		20,00	x 161,46 €	= 3.229,20 €	
2	Purchase and installation of lavatory sink completely made of ceramics, a wall mounting type by screws, chrome-plated wall mounted tap for cold water only, chrome plated siphon trap, towel holder, mirror with shelf and other accessories for proper operation. Calculation as per piece.									
		piece	18,00	x 139,73 €	= 2.515,05 €		18,00	x 139,73 €	= 2.515,05 €	
TOTAL SANITARY EQUIPMENT					5.744,25 €				5.744,25 €	
SUMMARY OF COSTS I-IV										
I	WORKS ON REMOVAL OF SANITARY EQUIPMENT, WATER SUPPLY AND SEWAGE DISTRIBUTION LINES				884,93 €				884,93 €	
II	WATER-SUPPLY INDOOR INSTALLATIONS				1.942,24 €				1.942,24 €	
III	SANITARY SEWAGE INDOOR INSTALLATIONS				2.175,57 €				2.175,57 €	
IV	SANITARY EQUIPMENT				5.744,25 €				5.744,25 €	
	TOTAL PRICE, VAT EXCLUDED				10.746,98 €				10.746,98 €	
	TOTAL PRICE WITH 3% DISCOUNT				10.424,58 €				10.424,58 €	
	VAT (19 %)				1.980,67 €				1.980,67 €	
I-IV	TOTAL PRICE (WITH DISCOUNT), VAT INCLUDED				12.405,24 €				12.405,24 €	

2.2 Price Schedule - Grand Summary

No.	Description	Total Price per Building [EUR]	
		CONTRACT	FINAL
	Educational Building 1		
A.5.1	Primary School "Mileva Lajović Lalatović", Nikšić	845.578,06	874.378,86
	Educational Building 2		
A.5.2	Primary School "Jagoš Kontić", Nikšić	623.747,76	608.698,20
	Educational Building 3		
A.5.3	Primary School "Milija Nikčević", Nikšić	576.467,89	568.666,39
	Educational Building 4		
A.5.4	Primary School "Braća Ribar", Nikšić	508.031,40	483.968,74
	Grand Total for All Schools (Total Contract Price)	2.553.825,10	2.535.712,19

2.3 Price Schedule - Group Prices

No.	Description	Total Price per Works [EUR]	
		CONTRACT	FINAL
A.5.1	Educational Building 1: Primary School "Mileva Lajović Lalatović", Nikšić	845.578,06	874.378,86
A.5.1.1	Building and trade works	551.474,86	591.480,53
A.5.1.2	Thermo-technical (heating) services	194.047,38	191.151,62
A.5.1.3	Electrical services	100.055,81	91.746,72
A.5.2	Educational Building 2: Primary School "Jagoš Kontić", Nikšić	623.747,76	608.698,20
A.5.2.1	Building and trade works	516.857,19	504.951,92
A.5.2.2	Thermo-technical (heating) services	37.790,49	39.382,37
A.5.2.3	Electrical services	69.100,08	64.363,91
A.5.3	Educational Building 3: Primary School "Milija Nikčević", Nikšić	576.467,89	568.666,39
A.5.3.1	Building and trade works	517.148,39	505.888,46
A.5.3.2	Thermo-technical (heating) services	44.267,27	42.400,09
A.5.3.3	Electrical services	15.052,23	20.377,84
A.5.4	Educational Building 4: Primary School "Braća Ribar", Nikšić	508.031,40	483.968,74
A.5.4.1	Building and trade works	418.193,42	393.670,60
A.5.4.2	Thermo-technical (heating) services	63.739,76	65.379,79
A.5.4.3	Electrical services	13.692,97	12.513,11
A.5.4.4	Sanitary (Water Supply and Sewage) services	12.405,24	12.405,24

Amendment No. 1

made on __.02.2015

to the

Contract No.06-803/27 (EEPPB - Cluster II)

dated 18.07.2015

between

**Ministry of Economy
Directorate for Energy Efficiency
Rimski trg 46
81000 Podgorica
Montenegro
("Employer")**

and

**JV Roaming (Roaming doo Nikšić, LD Gradnja doo Nikšić, Ening doo Nikšić and
Ramel doo Nikšić)
("Contractor")**

for

**Works on reconstruction of four buildings of cluster II under the Montenegro's
Energy Efficiency Program in Public Buildings (EEPPB)
("Project")**

This Amendment to the Contract for construction works dated 18th July 2014 in regard to the performing of construction works for reconstruction of the four buildings of cluster II under the Energy Efficiency Program in Public Buildings (EEPPB) is made between the Employer and the Contractor.

It is agreed by and between all parties as follows:

1 Adjustments for Variations

Based on the Variation orders No.1-No.5, approved according to the clause 13, sub clause 13.1, 13.2 and 13.3, Contract Price shall be the total of the amounts to be paid for the Works on the basis of the main contract and the amendments.

The Contract Price to be paid to the Contractor, based on this amendment is:

In total: EUR 2.494.688,73
(two million four hundred ninety four thousand six hundred eighty eight Euro and seventy three Eurocents)

The details of the changes are defined in Annex 1.

2 Sub-clause 14.4.1 of the Particular conditions of the Contract

Due to the aforementioned the sub-clause 14.4.1 of the Particular conditions of the Contract will be replaced with:

14.4.1 Schedule for Payments

Payment for supply and delivery of the works, erection and civil engineering works will be made by the direct disbursement procedure in accordance with KfW's Guidelines for the Disbursement of Funds of Financial Co-operation with Developing Countries and Comparable Programs.

The Employer will pay to the Contractor under the terms and condition of KfW's Guidelines for the Disbursement, as follows:

For Works and Erection

EUR 481.589,26 as an advance payment against presentation of the Advance Payment Guarantee and Performance Security.

EUR 1.763.630,60 will be paid in bi-monthly instalments (i.e. every 2nd month), based on the progress of the works

EUR 249.468,87 of the contracted value shall be the amount of the retention money, which will be paid as described in 14.9

Unless specially amended in this Amendment, all other terms and conditions of the original Contract shall remain fully applicable and in force.

For and on behalf of **Ministry of Economy**:

Mr. Vladimir Kavarić
Minister of Economy

Ms. Dragica Sekulić
Deputy Minister for Energy Efficiency

For and on behalf of **JV Roaming**:

Mr. Dalibor Milović
Project Director

Mr. Nebojša Lalatović
Legal Representative

Annex 1

Price schedule

Aneks br. 1

od __.02.2015

Ugovora br.06-803/27 (EEPPB - Klaster II)

od 18.07.2014.godine

između

**Ministarstva Ekonomije
Direktorat za energetska efikasnost
Rimski trg 46
81000 Podgorica
Montenegro
("Investitor")**

i

**JV Roaming (Roaming doo Nikšić, LD Gradnja doo Nikšić, Ening doo Nikšić and
Ramel doo Nikšić)
("Contractor")**

za

**Izvođenje radova na adaptaciji četiri objekta iz klastera II u sklopu Programa
energetske efikasnosti u javnim zgradama" u Crnoj Gori (EEPPB)
("Naziv projekta")**

Ovaj aneks ugovora o izvođenju radova, potpisanog 18 Jula 2014.godine, a koji se odnosi na izvođenje građevinskih radova na adaptaciji četiri obrazovne ustanove iz klastera II, u okviru "Programa energetske efikasnosti u javnim zgradama" (EEPPB), je potpisan između Investitora i Izvođača

Dogovoreno je od strane svih potpisnika sledeće:

1 Prilagođavanja usled izmjena

Na osnovu naloga za izmjene br.1-6, odobrenih u skladu sa članom 13, odnosno 13.1, 13.2 i 13.3, ugovorena cijena koja će biti plaćena Izvođaču za radove predstavlja ukupnu sumu iz osnovnog ugovora i aneksa ugovora.

Ugovorena cijena, koja će biti plaćena Izvođaču, na osnovu ovog aneksa iznosi:

Ukupno: EUR 2.494.688,73
(dva miliona četrdeset devedeset četiri hiljade šestoosamdeset osam eura i sedamdeset i tri centa)

Detalji izmjena su dati u prilogu br. 1.

2 Član 14.4.1 Posebnih uslova ugovora

Na osnovu gore navedenog član 14.4.1 Posebnih uslova ugovora će biti zamjenjen sa:

14.4.1 Način plaćanja

Plaćanje izvođenja građevinsko zanatskih i instalaterskih radova će biti izvršeno po proceduri za direktno plaćanje u skladu sa Uputstvima Njemačke razvojne banke za isplatu fondova iz finansijske saradnje sa zemljama u razvoju i sličnim projektima.

Investitor će izvršiti isplate Izvođaču, u skladu sa uslovima datim u Uputstvima Njemačke razvojne banke, na sledeći način:

Za izvođenje radova

EUR 481.589,26 avans nakon dostavljanja avansne garancije i garancije za dobro izvođenje posla.

EUR 1.763.630,60 po dvomjesečnim situacijama, u zavisnosti od dinamike izvođenja radova

EUR 249.468,87 vrijednost zadržanih sredstava, biće plaćena kao što je opisano u članu 14.9.

Ukoliko nije drugačije navedeno u ovom aneksu, svi ostali uslovi originalnog ugovora ostaju na snazi.

Za i u ime Ministarstva ekonomije:

Gosp. Vladimir Kavarić
Ministar Ekonomije

G-đa. Dragica Sekulić
Generalna direktorica
Direktorata za energetska efikasnost

Za i u ime JV Roaming:

Gosp. Dalibor Milović
Direktor

Gosp. Nebojša Lalatović
Pravni zastupnik

Prilog 1

Predmjer i predračun radova

No.		Item Description	Unit of measure	CONTRACT			AMENDMENT 1			COMMENTS			
				Quantity	Unit price (€)	Amount (€)	Quantity	Unit price (€)	Amount (€)				
GROUP A5.1.1		Investor:		Ministry of Economy of Montenegro, Energy Efficiency Sector									
		Project financed by:		KIW ENTWICKLUNGSBANK									
		Consultant:		FICHTNER GmbH&Co. KG									
		Sub-Consultant:		KOPRING PMC, Podgorica									
		School:		S.D "Spasić-Masera", Kotor									
		Objekat:		Final Architectural Design									
		Doc. origin:		Dokumentacija									
		Date:		05 February 2014									
I THERMAL INSULATION OF FACADE WALLS													
1.01.	Dismantling of metal sheet flashings, window benches and vertical and horizontal gutters, cisterns, water spout. Flashings have different developed widths and they are made from plastic-laminated galvanized steel metal sheet with double interlock system, d=0,68mm. Surfaces should be prepared for installation of new items without any special processing. Price includes all works, materials and debris transportation to the town landfill. Calculation is based on a m1 of dismantled flashing, gutters, and their supporters.												
	Calculation per m ¹												
	dripping eaves												
	- flat roof												
	up the first floor wall - d.w. 60cm	m ¹	101,20	x	1,00 €	=	101,20 €	101,20	x	1,00 €	#	=	101,20 €
	attics - d.w. 30cm	m ¹	85,60	x	1,00 €	=	85,60 €	85,60	x	1,00 €	#	=	85,60 €
	attics - d.w. 25cm	m ¹	17,75	x	1,00 €	=	17,75 €	17,75	x	1,00 €	#	=	17,75 €
	roof dilatation - d.w. 100cm	m ¹	17,75	x	1,00 €	=	17,75 €	17,75	x	1,00 €	#	=	17,75 €
	eaves - d.w. 25cm	m ¹	6,00	x	1,00 €	=	6,00 €	6,00	x	1,00 €	#	=	6,00 €
	- on part of the wall d.w. 25cm												
	second floor	m ¹	6,06	x	1,00 €	=	6,06 €	6,06	x	1,00 €	#	=	6,06 €
	third floor	m ¹	25,54	x	1,00 €	=	25,54 €	25,54	x	1,00 €	#	=	25,54 €
	fourth floor	m ¹	30,70	x	1,00 €	=	30,70 €	30,70	x	1,00 €	#	=	30,70 €
	- d.w. 30cm												
	second floor	m ¹	10,20	x	1,00 €	=	10,20 €	10,20	x	1,00 €	#	=	10,20 €
	third floor	m ¹	10,20	x	1,00 €	=	10,20 €	10,20	x	1,00 €	#	=	10,20 €
	fourth floor	m ¹	3,80	x	1,00 €	=	3,80 €	3,80	x	1,00 €	#	=	3,80 €
	window sills - all openings - d.w. 35cm												
	basement	m ¹	21,13	x	1,00 €	=	21,13 €	21,13	x	1,00 €	#	=	21,13 €
	ground floor	m ¹	75,88	x	1,00 €	=	75,88 €	75,88	x	1,00 €	#	=	75,88 €
	first floor	m ¹	103,39	x	1,00 €	=	103,39 €	103,39	x	1,00 €	#	=	103,39 €
	second floor	m ¹	111,28	x	1,00 €	=	111,28 €	111,28	x	1,00 €	#	=	111,28 €
	third floor	m ¹	79,36	x	1,00 €	=	79,36 €	79,36	x	1,00 €	#	=	79,36 €
	fourth floor	m ¹	42,28	x	1,00 €	=	42,28 €	42,28	x	1,00 €	#	=	42,28 €
	vertical gutters												
	dim 12x12cm	m ¹	300,80	x	1,00 €	=	300,80 €	300,80	x	1,00 €	#	=	300,80 €
	top cisterns												
		pieces	22	x	1,00 €	=	22,00 €	22	x	1,00 €	#	=	22,00 €
	horizontal gutters												
	dim 12x12cm on flat roof	m ¹	43,00	x	1,00 €	=	43,00 €	43,00	x	1,00 €	#	=	43,00 €
	rainwater spout												
		pieces	6	x	1,00 €	=	6,00 €	6	x	1,00 €	#	=	6,00 €
	flashings on roof chimney												
	d.w. 40cm	m ¹	5,60	x	1,00 €	=	5,60 €	5,60	x	1,00 €	#	=	5,60 €
	facade ventilation protection												
	d.w. 100cm	m ¹	3,00	x	1,00 €	=	3,00 €	3,00	x	1,00 €	#	=	3,00 €
	careful dismantling of sheet metal ducts for kitchen ventilation												
		m ¹	17,50	x	1,00 €	=	17,50 €	17,50	x	1,00 €	#	=	17,50 €
	partial dismantling of flashing on pitched roof damaged due to wind blows												
		m ¹	5,00	x	1,00 €	=	5,00 €	5,00	x	1,00 €	#	=	5,00 €
1.02.	Demolition of existing parapet walls made of chipboard beneath the windows in rooms at the northern and southern part of facade which will be dismantled, using required scaffold. Debris should be collected, removed, loaded onto a truck and transported to the landfill for construction material – 5km distance.												
	Calculation per m ² .												
		m ²	96,49	x	5,20 €	=	501,75 €	96,49	x	5,20 €	#	=	501,75 €
1.03.	Removal of damaged mortar (10% of the total area of plastered facade) on the brick wall facade, using scaffold. Debris should be collected, removed, loaded onto a truck and transported to the landfill for construction material – 5km distance.												
	Calculation per m ² .												
		m ²	420,35	x	3,00 €	=	1.261,05 €	420,35	x	3,00 €	#	=	1.261,05 €
1.04.	Cleaning the facade and removal of grease and its preparation for setting up layer of thermal insulation as well as removal of existing damaged facade finishing layer (artificial exposed aggregate concrete stone), to fit new designed finishing layers of the facade.												
	Calculation per m ² .												
		m ²	4.203,52	x	1,50 €	=	6.305,28 €	4.203,52	x	1,50 €	#	=	6.305,28 €
1.05.	Purchase of material and construction of parapet wall beneath the windows in rooms that will be replaced using gutter block dim. 19x19x25cm in gauged plaster 1:2:6, d=25cm. Prior to construction, blocks need to be dampened. Joints need to be cleaned after completed construction.												
	Calculation per m ³ .												
		m ³	24,12	x	23,60 €	=	569,23 €	24,12	x	23,60 €	#	=	569,23 €
1.06.	Plastering new parapet walls with double layer of cement plaster 1:3:9, with previously sprinkled cement slurry. The first layer should be applied roughly, and the second fine one should be floated using necessary scaffold. The mortared surfaces must be flat, without breaks and waves with sharp and straight edges.												
	Calculation per m ² .												
		m ²	96,49	x	7,80 €	=	752,62 €	96,49	x	7,80 €	#	=	752,62 €

	d=5cm ornaments, pilasters, ornaments around windows...	m ²	51,70	x	11,10 €	=	573,87 €		51,70	x	11,10 €	#	=	573,87 €
	mineral wool d=8cm	m ²	418,04	x	10,10 €	=	4.222,20 €		418,04	x	10,10 €	#	=	4.222,20 €
	mineral wool d=5cm	m ²	50,70	x	8,10 €	=	410,67 €		50,70	x	8,10 €	#	=	410,67 €
1.14.	Processing of the facade surfaces with decorative ready-mixed lime-cement based render type "Sila dekor" or equivalent material. Special attention needs to be made to assure that the selected material is certified to be used in environments with escalated level of salt such as the coastal zone. The facade surface should be sound and dry. Surface should be cleaned and impregnated with insulation mass to achieve better joining. One layer should be applied with painting brush, and if the surface absorbs it quickly, another layer should be applied. A layer of adhesive with mesh should be applied to prepare the surface for works. Other layers are applied in the same way as in the previous item.													
	* contact coating, made based on emulsion of synthetic resin and water glass, as agent for impregnation of dried reinforced mortar, * finishing layer, made on the base of mineral bonding agents, water repellent additives, agents for elasticity improvement and resilience to algae and mould. This layer is made in fine grained and smooth structure, painted in colour selected by the Employer / Employer's representative, fully in line with the Design details. The openings should be protected with PVC membrane. Price includes the purchase, installation of complete material, preparatory works, surface preparation and installation of the scaffolding.													
	Calculation per m2.													
	- white	m ²	3.553,48	x	15,10 €	=	53.657,55 €		3.553,48	x	15,10 €	#	=	53.657,55 €
	- darker grey	m ²	981,41	x	15,10 €	=	14.819,29 €		981,41	x	15,10 €	#	=	14.819,29 €
1.15.	Setting up of the facade plinth with decorative ready mixed marble based mortar, created on grain ("Kulie") as splash guard (as indicated on the drawings). Surface should be cleaned, washed and sprinkled with acrylic base with granulate, color of the base by the color chart of the manufacturer. Render should be applied on cleaned and dried surface by manufacturer's instruction. The color should be determined by the Employer / Employer's representative, according to the color chart of manufacturer.													
	Calculation per m2.													
		m ²	250,50	x	15,20 €	=	3.807,60 €		250,50	x	15,20 €	#	=	3.807,60 €
1.16.	Purchase and installation of the profiled, standard, flexible vertical expansion joints at wall-to-wall contact, for expansion joint width of 5cm. The entire procedure should be undertaken in compliance with the producer's technology.													
	Calculation per m ¹ .													
		m ¹	37,00	x	21,00 €	=	777,00 €		37,00	x	21,00 €	#	=	777,00 €
1.17.	Purchase and installation of aluminium louver shutters in the laundry and boiler room facade area (in the position of ventilators, diameter approx. 50 cm). Louver element shall be sampled and approved by Employer / Employer's representative,													
	Calculation as per piece													
		pcs	4,00	x	40,00 €	=	160,00 €		4,00	x	40,00 €	#	=	160,00 €
	TOTAL FOR THERMAL INSULATION OF FACADE WALLS						146.874,47 €							146.498,15 €
II	REPLACEMENT OF FACADE JOINERY													
2.01.	Dismantling of existing facade joinery with all appurtenant metal supporters and mechanisms and dumping at the town landfill or hand-over to the Employer/Employer's Representative (as agreed) for storing.													
	Calculation per piece.													
0001	dim. 150/150cm with blinds	pieces	114	x	12,36 €	=	1.409,04 €		114	x	12,36 €	#	=	1.409,04 €
0001*	dim. 150/150cm	pieces	2	x	10,30 €	=	20,60 €		2	x	10,30 €	#	=	20,60 €
0001*	dim. 150/150cm	pieces	29	x	10,30 €	=	298,70 €		29	x	10,30 €	#	=	298,70 €
0002	dim. 150/75cm	pieces	3	x	5,67 €	=	17,00 €		3	x	5,67 €	#	=	17,00 €
0003	dim. 80/80cm	pieces	27	x	3,09 €	=	83,43 €		27	x	3,09 €	#	=	83,43 €
0004	dim. 140/160cm with blinds	pieces	2	x	12,36 €	=	24,72 €		2	x	12,36 €	#	=	24,72 €
0004*	dim. 140/160cm	pieces	2	x	9,79 €	=	19,57 €		2	x	9,79 €	#	=	19,57 €
0005	dim. 200/135cm	pieces	1	x	12,36 €	=	12,36 €		1	x	12,36 €	#	=	12,36 €
0006	dim. 68/100cm	pieces	2	x	3,61 €	=	7,21 €		2	x	3,61 €	#	=	7,21 €
0007	dim. 145/70cm	pieces	2	x	5,67 €	=	11,33 €		2	x	5,67 €	#	=	11,33 €
0008	dim. 80/160cm	pieces	5	x	6,18 €	=	30,90 €		5	x	6,18 €	#	=	30,90 €
0009	dim. 140/60cm	pieces	1	x	4,64 €	=	4,64 €		1	x	4,64 €	#	=	4,64 €
0010	dim. 300/160cm	pieces	1	x	21,63 €	=	21,63 €		1	x	21,63 €	#	=	21,63 €
0011	dim. 100/150cm	pieces	1	x	8,24 €	=	8,24 €		1	x	8,24 €	#	=	8,24 €
0012	dim. 150/100cm	pieces	1	x	8,24 €	=	8,24 €		1	x	8,24 €	#	=	8,24 €
0013	dim. 110/150cm	pieces	3	x	8,24 €	=	24,72 €		3	x	8,24 €	#	=	24,72 €
0014	dim. 150/250cm	pieces	5	x	18,54 €	=	92,70 €		5	x	18,54 €	#	=	92,70 €
0015	dim. 155/380cm	pieces	1	x	15,45 €	=	15,45 €		1	x	15,45 €	#	=	15,45 €
0016	dim. 170/250cm	pieces	1	x	25,75 €	=	25,75 €		1	x	25,75 €	#	=	25,75 €
0017	dim. 160/260cm	pieces	3	x	17,51 €	=	52,53 €		3	x	17,51 €	#	=	52,53 €
0018	dim. 575/315cm	pieces	1	x	87,55 €	=	87,55 €		1	x	87,55 €	#	=	87,55 €
0019	dim. 140/230cm	pieces	1	x	13,91 €	=	13,91 €		1	x	13,91 €	#	=	13,91 €
0020	dim. 160/205cm	pieces	1	x	14,42 €	=	14,42 €		1	x	14,42 €	#	=	14,42 €
0021	dim. 150/220cm	pieces	1	x	14,42 €	=	14,42 €		1	x	14,42 €	#	=	14,42 €
0022	dim. 150/220+50cm	pieces	1	x	18,54 €	=	18,54 €		1	x	18,54 €	#	=	18,54 €
0023	dim. 265/250cm	pieces	1	x	39,14 €	=	39,14 €		1	x	39,14 €	#	=	39,14 €
0024	dim. 100/200cm	pieces	1	x	9,27 €	=	9,27 €		1	x	9,27 €	#	=	9,27 €
0025	dim. 90/250cm	pieces	1	x	10,30 €	=	10,30 €		1	x	10,30 €	#	=	10,30 €
0026	dim. 120/250cm	pieces	2	x	13,39 €	=	26,78 €		2	x	13,39 €	#	=	26,78 €

2.02. Dismantling and installing of existing protective bars on facade openings which will be replaced. Cleaning and scraping included. Bars are coated with double layer of basic anti-corrosion paint and double layer of finishing paint colour selected by the Employer / Employer's representative. All the connections are protected from corrosion and painted.												
Calculation per piece												
ozn 1	dim. 150/150cm	pieces	9	x	41,20 €	=	370,80 €		9	x	41,20 €	# = 370,80 €
ozn 3	dim. 80/80cm	pieces	3	x	41,20 €	=	123,60 €		3	x	41,20 €	# = 123,60 €
ozn 3'	dim. 80/80cm	pieces	1	x	41,20 €	=	41,20 €		1	x	41,20 €	# = 41,20 €
ozn 3''	dim. 80/80cm	pieces	1	x	41,20 €	=	41,20 €		1	x	41,20 €	# = 41,20 €
ozn 4	dim. 140/160cm	pieces	2	x	41,20 €	=	82,40 €		2	x	41,20 €	# = 82,40 €
ozn 5	dim. 200/135cm	pieces	1	x	41,20 €	=	41,20 €		1	x	41,20 €	# = 41,20 €
ozn 6	dim. 68/100cm	pieces	1	x	41,20 €	=	41,20 €		1	x	41,20 €	# = 41,20 €
ozn 6'	dim. 55/100cm	pieces	1	x	41,20 €	=	41,20 €		1	x	41,20 €	# = 41,20 €
ozn 12	dim. 150/100cm	pieces	1	x	41,20 €	=	41,20 €		1	x	41,20 €	# = 41,20 €
ozn 15	dim. 165/300cm	pieces	1	x	41,20 €	=	41,20 €		1	x	41,20 €	# = 41,20 €
ozn 27	dim. 100/60cm	pieces	1	x	41,20 €	=	41,20 €		1	x	41,20 €	# = 41,20 €
ozn 28	dim. 75/200cm	pieces	1	x	41,20 €	=	41,20 €		1	x	41,20 €	# = 41,20 €
ozn 29	dim. 80/90cm	pieces	1	x	41,20 €	=	41,20 €		1	x	41,20 €	# = 41,20 €
ozn 30	dim. 130/260cm	pieces	1	x	41,20 €	=	41,20 €		1	x	41,20 €	# = 41,20 €
2.03. Making and installation of new protective bars grid in accordance with the ironmongery scheme. The grid frame shall be made of steel box profiles dimensions 30*30 mm, and inner bars of full profile 10*10 mm. The bars have to be painted two times by anti corrosive primers, plus another two layers with final paint, as per Employer / Employer's representative's choice. All the joints have to be welded, protected against corrosion and painted. The bar grid shall be made in line with existing ones. Measures to be taken on the site.												
Calculated as per piece												
ozn 31	dim. 150/150cm	pieces	12	x	128,75 €	=	1.545,00 €		12	x	128,75 €	# = 1.545,00 €
ozn 32	dim. 315/250cm	pieces	2	x	448,05 €	=	896,10 €		2	x	448,05 €	# = 896,10 €
2.04. Due to damages on internal walls occurred during removal of current windows and doors, damaged surfaces should be treated with double-layer of cement mortar 1:3:9, with previously sprinkled cement slurry. The first layer should be applied roughly, and the second fine one should be floated using necessary scaffold. The mortared surfaces must be flat, without breaks and waves with sharp and straight edges.												
Calculation per m ² .												
	around openings	m ²	346,62	x	8,76 €	=	3.034,66 €		346,62	x	8,76 €	# = 3.034,66 €
2.05. Skimming and painting of internal walls on the part of the sidelights on the internal side damaged due to dismantling of existing openings. Skimming is done in double layer with skimming compound using required scaffold.												
Calculation per m ² .												
	around openings	m ²	346,62	x	4,02 €	=	1.392,37 €	4	0	x	4,02 €	# =
2.06. Preparation and installation of hard highly resistant 6-chamber PVC profiled windows, reinforced with stainless steel U-profiles coated in plastics, as per joinery scheme and details, with high quality mechanism, fittings, hinges for opening. Glass system 4+16+4mm, with hermetically sealed argon between two glass panels and tightened with permanently elastic EPDM rubber are used for glazing. Thermal conductivity is maximum U=1,50W/m ² K, solar factor g≤65%. The positions ozn 1 and ozn 4 shall be delivered with external roller shutters, similar to the models installed in the adjacent apartments. The item includes all the necessary cleaning and dumping at the landfill as well as all the works necessary for installation of joinery (proper installation, required chasing, edge strips - if required). Calculation is made per piece of finished item. Profile colour is selected by the Employer / Employer's representative. Measures must be taken on site, prior to production. Note: Depending on the size of the opening, where it is necessary, big windows/doors elements should have additional reinforcement/stiffening of the profiles.												
Calculation per piece												
ozn 1	dim. 150/150cm - with roller shutters	pcs	57	x	449,08 €	=	25.597,66 €		57	x	449,08 €	# = 25.597,66 €
ozn 1'	dim. 150/150cm	pcs	2	x	320,33 €	=	640,66 €		2	x	320,33 €	# = 640,66 €
ozn 1''	dim. 150/150cm	pcs	29	x	320,33 €	=	9.289,57 €		29	x	320,33 €	# = 9.289,57 €
ozn 1'''	dim. 150/150cm	pcs	57	x	320,33 €	=	18.258,81 €		57	x	320,33 €	# = 18.258,81 €
ozn 2	dim. 150/75cm	pcs	3	x	151,41 €	=	454,23 €		3	x	151,41 €	# = 454,23 €
ozn 3	dim. 80/80cm	pcs	27	x	86,52 €	=	2.336,04 €		27	x	86,52 €	# = 2.336,04 €
ozn 4	dim. 140/160cm - with roller shutters	pcs	2	x	449,08 €	=	898,16 €		2	x	449,08 €	# = 898,16 €
ozn 4'	dim. 140/160cm	pcs	2	x	321,36 €	=	642,72 €		2	x	321,36 €	# = 642,72 €
ozn 5	dim. 200/135cm	pcs	1	x	366,68 €	=	366,68 €		1	x	366,68 €	# = 366,68 €
ozn 6	dim. 68/100cm	pcs	2	x	94,76 €	=	189,52 €		2	x	94,76 €	# = 189,52 €
ozn 7	dim. 145/70cm	pcs	2	x	135,96 €	=	271,92 €		2	x	135,96 €	# = 271,92 €
ozn 8	dim. 80/160cm	pcs	5	x	178,19 €	=	890,95 €		5	x	178,19 €	# = 890,95 €
ozn 9	dim. 140/60cm	pcs	1	x	114,33 €	=	114,33 €		1	x	114,33 €	# = 114,33 €
ozn 10	dim. 300/160cm	pcs	1	x	650,96 €	=	650,96 €		1	x	650,96 €	# = 650,96 €
ozn 11	dim. 100/150cm	pcs	1	x	202,91 €	=	202,91 €		1	x	202,91 €	# = 202,91 €
ozn 12	dim. 150/100cm	pcs	1	x	202,91 €	=	202,91 €		1	x	202,91 €	# = 202,91 €
ozn 13	dim. 110/150cm	pcs	3	x	225,57 €	=	676,71 €		3	x	225,57 €	# = 676,71 €
ozn 14	dim. 150/250cm	pcs	5	x	508,82 €	=	2.544,10 €		5	x	508,82 €	# = 2.544,10 €

Putting pebble stones onto the flat roof as a drainage-protection layer (on the position indicated on the drawing). Grain granulation shall be 16-32 mm and thickness d=4-6cm. Calculation per m2.		m ²			494,22			Optional offer "Wolfin system" in TD, instead of pos. 3.11; amount corrected.
lump sum				1			33.302,07 €	Optional offer "Wolfin system" in
NOTE:								
Waterproofing to be placed over a layer of existing insulation. The price includes surface preparation: cleaning, dedusting, bubbles removal, cuts and folds, etc. from the existing insulation.								
TOTAL FOR THERMAL INSULATION OF THE FLAT ROOF					33.638,46 €		33.302,07 €	
IV NON-EE AND ANCILLARY WORKS ARISING FROM IMPLEMENTATION OF EE MEASURES								
DISMANTLING AND REINSTALLATION OF VERTICAL AND HORIZONTAL GUTTERS								
4.01.	These items are described in chapter Thermal insulation of façade walls.							
-DISMANTLING AND REINSTALLATION OF AIR CONDITIONING UNITS, CAMERAS, LIGHTING								
4.02.	These items are described in chapter Thermal insulation of façade walls.							
-PLASTERING AND PAINTING SIDELIGHTS								
4.03.	These items are described within the chapter Replacement of facade joinery.							
-DISMANTLING AND REINSTALLATION OF DRIPS, FLASHINGS, SILLS etc.								
4.04.	These items are described in chapter Thermal insulation of façade walls.							
DISMANTLING AND REINSTALLATION OF METAL PROTECTIVE BARS								
4.05.	These items are described within chapter Replacement of facade joinery.							
-SUBSTRUCTURE FOR SOLAR PANNEL								
4.06.	Purchase, transportation and installation of a metal substructure for solar panels. The structure shall be made of steel profiles fully in compliance with the Design. Profiles need to be coated in anti-corrosion layer, using base paint and double-layer of finishing paint in the colour as selected by the Employer / Employer's representative.							
Calculation per kg.								
	HOP 100*100*5	kg	691,68	x	2,50 €	=	1.729,20 €	691,68 x 2,50 € # = 1.729,20 €
	HOP 120*50*6	kg	2.076,49	x	2,50 €	=	5.191,23 €	2.076,49 x 2,50 € # = 5.191,23 €
	L 100*100*10	kg	23,66	x	2,50 €	=	59,15 €	23,66 x 2,50 € # = 59,15 €
	Plate 100*400*5	kg	5,60	x	2,50 €	=	14,00 €	5,60 x 2,50 € # = 14,00 €
	Plate 250*120*5	kg	6,30	x	2,50 €	=	15,75 €	6,30 x 2,50 € # = 15,75 €
4.07.	Demolition of a concrete retaining wall. The price includes all works, materials and debris transportation to the town landfill.							
Calculation lump sum		lump sum	1,00		135	=	135,00 €	1,00 135 # = 135,00 €
4.08.	Construction of reinforced concrete retaining wall MB30, similar to the neighbouring structure, approx. 25cm thick. Item includes formwork and reinforcement and all ancillary works.							
Calculation per m3								
		m3	6,00	x	145	=	870,00 €	6,00 x 145 # = 870,00 €
TOTAL FOR NON-EE AND ANCILLARY WORKS ARISING FROM IMPLEMENTATION OF EE MEASURES					8.014,33		8.014,33	
V MEASURES TO ENABLE HIGHER COMFORT AND BETTER WORKING CONDITIONS								
Works on the internal ceilings and walls								
5.01.	Dismantling of existing flashing made of chipboard over dilatation in the restaurant at the ground floor using required scaffold. Debris is collected, removed from the building, loaded onto a truck and dumped to a construction material landfill at up to 5 km distance.							
Calculation per m2.								
	vertical	m ²	48,48	x	1,50 €	=	72,72 €	2 0 x 1,50 € # = 0 Excluded by Client (communication
	horizontal (on the ceiling)	m ²	32,23	x	1,50 €	=	48,35 €	2 0 x 1,50 € # = 0 01/08/2014)
5.02.	Dismantling of existing suspended ceiling boards 60x60cm (substructure shall not be dismantled) using required scaffold. Debris is collected, removed from the building, loaded onto a truck and dumped to a construction material landfill at up to 5 km distance.							
Calculation per m2.								
	3rd floor - corridor	m ²	32,77	x	1,50 €	=	49,16 €	2 0 x 1,50 € # = 0 Excluded by Client (communication
	4th floor - corridor	m ²	28,77	x	1,50 €	=	43,16 €	2 0 x 1,50 € # = 0 01/08/2014)

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5.14.	Purchase of material and plastering of walls on parts where existing ceramic wall tiles were in sanitary facilities (total height up to 220cm), in two layers using gauged mortar 1:2:6 on previously sprayed with cement slurry base. The first layer should be applied roughly, and the second fine one should be floated using necessary scaffold. The mortared surfaces must be flat, without breaks and waves with sharp and straight edges.																			
	Calculation per m2.																			
	basement	m ²	138,16	x	7,80 €	=	1.077,65 €	2	0	x	7,80 €	#	=	0						
	first floor	m ²	92,44	x	7,80 €	=	721,03 €	2	0	x	7,80 €	#	=	0						
	second floor	m ²	92,44	x	7,80 €	=	721,03 €	2	0	x	7,80 €	#	=	0						Excluded by Client (communication 01/08/2014)
	third floor	m ²	75,28	x	7,80 €	=	587,18 €	2	0	x	7,80 €	#	=	0						
5.15.	Purchase and tiling of walls in sanitary blocks with I class tiles, at height h=220cm. Tiles should be placed in adhesive, joint bonding manner, type as selected by the Employer / Employer's representative. The price includes installation of AL strips.																			
	Calculation per m2.																			
	basement	m ²	102,85	x	21,50 €	=	2.211,28 €	2	0	x	21,50 €	#	=	0						
	first floor	m ²	74,05	x	21,50 €	=	1.592,08 €	2	0	x	21,50 €	#	=	0						
	second floor	m ²	74,05	x	21,50 €	=	1.592,08 €	2	0	x	21,50 €	#	=	0						Excluded by Client (communication 01/08/2014)
	third floor	m ²	60,57	x	21,50 €	=	1.302,26 €	2	0	x	21,50 €	#	=	0						
5.16.	Purchase and installation of floor ceramic tiles I class in sanitary blocks. Tiles should be placed in adhesive, joint bonding manner, type as selected by the Employer / Employer's representative. Price includes fitting of transition strips.																			
	Calculation per m2.																			
	basement	m ²	26,00	x	21,50 €	=	559,00 €	2	0	x	21,50 €	#	=	0						
	first floor	m ²	15,90	x	21,50 €	=	341,85 €	2	0	x	21,50 €	#	=	0						
	second floor	m ²	15,90	x	21,50 €	=	341,85 €	2	0	x	21,50 €	#	=	0						Excluded by Client (communication 01/08/2014)
	third floor	m ²	12,02	x	21,50 €	=	258,43 €	2	0	x	21,50 €	#	=	0						
5.17.	Preparation and installation of doors made of hard highly resistant PVC profiles reinforced with stainless steel U-profiles coated in plastics, as per joinery scheme and details, with high quality mechanism, hardware, hinges for opening. PVC panels and thermopan glass 4+16+4mm is used as infill. Include removal of old doors with their dumping at landfill selected by the Employer / Employer's Representative.																			
	The item includes all the necessary cleaning and dumping at the landfill as well as all the works necessary for installation of joinery (proper installation, required chasing, edge strips - if required). Calculation is made per piece of finished item. Profile colour is selected by the Employer / Employer's representative. Measures must be taken on site, prior to production.																			
	Calculation per piece.																			
	dim. 70/205cm	pieces	18	x	186,00 €	=	3.348,00 €	2	0	x	186,00 €	#	=	0						
	dim. 90/205cm	pieces	6	x	218,00 €	=	1.308,00 €	2	0	x	218,00 €	#	=	0						
	dim. 90/205+130cm	pieces	4	x	351,00 €	=	1.404,00 €	2	0	x	351,00 €	#	=	0						Excluded by Client (communication 01/08/2014)
5.18.	Purchase and fitting of waterproof plasterboards for installation of monolith suspended ceiling with required substructure, using required scaffold.																			
	Calculation per m2.																			
	third floor - showers	m ²	9,40	x	17,70 €	=	166,38 €		9,4	x	17,70 €	#	=	166,38 €						Approved by S. Sipic in site meeting on 03/12/2014
5.19.	Removal of construction waste from the sanitary facilities and its dumping at construction material landfill at a distance of up to 5km.																			
	Calculation per m2.																			
	- rooms 23 & 30	m ²	81,09	x	1,50 €	=	121,64 €	2	0	x	1,50 €	#	=	0						
	- rooms 16,17 & 18	m ²	104,70	x	1,50 €	=	157,05 €	2	0	x	1,50 €	#	=	0						Excluded by Client (communication 01/08/2014)
	- rooms 34	m ²	52,50	x	1,50 €	=	78,75 €	2	0	x	1,50 €	#	=	0						
5.20.	Scraping of the old paint from the walls and ceilings in the toilets, removal and loading of the debris onto a truck and its transportation to a landfill up to 5 km distance. The item includes all pre-works for new painting, and usage of scaffold. Calculation as per m2 of																			
		m ²	180,30	x	0,30 €	=	54,09 €	2	0	x	0,30 €	#	=	0						
5.21.	Polishing of walls and ceilings in the toilets. Skimming should be applied in required number of layers until completely flat surface is achieved. This item includes scraping, plastering, neutralization, impregnating. Calculation as per m2, including all material, work and																			
		m ²	180,30	x	2,30 €	=	414,69 €	2	0	x	2,30 €	#	=	0						
5.22.	Painting of walls and ceilings in the toilets. Employer / Employer's representative will select the colour of semi dispersed distemper. This item includes pre-painting, and correction with the toned dispersive filler or pointing plaster. Final layer of paint should be applied twice																			
	Calculation as per m2, including all material, work and required scaffolding.	m ²	180,30	x	1,60 €	=	288,48 €	2	0	x	1,60 €	#	=	0						Excluded by Client (communication 01/08/2014)
	Repair of the external pavement																			

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9	Purchase and installation of metal sheet flashings between the concrete flower pots and walls dimensions 30x37cm ,flashings are made of galvanized plasticated metal sheet d=0.7mm,Material 6e, installation 4e, profit 10%	piece	5	48,00	x	11,00	€	=	528,00	€	OFV 45, approved by Client on 28/11/2014.
10	Purchase and installation of mineral wool d=10cm with voal in the roof structure on the horizontal part over the windows. Dismantling and reinstalling of old metal sheet cover is included in the price. Material 7.5e, dismantling and reinstallation of metal sheet cover 5e, installation of thermal insulation 3.5e, profit 10%	m2	5	45,00	x	17,60	€	=	792,00	€	OFV 45, approved by Client on 28/11/2014.
11	Dismantling of old damaged wall tiles in the boiler house. Loading and transporting of the debris to the town landfill. S.M ARH BoQ 5.07- 3.5e	m2	5	64,66	x	3,50	€	=	226,31	€	OFV 46, approved by Client on 28/11/2014.
12	Plastering of the walls after dismantling wall tiles PriceS.M BoQ ARH 5.14- 7.8	m2	5	64,66	x	7,80	€	=	504,35	€	OFV 46, approved by Client on 28/11/2014.
13	Removal of soil and flowers from flower pots, loading and transporting to the town landfill. Work 7e, transport to the landfill 5e	pieces	5	28,00	x	12,00	€	=	336,00	€	OFV 46, approved by Client on 28/11/2014.
14	Purchase of the material and waterproofing of the inside walls of the flower pots with two layers of "Kema" hidrostop elastic (1.5m2 per piece). Material 22e, work 5.3e, profit 10%	pieces	5	28,00	x	30,00	€	=	840,00	€	OFV 46, approved by Client on 28/11/2014.
15	Making a hole in the wall for new window dimensions 90x50cm. Debris must be loaded and transported to the town landfill. Work 45e, loading and transport to the town landfill 25e, profit 10%	pieces	5	1,00	x	77,00	€	=	77,00	€	OFV 46, approved by Client on 28/11/2014.
16	Dismantling of old ceramic tile plinth in the fire stairs area, purchase of the material and installation of new ceramic plinths in dark red color. Dismantling 1.5e, loading and transport to the town landfill 1.5e, purchase of new ceramic plinth 7.5e, installation 3e profit 10%	m1	5	94,00	x	14,85	€	=	1.395,90	€	OFV 46, approved by Client on 28/11/2014.
17	Waterproofing of two leaking balcony slab with two layers of hydrostop elastic with preparation works (5.5m2). Work and material 150e	lumpsum	5		x	150,00	€	=	150,00	€	OFV 46, approved by Client on 28/11/2014.
18	Cleaning and washing the old walls in boiler room. Work 1.5e/m2	m2	5	166,85	x	1,20	€	=	200,22	€	OFV 46, approved by Client on 28/11/2014.
19	Purchase of the material and painting of the the walls in boiler room with two layers of semidispersive color. S.M ARH BoQ 5.22- 1.6e/m2	m2	5	166,85	x	1,60	€	=	266,96	€	OFV 46, approved by Client on 28/11/2014.
20	Patching of the holes in walls and ceilings after dismantling electrical installation in the boiler room with plaster , bricking up and plastering 3 holes in walls and patching and plastering stripes in walls. Work and material 350e	lumpsum	5	1,00	x	350,00	€	=	350,00	€	OFV 46, approved by Client on 28/11/2014.
21	Dismantling of the reinforced concrete wall d=25cm 160x160cm in the basement to enable the entrance of the new boilers in to the boiler room. Loading and transporting debris to the town landfill Dismantling 80e, loading and transporting to the landfill 40e, profit 10%	piece	5	1,00	x	132,00	€	=	132,00	€	OFV 46, approved by Client on 28/11/2014.
22	Purchase of the material and making new reinforced concrete wall in basement. Materia and work 165e	m3	5	0,65	x	165,00	€	=	107,25	€	OFV 46, approved by Client on 28/11/2014.
23	Purchase of the material and making protection grille made of steel boxes 60x40x3mm and grif net, installation of the grille on the wall with screws, to enable easily maintenance of the sewer downpipes in the wall.Dimensions of the grille are 220x70cm. Material 90e, transport 15e,assembling and installation 55e, profit 10%	piece	5	1,00	x	176,00	€	=	176,00	€	OFV 46, approved by Client on 28/11/2014.
24	Dismantling of old aluminum portal on the coridor exit to the flat roof- dimensions 315*250cm. Loading and transport to the town landfill. Work and material 50e	piece	5	1,00	x	50,00	€	=	50,00	€	OFV 48, approved by Client on 28/11/2014.
25	Purchase of material and construction of parapet wall 60x315cm beneath the new window exit to the flat roof using gitter block dim. 19x19x25cm in gauged plaster 1:2:6, d=25cm. Prior to construction, blocks need to be dampened. Joints need to PriceS.M BoQ ARH 1.05- 23.6	m2	5	1,90	x	23,60	€	=	44,84	€	OFV 48, approved by Client on 28/11/2014.
26	Plastering new parapet walls with double layer of cement plaster 1:3:9, with previously sprinkled cement slurry. The first layer should be applied roughly, and the second fine one should be floated using necessary scaffold. The mortared surfaces must be flat, without breaks and waves with sharp and straight edges.PriceS.M BoQ ARH 1.06- 7.8	m2	5	1,90	x	7,80	€	=	14,82	€	OFV 48, approved by Client on 28/11/2014.
27	Purchase of the material and skimming and painting of the the parapet wall S.M ARH BoQ 1.07-3.9e/m2	m2	5	1,90	x	3,90	€	=	7,41	€	OFV 48, approved by Client on 28/11/2014.
28	Purchase of the material, assembling and installation of new PVC exit door to the flat roof dimensions 300x165cm. S.M ARH BoQ 2.06- pos 10 - 650.96	pieces	5	1,00	x	650,96	€	=	650,96	€	OFV 48, approved by Client on 28/11/2014.

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29	Deduction of three PVC windows position 4-150x150cm with roller shutters. S.M ARH BoQ 2.06- 449.08e																			OFV 48, approved by Client on 28/11/2014.	
		pieces			5	3,00	x	-449,08 €	=	-1.347,24 €											
30	Deduction of entrance partition sliding aluminum door with thermal break pos 23-dimensions 365x250cm S.M ARH BoQ 2.07-2318.28e																			OFV 48, approved by Client on 28/11/2014.	
		pieces			5	1,00	x	-2.318,28 €	=	-2.318,28 €											
31	Purchase of the material, assembling and installation of new PVC window dimensions 90x60cm. Price S.M ARH BoQ 2.06-pos 3-86.52e + window sill external 0.9*14.6=13.14e - 99.66																			OFV 48, approved by Client on 28/11/2014.	
		pieces			5	1,00	x	99,66 €	=	99,66 €											
32	Production and installation of new partition regular two wings entrance aluminum door with thermal break dimensions 365x250cm. Panic lock and selfclosing mechanism are included in the price. Price J.K BoQ ARH A3-3- 1a 569x259cm- 2961e- in our case 365x250cm- 1835.29																			OFV 48, approved by Client on 28/11/2014.	
		pieces			5	1,00	x	1.835,29 €	=	1.835,29 €											
33	Manual excavation of soil for the new manhole around existing ventilation. Excavated material should be carried to the landfill. Work 16 transport to the landfill 7e																			OFV 57, approved by Client on 28/11/2014.	
		m3			5	4,38	x	23,00 €	=	100,74 €											
34	Purchase of the material and installation of reinforced concrete manhole, wall width d=12cm, in total 1.24m3. Material 170e, transport 30e, installation 120e, profit 10%																			OFV 57, approved by Client on 28/11/2014.	
		m3			5	1,00	x	352,00 €	=	352,00 €											
35	Purchase of the material and installation of metal grille on top of the manhole, made with metal boxes and painted with protective paint. Dimensions 140x190cm. Material 160e, transport 30e, installation 85e, profit 10%																			OFV 57, approved by Client on 28/11/2014.	
		piece			5	1,00	x	302,50 €	=	302,50 €											
36	Drilling the existing retaining wall and putting drainage pipe from the bottom of the manhole to eliminate water from the shaft.																			OFV 57, approved by Client on 28/11/2014.	
		lumpsum			5	1,00	x	70,00 €	=	70,00 €											
37	Reparations of all leaking spots in existing water and sewer installation, replacement of broken parts, and fixing the pipes on the																			OFV 57, approved by Client on 28/11/2014.	
		lumpsum			5	1,00	x	220,00 €	=	220,00 €											
38	Production and installation of flashings, of galvanized plastic-laminated steel metal sheets, d=0,68mm over the lying beams in connection with façade on flat roofs. Special connection to the Wolfin membrane is provided with special glues for metal and d.w. 40cm - price S.M 11.1- 14.6e d.w. 60cm- price S.M 11.1- 14.6e d.w. 80cm- Price 16.6e d.w. 125cm- price 23.6e																			OFV 65, approved by Client on 20/01/2015.	
		m1			5	39,10	x	14,60 €	=	570,86 €											
		m1				29,70	x	14,60 €	=	433,62 €											
		m1				3,00	x	16,60 €	=	49,80 €											
		m1				3,00	x	23,60 €	=	70,80 €											
SUMMARY OF COSTS VII																					
TOTAL PRICE, VAT EXCLUDED:																				20.404,35 €	
VAT (19%):																				3.876,83 €	
VII	TOTAL PRICE (WITHOUT DISCOUNT), VAT INCLUDED:																				24.281,17 €
SUMMARY OF COSTS I-VII																					
I-VII	TOTAL PRICE, VAT INCLUDED:																				346.520,34 €

GROUP A5.1.2		Investor:		Ministry of Economy of Montenegro, Energy Efficiency Sector							
TABLE OF QUANTITIES of thermal-technical (heating) services for energy efficiency improvement in "Spasić-Mašera" Student Dormitory in Kotor		Project financed by:		KIW ENTWICKLUNGSBANK							
		Consultant/ Konsultant:		FICHTNER GmbH&Co. KG							
		Sub-Consult/ Lokalni projekat:		KOPRING PMC, Podgorica							
		School/ Objekat:		S.D. "Spasić Mašera", Kotor							
		Doc. origin/ Dokumentacija:		Final Heating Design							
		Date:		28 November 2013							
No.	Item Description	Unit of measure	CONTRACT				AMENDMENT 1				COMMENTS
			Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)		
A - Measure No. 1: Energy management											
1	Purchase, supply and installation of ultrasonic heat gauge and cable from computer unit to heat gauge of 1,5m, for mounting into return piping line. The gauge is battery powered. Together with gauge a pair of temperature sensors Pt500 is delivered, one sensor mounted directly into flow gauge body, M-Bus module, brass bushing for sensors mounting, and set threaded unions. Manufacturer: "Siemens" or equivalent Type: "UH50 Ultraheat" Nominal flow: 15 m³/h Connector: 2"	pcs	1 x	1.445,22 € =	1.445,22 €			1 x	1.445,22 € =	1.445,22 €	
2	Purchase, supply and installation of electronic flow gauge for light fuel oil. Manufacturer: "Aqua metro" or equivalent Type: "VZO 4 RE" Nominal flow: 50 l/h Minimum flow: 1 l/h	pcs	2 x	560,70 € =	1.121,40 €			2 x	560,70 € =	1.121,40 €	
3	Purchase, supply and installation of control unit with M-Bus communication and display. Manufacturer: "Siemens" or equivalent Type: "Climatix POL638"	pcs	1 x	2.709,00 € =	2.709,00 €	2		0 x	2.709,00 € =		Excluded by Client (communication 01/08/2014)
4	Software development and staff training.	pcs	1 x	756,00 € =	756,00 €	2		0 x	756,00 € =		Excluded by Client (communication 01/08/2014)
TOTAL A - ENERGY MANAGEMENT						6.031,62 €				2.566,62 €	
B - Measure No. 5: Replacement of boilers, pipes and equipment in the boiler room											
B.I Dismantling of existing equipment											
1	Dismantling of existing equipment in the boiler room (2 boilers capacity 300 kW with burners and flues, 5 feeder and receiver pipes, 5 circulating pumps, 30 valves, dimensions exceeding DN50, insulated pipes, sanitary hot water pipes and boiler recharging pipes, 2 SHW heaters each 4000l, open expansion vessels below the roof and other equipment). Calculated lump-sum	pcs	1 x	3.150,00 € =	3.150,00 €			1 x	3.150,00 € =	3.150,00 €	
2	Cleaning existing below-grade light distilled oil tank capacity 40m³, removal of sediments, dumping in set manner, replacement of suction group, maintenance service of safety valves and inspection of entire ancillary installation. Calculated lump-sum	pcs	1 x	1.764,00 € =	1.764,00 €			1 x	1.764,00 € =	1.764,00 €	
3	Mending damaged part of the floor and holes in walls, fitting ceramic tiles on the floor total floor area 65m². Fitting of 2 concrete bases for boilers, each dimensions 180 x 100 x 10 cm, base is coated in floor ceramic tiles... Calculated lump-sum	pcs	1 x	=	2.160,00 €			1 x	=	2.160,00 €	
4	Making of openings on one vertical side of the existing chimney to fit new prefabricated chimneys through the old, chimney cleaning, waste removal and fitting of terminal cap at the top of the old chimney through which new chimneys need to be pulled. Penetration of openings in the external wall to pull through other new chimney. Calculated lump-sum	pcs	1 x	252,00 € =	252,00 €			1 x	252,00 € =	252,00 €	
5	Rinsing of the entire heating system in the school with the gym. Dismantling of all properly functioning radiators (29 ribbed, 158 aluminium and 1 panel radiator) and removal of residue from the bottom of ribs, cleaning air-release radiator valves. Fitting of new radiator brackets and remounting of radiators. Calculated lump-sum	pcs	1 x	4.410,00 € =	4.410,00 €			1 x	4.410,00 € =	4.410,00 €	
TOTAL B.I - DISMANTLING OF EXISTING EQUIPMENT						11.736,00 €				11.736,00 €	
B.II New boiler room equipment											
1	Purchase, delivery and installation of compact three-pass steel boiler with cylindrical combustion chamber, for economic drive with variable water temperature in the boiler, for combusting light distilled oil type EL for heating systems with feed temperature max. operating temperature) of up to 110°C, with "Therm-Control" for operating without additional function for increasing return temperature, i.e. protection for the cold end of the boiler, properties: Manufacturer: "Viessmann" or equivalent Type: "Vitoplex 300 TX3A"										

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	Ø42x1.0mm		m	250	x	17,64 €	=	4.410,00 €		250	x	17,64 €	=	4.410,00 €	
35	All other material for connecting and fitting of pipes on the roof, in concrete manholes, on the ceiling and substation, sundries such as fittings, elbows, acetylene, pipe linear for pulling the pipes through floor structures, maxing of solid and guide supporters is calculated as 50% of the previous pipe item.		50%	of	0,5	x	5.731,92 €	=	2.865,96 €		0,5	x	5.731,92 €	=	2.865,96 €
36	Purchase of material and insulation of copper pipes and equipment of the solar system using rock wool, thickness 50mm, in AL sheeting, thickness 0.5mm, complete with fitting kit. Fire protection flammability class A1 in line with SIST EN 13501-1 and JUS U.J1.050. Calculated as per m ² of insulation measured on the external side of the pipe.		m ²	160	x	36,54 €	=	5.846,40 €		160	x	36,54 €	=	5.846,40 €	
37	Purchase, delivery and installation of threaded brass ball valves, with following dimensions:														
	DN40 PN6		pcs	27	x	30,88 €	=	833,65 €		27	x	30,88 €	=	833,65 €	
	DN32 PN6		pcs	8	x	21,05 €	=	168,38 €		8	x	21,05 €	=	168,38 €	
	DN25 PN6		pcs	5	x	19,40 €	=	97,02 €		5	x	19,40 €	=	97,02 €	
	DN15 PN6		pcs	5	x	12,60 €	=	63,00 €		5	x	12,60 €	=	63,00 €	
38	Purchase, delivery and installation of oblique flow control valves, with dimensions and properties:														
	DN40 PN6		pcs	3	x	79,38 €	=	238,14 €		3	x	79,38 €	=	238,14 €	
	DN32 PN6		pcs	3	x	72,07 €	=	216,22 €		3	x	72,07 €	=	216,22 €	
	DN25 PN6		pcs	2	x	58,21 €	=	116,42 €		2	x	58,21 €	=	116,42 €	
39	Purchase, delivery and installation of brass flanged back-flow preventers with counter-flanges, nuts, bolts, gaskets PN6, with dimensions:														
	DN40 PN6		pcs	9	x	75,60 €	=	680,40 €		9	x	75,60 €	=	680,40 €	
	DN25 PN6		pcs	2	x	35,28 €	=	70,56 €		2	x	35,28 €	=	70,56 €	
	DN15 PN6		pcs	1	x	31,50 €	=	31,50 €		1	x	31,50 €	=	31,50 €	
40	Purchase, delivery and fitting of brass flanged Y-strainer with counter-flanges, bolts, nuts, gaskets, with following dimensions of connections:														
	DN40 PN6		pcs	4	x	71,82 €	=	287,28 €		4	x	71,82 €	=	287,28 €	
41	Purchase, delivery and installation of water gauge at fresh water feeder from the water mains into the softener, with flow control scale and number disk for total flow registration, connection dimensions 1&1/2".		pcs	1	x	195,30 €	=	195,30 €		1	x	195,30 €	=	195,30 €	
42	Purchase, delivery and installation of discharge valve with a turn handle and outlet for hose. Threaded connection size DN20.		pcs	18	x	14,87 €	=	267,62 €		18	x	14,87 €	=	267,62 €	
43	Purchase, delivery and installation of highly efficient safety valve for closed heating installations, loaded with spring, threaded. Rated pressure PN 10, activation pressure 3,5 bar, dimensions of connection:														
	DN25		pcs	2	x	39,82 €	=	79,63 €		2	x	39,82 €	=	79,63 €	
	DN20		pcs	5	x	13,36 €	=	66,78 €		5	x	13,36 €	=	66,78 €	
44	Purchase, delivery and assemblage of air-release vessels, dimensions Ø168.3x4.0mm; l=300 mm, complete with overflow pipe Ø17.2x1,8 (up to 3 m length) and ball valve R3/8".		pcs	2	x	72,32 €	=	144,65 €		2	x	72,32 €	=	144,65 €	
45	Purchase, delivery and installation of pressure gauge complete with manometer valve, metering range 0-16bar, R1/2".		pcs	4	x	31,50 €	=	126,00 €		4	x	31,50 €	=	126,00 €	
46	Purchase, delivery and installation of thermometer with sensor well, metering range 0-150°C.		pcs	18	x	32,76 €	=	589,68 €		18	x	32,76 €	=	589,68 €	
47	Electric heater for pre-water heater "Viessmann EHE" or equivalent, heating capacity of 9kW, with safety temperature limiter and temperature controller.		pcs	1	x	497,70 €	=	497,70 €		1	x	497,70 €	=	497,70 €	
48	Purchase, delivery and installation of substructure made of black steel box profiles for solar collectors with adjustable angle brackets. Substructure on the terrace is made of profiles 100 x 50 x 1.5mm laid on the floor and anchored. Braced girders to be made of profiles 80x40x2mm and infill 40x40x2mm with beams 100x80x3mm. The structure is delivered in double coating of ground paint and single layer of protective lacquer.		kg	650	x	3,78 €	=	2.457,00 €		650	x	3,78 €	=	2.457,00 €	

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GROUP A5.1.3		Investor:		Ministry of Economy of Montenegro, Energy Efficiency Sector									
TABLE OF QUANTITIES		Project financed by:		KIW ENTWICKLUNGSBANK									
of electrical services for energy efficiency		Consultant:		FICHTNER GmbH&Co. KG									
Improvement in "Spasic-Masera" Student Dormitory in Kotor		Sub-Consultant Lokalni projekat:		KOPRINER PMC, Podgorica /									
		School:		Objekat:		S.D "Spasic Masera", Herceg Novi							
		Doc. origin:		Dokumentacija:		Final Design of Electrical Services							
		Date:		28 November 2013									
No.	Item Description	Unit of measure	CONTRACT				VO	AMENDMENT 1				COMMENTS	
			Quantity	Unit price (€)	Amount (€)			Quantity	Unit price (€)	Amount (€)			
1	LIGHTING												
1.1.	Delivery and laying of cables mainly in wall installations for light fitting for lighting in corridors and rooms with repairing of damaged walls and ceilings and bringing it back in previous conditions. Connection is from nearest existing junction box. Commands are from existing switching points. All necessary small connection kits is envisaged. Average cable length per one outgoing connection point:												
	PP-Y 3x1,5 mm2	m	8,00			3	0					Excluded by Client (communication 01/08/2014)	
	Works and material included in price.	pcs	110	x	34,56	=	3801,60	3	0	x	34,56	=	0
1.2.	Delivery and laying of cables mainly in wall cables and above the suspended ceiling for electrical lighting installations, for electrical connection of presence detectors for lighting control in corridors and halls with repairing of damaged walls and ceilings and bringing it back in previous conditions. Connection is from nearest existing switchbox according to single pole diagrams. All necessary small connection kits is envisaged. Average cable length per one outgoing connection point:												
	PP 2x1,5 mm2	m	8,00			3	0					Excluded by Client (communication 01/08/2014)	
	Works and material	pcs	31	x	23,04	=	714,24	3	0	x	23,04	=	0
1.3.	Dismantling of existing luminaires. Works calculated per unit.	pcs	363	x	4,32	=	1568,16	3	0	x	4,32	=	0
1.4.	Dismantling of existing switches. Works calculated per unit.	pcs	16	x	4,32	=	69,12	3	0	x	4,32	=	0
1.5.	Delivery and mounting of ceiling mounted luminaires 1/54W (or 2x28 W) T16 F840 [STD] T16 x 1/54W (or 2x28W), electronic high frequency ballast, completely equipped with mounting gear and light source 840. Norms 12464 for DSE for working stations. Works and material calculated per unit.	pcs	8	x	116,64	=	933,12	3	0	x	116,64	=	0
	Spare bulbs for this type of the luminaire	pc	1	x	6,62	=	6,62	3	0	x	6,62	=	0
1.6.	Delivery and mounting of ceiling recessed luminaire 3/14 W T16, completely equipped with electronic high frequency ballast, mounting gear and light source 840. Works and material calculated per unit.	pc	14	x	280,80	=	3931,20	3	0	x	280,80	=	0
	Spare bulbs for this type of the luminaire	pc	1	x	6,34	=	6,34	3	0	x	6,34	=	0
1.7.	Delivery and mounting of ceiling mounted luminaire 1/28 W T16 IP50, with electronic high frequency ballast completely equipped with mounting gear and light source 840. Works and material calculated per unit.	pcs	89	x	135,36	=	12047,04	3	0	x	135,36	=	0
	Spare bulbs for this type of the luminaire	pc	9	x	6,62	=	59,62	3	0	x	6,62	=	0
1.8.	Delivery and mounting of ceiling mounted luminaires 1/28 W T16 IP54, opaline protector, with electronic high frequency ballast completely equipped with mounting gear and light source 840. Works and material calculated per unit.	pcs	36	x	108,00	=	3888,00	3	0	x	108,00	=	0
	Spare bulbs for this type of the luminaire	pc	4	x	6,62	=	26,50	3	0	x	6,62	=	0
1.9.	Delivery and mounting of ceiling mounted luminaires 2/28 W T16 IP50, opaline protector, with electronic high frequency ballast completely equipped with mounting gear and light source 840. Works and material calculated per unit.	pcs	42	x	120,96	=	5080,32	3	0	x	120,96	=	0
	Spare bulbs for this type of the luminaire	pc	4	x	6,62	=	26,50	3	0	x	6,62	=	0
1.10.	Delivery and mounting of ceiling mounted luminaire 2/49W T16 IP50, opaline protector, with electronic high frequency ballast completely equipped with mounting gear and light source 840. Works and material calculated per unit.	pcs	18	x	128,16	=	2306,88	3	0	x	128,16	=	0
	Spare bulbs for this type of the luminaire	pc	2	x	7,34	=	14,69	3	0	x	7,34	=	0
1.11.	Delivery and mounting of ceiling mounted luminaire 2/18 W TC-L IP50 opaline protector, with electronic high frequency ballast completely equipped with mounting gear and light source 840. Works and material calculated per unit.	pcs	4	x	118,08	=	472,32	3	0	x	118,08	=	0
	Spare bulbs for this type of the luminaire	pc	1	x	6,77	=	6,77	3	0	x	6,77	=	0
1.12.	Delivery and mounting of ceiling mounted luminaire 2/18 W TC-L IP54 opaline protector, with electronic high frequency ballast completely equipped with mounting gear and light source 840. Works and material calculated per unit.	pcs	49	x	129,60	=	6350,40	3	0	x	129,60	=	0
	Spare bulbs for this type of the luminaire	pc	5	x	6,77	=	33,84	3	0	x	6,77	=	0
1.13.	Delivery and mounting of wall mounted luminaires 18W TC-D IP55, Completely equipped with mounting gear and light source 840. Works and material calculated per unit.	pcs	7	x	123,84	=	866,88	3	0	x	123,84	=	0
	Spare bulbs for this type of the luminaire	pc	1	x	6,19	=	6,19	3	0	x	6,19	=	0
1.14.	Delivery and mounting of ceiling mounted luminaire with electronic control gear 2x35W, T16, IP65, completely equipped with mounting gear and bulbs. Works and material calculated per unit.	pcs	6	x	126,72	=	760,32	3	0	x	126,72	=	0
	Spare bulbs for this type of the luminaire	pc	1	x	6,77	=	6,77	3	0	x	6,77	=	0

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1.15.	Delivery and mounting of ceiling mounted luminaire with electronic control gear 18W TC-DEL IP20, completely equipped with mounting gear and bulbs. Works and material calculated per unit.	pcs	14	x	171,36	=	2399,04	3	0	x	171,36	=	0	Excluded by Client (communication 01/08/2014)
	Spare bulbs for this type of the luminaire	pc	1	x	5,47	=	5,47	3	0	x	5,47	=	0	
1.16.	Delivery and mounting of ceiling mounted luminaire similar to LED stripe luminaire with mounting clips class II IP20 24W, completely equipped with mounting gear and light source. Works and material calculated per unit.													
	LED stripe (5 m)	pcs	14	x	158,40	=	2217,60	3	0	x	158,40	=	0	Excluded by Client (communication 01/08/2014)
	electronic ballast 70W 12V	pcs	7	x	115,20	=	806,40	3	0	x	115,20	=	0	
	mounting clips	pcs	70	x	6,05	=	423,36	3	0	x	6,05	=	0	
	Spare bulbs for this type of the luminaire	pc	1	x	154,08	=	154,08	3	0	x	154,08	=	0	
1.17.	Delivery and mounting of ceiling mounted emergency luminaire with electronic control gear 8W, IP 40, 1h, completely equipped with mounting gear and light source. Works and material calculated per unit.	pcs	68	x	50,40	=	3427,20	3	0	x	50,40	=	0	Excluded by Client (communication 01/08/2014)
	Spare bulbs for this type of the luminaire	pc	7	x	2,88	=	20,16	3	0	x	2,88	=	0	
1.18.	Delivery and mounting of ceiling mounted emergency luminaire with electronic control gear 8W, IP 65, 1h, completely equipped with mounting gear and light source. Works and material calculated per unit.	pcs	8	x	79,20	=	633,60	3	0	x	79,20	=	0	Excluded by Client (communication 01/08/2014)
	Spare bulbs for this type of the luminaire	pc	1	x	2,88	=	2,88	3	0	x	2,88	=	0	
1.19.	Delivery and mounting of ceiling mounted IC movement sensor 360°, range 8 m IP 20. Works and material calculated per unit.	pcs	30	x	113,76	=	3412,80	3	0	x	113,76	=	0	Excluded by Client (communication 01/08/2014)
1.20.	Delivery and mounting of wall mounted IC movement sensor 180°, range 8 m IP 20. Works and material calculated per unit.	pcs	1	x	99,36	=	99,36	3	0	x	99,36	=	0	Excluded by Client (communication 01/08/2014)
1.21.	Delivery and mounting in existing floor switchbox electrical parts that is envisaged for light control in halls. Following parts are envisaged:													
	automatic switch C60N 10A 6 kA IEC 898	pcs	1					3	0					Excluded by Client (communication 01/08/2014)
	automatic switch C60N 6A 6 kA IEC 898	pcs	1					3	0					
	disconnecter switch 1-0-2, 16A	pcs	1					3	0					
	CT contactor 16A 1NO, 230V	pcs	1					3	0					
	All necessary small connection kits is envisaged.													
	Total for switchbox RO-S	pcs	13	x	72,00	=	936,00	3	0	x	72,00	=	0	Excluded by Client (communication 01/08/2014)
1.22.	Delivery and installation of simple switch 10A, 230V, instead of existing broken switches. Total for the supply and installation of:	pcs	15	x	7,20	=	108,00	3	0	x	7,20	=	0	Excluded by Client (communication 01/08/2014)
1.23.	Delivery and installation of single phase socket 16A, 230V, 2P + E, instead of broken existing sockets. Total for the supply and installation of:	pcs	15	x	10,08	=	151,20	3	0	x	10,08	=	0	Excluded by Client (communication 01/08/2014)
TOTAL FOR LIGHTING INSTALLATION							57780,58							
2	POWER SUPPLY AND ELECTRICAL INSTALLATION FOR HEATING EQUIPMENT													
2.1.	Delivery and mounting of galvanized cable tray system. Works and material for tray dimension 100 mm wide.													
	PNK 100	m	27	x	17,28	=	466,56		27	x	17,28	=	466,56	
2.2.	Delivery and laying of cables on wall installations in rigid HFT halogen free installation pipes in boiler room. Works and material included per measure unit.													
	N2XH-J 3x1.5 mm2	m	66,00	x	3,31	=	218,59		66,00	x	3,31	=	218,59	
	N2XH-J 4x1.5 mm2	m	11,00	x	3,46	=	38,02		11,00	x	3,46	=	38,02	
	N2XH-J 3x2.5 mm2	m	290,00	x	4,03	=	1169,28		290,00	x	4,03	=	1169,28	
	N2XH-J 5x2.5 mm2	m	53,00	x	4,32	=	228,96		53,00	x	4,32	=	228,96	
	N2XH-J 5x4 mm2	m	24,00	x	5,76	=	138,24		24,00	x	5,76	=	138,24	
	On wall three phase outlet with cover 400V/16A, IP55	pcs	2,00	x	11,52	=	23,04		2,00	x	11,52	=	23,04	
	On wall outlet with cover 2P+E/230V/ IP 55	pcs	5,00	x	10,08	=	50,40		5,00	x	10,08	=	50,40	
	On wall serial switch 10A IP55	pcs	2,00	x	7,20	=	14,40		2,00	x	7,20	=	14,40	
	On wall two-way switch 10A IP55	pcs	2,00	x	8,64	=	17,28		2,00	x	8,64	=	17,28	
2.3.	Delivery and mounting of prefabricated wall mounted IP 54 switchbox in boiler room "RT Ko" with dimensions to suit, and completely equipped with following parts:													
	Compact switch NSX100F TM-D, 100A 1-0, 3P	pcs	1,00						1,00					
	Disconnecter switch INS 1-0, 40A, 3P	pcs	1,00						1,00					
	Motor protection switch GV2 ME, 0.4 - 0.63A	pcs	1,00						1,00					
	Motor protection switch GV2 ME, 0.63 - 1.00A	pcs	6,00						6,00					
	Motor protection switch GV2 ME, 1.00 - 1.6A	pcs	1,00						1,00					
	Motor protection switch GV2 ME, 1.6 - 2.5A	pcs	1,00						1,00					
	Motor protection switch GV2 ME, 2.5 - 4A	pcs	2,00						2,00					
	automatic switch 3p C60H 20A 10 kA	pcs	1,00						1,00					
	automatic switch 3p C60H 16A 10 kA	pcs	3,00						3,00					
	automatic switch 1p C60H 16A 10 kA	pcs	21,00						21,00					
	automatic switch 1p C60H 10A 10 kA	pcs	6,00						6,00					
	LED phase indicators on switchbox door	pcs	3,00						3,00					
	The price includes all material required for installation of this equipment.													
	TOTAL SWITCH BOX "RT Ko"	pcs	1,00	x	1392,48	=	1392,48		1,00	x	1392,48	=	1392,48	
POWER SUPPLY AND ELECTRICAL INSTALLATION FOR HEATING EQUIPMENT							3757,25						3757,25	
3	POTENTIAL EQUALIZATION													
3.1.	Delivery and mounting of deep galvanized tape Fe-Zn 25x4mm for potential equalization in boiler room, according to the installation layouts. Tape is mounted on tape carriers type C.L. JUS N.B4.925-P. Works and material included per measure unit.	m	32	x	2,59	=	82,94		32	x	2,59	=	82,94	

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3.2.	Delivery and mounting of deep galvanized tape Fe-Zn 20x3mm for connecting SOLAR PANELS with grounding system on the roof - according to technical report, recommendation and technical demands. Works and material included per measure unit:	m	90	x	2,59	=	233,28		90	x	2,59	=	233,28
3.3.	Delivery and mounting of tape carriers type C.L. JUS N.B4.925-P. Works and material included per measure unit:	pcs	25	x	5,04	=	126,00		25	x	5,04	=	126,00
3.4.	Delivery and mounting of tape carriers type on every 1m. Works and material included per measure unit: P-S-K	pcs	53	x	5,04	=	267,12		53	x	5,04	=	267,12
3.5.	Delivery and mounting of tape-tape junctions elements 58x58 mm for galvanized tape FeZn according to JUS N.B4. 936, IEC standards and technical report. Works and material included per measure unit:	pcs	14	x	6,48	=	90,72		14	x	6,48	=	90,72
3.6.	Delivery and laying of cables P/F 1x16 mm2 on wall installations with PVC installation pipes and galvanized cable trays in boiler room for connecting all metal conductive parts with potential equalization bus bar. Works and material to be calculated per measure unit:	m	35	x	2,88	=	100,80		35	x	2,88	=	100,80
3.7.	Connecting all metal conductive parts on the roof with lightning protection system Cu conduit P/F 1x25 mm2. Works and material to be calculated per measure unit:	m	58	x	4,32	=	250,56		58	x	4,32	=	250,56
TOTAL FOR POTENTIAL EQUALIZATION							1151,42					1151,42	
4 LIGHTNING PROTECTION SYSTEM													
4.1.	Dismantling and re-mounting of existing galvanized tape Fe-Zn 25x4mm for connecting to grounding system, after completion of facade works. Works and material included per measure unit:	m	40,00	x	2,59	=	103,68		40,00	x	2,59	=	103,68
4.2.	Delivery and mounting prefabricated tape carriers on every 1 m for lightning protection system according to IEC standards and technical report. Works and material included per measure unit: C.L. JUS N.B4.925-P	pcs	20,00	x	5,04	=	100,80		20,00	x	5,04	=	100,80
4.3.	Delivery and mounting of deep galvanized tape Fe/Zn 25x4 mm2 for grounding of gutters. Tape should be connected to nearest connection point to foundation earthing through earth trench and under new pavements. Works should be performed according to technical report and technical recommendation. Total for works and material:	m	276,00	x	2,59	=	715,39		276,00	x	2,59	=	715,39
4.4.	Delivery and mounting of prefabricated tape junction elements for gutters according to JUS and IEC standards and technical report. Works and material to be calculated per measure unit: NGO 15, AY JUS N.B4.914-O(P)	pcs	23,00	x	7,20	=	165,60		23,00	x	7,20	=	165,60
TOTAL FOR LIGHTNING PROTECTION SYSTEM							1085,47					1085,47	
WARNING: Before any works are conducted, it is necessary to organize testing and measurement of the grounding system and it has to be in accordance with the norms. If not, it has to be reconstructed.													
5 TESTING & MAINTENANCE DESIGN													
5.1.	Testing of electrical grounding installation and lightning protection system with issuance of attest.	lump sum	1,00		360,00	=	360,00		1,00		360,00	=	360,00
5.2.	Testing of new electrical power supply installation.	lump sum	1,00		216,00	=	216,00		1,00		216,00	=	216,00
5.3.	Preparation of Maintenance Design.	lump sum	1,00		360,00	=	360,00		1,00		360,00	=	360,00
TOTAL FOR TESTING & MAINTENANCE DESIGN							936,00					936,00	
SUMMARY OF COSTS 1-5													
1	LIGHTNING INSTALLATION						57780,58						
2	POWER SUPPLY AND ELECTRICAL INSTALLATION FOR HVAC INSTALLATIONS						3757,25						3757,25
3	POTENTIAL EQUILAZATION						1151,42						1151,42
4	LIGHTNING PROTECTION SYSTEM						1085,47						1085,47
5	TESTING & MAINTENANCE DESIGN						936,00						936,00
	TOTAL PRICE, VAT EXCLUDED						64710,72						6930,14
	TOTAL PRICE WITH 3% DISCOUNT						62769,40						6722,24
	VAT (19%)						11926,19						1277,23
1-5	TOTAL PRICE (DISCOUNT INCLUDED), VAT INCLUDED						74.695,58 €						7.999,47 €
6 ADDITIONAL WORKS													
1	Delivery and mounting of ceiling mounted luminaries with electronic control gear 2x36W, T8, completely equipped with mounting gear and light source. Works and material to be calculated per unit: RCS236 2x36W T8 EB IP65 MARELI	pcs					5		7,00	x	40,25	=	281,75 €
OFV 61, approved by Client on 24/12/2014.													

GROUP A5.1.4		Investor:		Ministry of Economy of Montenegro, Energy Efficiency Sector										
TABLE OF QUANTITIES of sanitary (water supply and sewage) services for energy efficiency improvement in "Spasić Mašera" Student dormitory in Herceg Novi		Project financed by:		KIW ENTWICKLUNGSBANK										
		Consultant/ Konsultant:		FICHTNER GmbH&Co. KG										
		Sub-Consult/ Lokalni projekat:		KOPRING PMC, Podgorica										
		School/ Objekat:		S.D "Spasić Mašera", Herceg Novi										
		Doc. origin/ Dokumentacija:		Final Design of Sanitary (Water Supply and Sewage) Services										
		Date:		05 February 2014										
No.	Item Description	Unit of measure	CONTRACT				VO	AMENDMENT 1			COMMENTS			
			Quantity	Unit price (€)	Amount (€)	Quantity		Unit price (€)	Amount (€)					
I WORKS ON REMOVAL OF SANITARY EQUIPMENT, WATER SUPPLY AND SEWAGE DISTRIBUTION LINES														
1	Removal of existing lavatories with belonging elements. Carrying, truck loading, transport and disposal to the waist depot are included within the price.													
	Calculation as per piece	pieces	9,00	x	10,00 €	=	90,00 €	2	0	x	10,00 €	=	0	Excluded by Client (communication
2	Removal of existing toilet bowls. Carrying, truck loading, transport and disposal to the waist depot are included within the price.													
	Calculation as per piece	pieces	20,00	x	10,00 €	=	200,00 €	2	0	x	10,00 €	=	0	Excluded by Client (communication 01/08/2014)
3	Removal of existing water supply installations made of zinc-plated steel pipes within the wall, with belonging elements (valves, fittings etc.). Wall chase cutting, removal, carrying, truck loading, transport and disposal to the waist depot are included within the price.													
	Calculation as per m'	m'	60,00	x	7,00 €	=	420,00 €	2	0	x	7,00 €	=	0	Excluded by Client (communication 01/08/2014)
4	Removal of existing sewage installations, with belonging elements (fittings, etc.). Concrete floor smashing, excavation, removal, truck loading, transport and disposal to the waist depot are included within the price.													
	Calculation as per m'	m'	40,00	x	7,00 €	=	280,00 €	2	0	x	7,00 €	=	0	Excluded by Client (communication 01/08/2014)
TOTAL REMOVAL WORKS							990,00 €							
II WATER-SUPPLY INDOOR INSTALLATIONS														
1	Purchase and installation of water supply PP-R pipes for operating pressure of 10,00 bars, together with all required fittings. Pipes must be anchored to the wall by saddles and covered by flexible thermal insulation to prevent condensation. Hot water pipeline has to be thermally insulated on order to prevent heat losses. Pipe joints should be butt welded all in accordance with pipe manufacturer's recommendations. Installed pipes should be tested at 12 bars pressure. Pipe diameter enclosed within item is nominal pipe diameter "DN". All chase cuttings, hole perforations and restoration to the original state, should be incalculated within the works performance price.													
	Calculation as per m' of installed pipe	pieces	60,00	x	3,50 €	=	210,00 €	2	0	x	3,50 €	=	0	Excluded by Client (communication 01/08/2014)
2	Purchase and installation of straight stop valves. The valves should be consisted of chrome plated cap and installed on each outflow point at the separate distribution line branches within sanitary facilities according to the design.													
	Calculation as per installed piece	pieces	29,00	x	12,00 €	=	348,00 €	2	0	x	12,00 €	=	0	Excluded by Client (communication 01/08/2014)
3	Purchase and installation of "EK" valves dØ20mm (DN15). The valves should be installed at each outflow point, except the shower, both at hot and cold water distributions.													
	Calculation as per installed piece	pieces	20,00	x	14,00 €	=	280,00 €	2	0	x	14,00 €	=	0	Excluded by Client (communication 01/08/2014)
4	Complete water supply installations test at test pressure of 12 bars. Upon completed test the Report should be made. The Report should be signed by Contractor and Supervisor. Complete material and equipment are included within the price.													
	Calculation as per m of tested pipeline	m	60,00	x	2,00 €	=	120,00 €	2	0	x	2,00 €	=	0	Excluded by Client (communication 01/08/2014)
5	Disinfection of complete water supply installations. The following actions should be done: Chlorination, chemical and bacteriological tests of water from installations. Complete material, equipment and prescribed analyses are included within the price. Disinfection works should be done by certified organization.													
	Calculation as per m of disinfected pipeline	m	60,00	x	3,50 €	=	210,00 €	2	0	x	3,50 €	=	0	Excluded by Client (communication 01/08/2014)
6	Various unpredictable works resulted after revealing of existing installations and adaptation of connection way between new and existing installations.													
	Calculation as per lump sum	lump sum	1,00	x	150,00 €	=	150,00 €	2	0	x	150,00 €	=	0	Excluded by Client (communication 01/08/2014)
TOTAL WATER-SUPPLY INDOOR INSTALLATIONS							1.318,00 €							
III SANITARY SEWAGE INDOOR INSTALLATIONS														

GROUP A5.2.1		Investor:		Ministry of Economy of Montenegro, Energy Efficiency Sector									
TABLE OF QUANTITIES of building and trade works for energy efficiency improvement in "Daša Pavičić" Primary School in Herceg Novi		Project financed by:		KfW ENTWICKLUNGSBANK									
		Consultant/ Konsultant:		FICHTNER GmbH&Co. KG									
		Sub-Consult/ Lokalni projekt:		KOPRINER PMC, Podgorica									
		School/ Objekat:		P.S "Daša Pavičić", Herceg Novi									
		Doc. origin/ Dokumentacija:		Final Architectural Design									
		Date:		28 November 2013									
No.	Item Description	Unit of measure	CONTRACT				VO	AMENDMENT 1			COMMENTS		
			Quantity	Unit price (€)	Amount (€)	Quantity		Unit price (€)	Amount (€)				
SCHOOL AND GYM													
1	THERMAL INSULATION OF FACADE WALLS												
1.01.	Dismantling of metal sheet flashings and vertical gutters. Flashings have different developed widths and they are made from galvanized, coloured steel metal sheet with double interlock system, d=0,68mm. Surfaces should be prepared for installation of new items without any special processing. The price includes all works, materials and debris transportation to the town landfill. Calculation is based on a m1 of dismantled flashing, gutters, and their supporters. -attic-wall flashing, developed width 34-40cm.												
	Calculation per m ¹ .	m1	570,00	x	1,00 €	=	570,00 €		570,00	x	1,00 €	=	570,00 €
	-flashing of RC cantilever slab developed width up to 1,00m1.												
	Calculation per m ¹ .	m1	203,60	x	1,00 €	=	203,60 €		203,60	x	1,00 €	=	203,60 €
	-flashing window sills developed width 41-50cm.												
	Calculation per m ¹ .	m1	802,90	x	1,00 €	=	802,90 €		802,90	x	1,00 €	=	802,90 €
	- vertical gutters, dim.15x15cm, developed width up to 66cm, with dismantling of water cisterns.												
	Calculation per m ¹ .	m1	148,40	x	1,00 €	=	148,40 €		148,40	x	1,00 €	=	148,40 €
1.02.	Repair of damages in the parapet walls d=20cm and more, caused by dismantling of the joinery. Surfaces should be treated with cement mortar 1:3, to prepare the item for installing new PVC joinery with blind frame, plastic-laminated galvanized steel metal sheet, and PVC sills. The price includes all works and materials, including possible skimming and painting, to bring the jambs in previous condition.												
	Calculation per m ¹ .	m1	802,90	x	6,50 €	=	5.218,85 €		802,90	x	6,50 €	=	5.218,85 €
1.03.	Repair of jamb damages d=25cm, caused by dismantling of the joinery. Surfaces should be treated with lime cement mortar 1:2:6, previously sprinkled with low density cement mortar, to prepare the item for installation of new PVC joinery with blind frame, plastic-laminated galvanized steel metal sheets and PVC sills. The price includes all works and materials, including skimming and painting, to bring the jambs in previous condition.												
	Calculation per m ¹ .	m1	2.127,54	x	6,50 €	=	13.829,01 €		2.127,54	x	6,50 €	=	13.829,01 €
1.04.	Dismantling and re-mounting of outdoor air conditioning units. Dismantled units should be registered and given to the Employer/Employer's Representative to put them in a storage. After completion of works on a new facade, these units have to be reinstalled on the facility. Note: For re-installation of AC units, consider possible mounting of new metal support brackets and small extension of electric and freon lines due to position of external AC units.												
	Calculation per piece	pcs	22,00	x	58,00 €	=	1.276,00 €		22,00	x	58,00 €	=	1.276,00 €
1.05.	Dismantling and re-installation of lighting, and other facade devices and equipment. Dismantled units should be registered and given to the Employer/Employer's Representative to put them in a storage. After completion of works on a new facade, these units have to be reinstalled on the facility.												
	Calculation per piece	pcs	2,00	x	35,00 €	=	70,00 €		2,00	x	35,00 €	=	70,00 €
1.06.	Production and installation of the attic cornice flashings, made of ready-made plastic-laminated galvanized steel metal sheets d=0.7mm, colour will be selected by the Employer / Employer's representative. Developed width 60cm. The item includes surface preparation and complete binding in line with the regulations. Undertake the entire procedure in compliance with the design and sample selected by the Employer / Employer's representative.												
	Calculation per m1	m1	658,00	x	14,60 €	=	9.606,80 €		658,00	x	14,60 €	=	9.606,80 €
1.07.	Production and installation of drips on facade beams, made of ready-made plastic-laminated galvanized steel metal sheets d=0.7mm, colour will be selected by the Employer / Employer's representative. Developed width up to 66cm. The item includes surface preparation and complete binding in line with the regulations. Undertake the entire procedure in compliance with the design and sample selected by the Employer / Employer's representative.												
	Calculation per m1	m1	362,61	x	14,60 €	=	5.294,11 €		362,61	x	14,60 €	=	5.294,11 €

	* reinforcing mesh * second layer of mortar, apply same procedure as with the first layer. This mortar is laid to well- dried first layer and polished with a screed afterwards. * contact coating made of the emulsion of synthetic resins and water-glass used for impregnation of the dried reinforced mortar.																			
	*top coating is made of mineral binders, water-repellent admixtures, means for improving elasticity and resistance to mildew and algae. This top layer will be made in grainy and smooth structure, painted in colour defined by the Employer / Employer's representative, while the entire procedure will be conducted according to the design details.																			
	Before setting up the thermal plates, generally the following works should be conducted: * All works on the flat roof, including sheet metal works * Replacement of façade joinery																			
	*Covering and protection of all non-treated surfaces – glass, stone... *Control and testing of the existing facility surface, including: Use impregnation- basic coating at the most critical points of the facility. When the basic coating dries out, set up the EPS cube of 5x5x5 cm by using polystyrene adhesive. Once the adhesive completely settles, minimum 3 days after the working conditions are adequate, try to separate the cube manually.																			
	If in the process of separating expanded polystyrene only the adhesive separates and not parts of the basis - the basis is sufficiently strong, solid and stable.																			
	If in the process of separating expanded polystyrene, the adhesive remains, or if part of the adhesive remains on the wall and part on the polystyrene - it means that the adhesive is adequate and strong.																			
	If in the process of separating expanded polystyrene, part of the adhesive and cradling is separated – it is a sign that the cradling is not solid enough, and shall not withstand new layer of thermal insulation.																			
	Use the reinforcing mesh or angle profiles for the window corners and jambs. Facade ends along the plinth must have U-profile strip, adjusted to the thickness of thermal-plate.																			
	Before setting the plates, thoroughly clean the facade surface from dust, greasy deposits and mortar. At heights over 8 meters, plates need additional anchoring with appropriate bolts.																			
	During the works on the facade, surface, mortar and adhesive, temperature of air must not drop below +5°C or be above +25°C. Mortar should not be applied in the event of heavy wind, rain or fog.																			
	Price includes the purchase, installation of entire material, preparatory works, surface preparation, installation of thermal façade according to described layers and installation of the required scaffolding. Calculation is based on m2 of the installed facade.																			
	NOTE: Treatment of jambs is included in the price, it won't be calculated separately. The planned facade systems should be in line with the appropriate EN standards. External thermal insulation composite system (ETICS) is required to have an ETAG 004 certificate.																			
	ETA certificate (European Technical Approval) is a certificate issued by the European Organization for Technical Approval, which confirms that the thermal insulation system is in compliance with the parameters laid down by this organization - mechanical resistance and stability, safety in the event of fire, hygiene, health and environmental sustainability, safety of use, noise protection, energy efficiency and heat retention.																			
	EPS	m2	1.929,06	x	19,50 €	=	37.616,67 €		1.929,06	x	19,50 €	=	37.616,67 €							
	XPS	m2	1.608,45	x	23,50 €	=	37.798,58 €		1.608,45	x	23,50 €	=	37.798,58 €							
	Hard Pressed mineral wool	m2	180,10	x	21,30 €	=	3.836,13 €		180,10	x	21,30 €	=	3.836,13 €							
1.16.	Setting up "Demit" - thermal facade on the ceiling beneath the musical education classroom and side school entrance. The process is identical to item 1.12.																			
	Calculation per m2	m2	101,10	x	19,50 €	=	1.971,45 €		101,10	x	19,50 €	=	1.971,45 €							
1.17.	Treating the facade surfaces with decorative ready-mixed lime-cement based render, "Bavalit" type or similar with the equivalent or better technical characteristics, where the installation of thermal plates has not been planned (reinforced concrete brise-soleil, eaves, external stairs...). Type and colour will be selected by Employer / Employer's representative. The facade surface should be sound and dry. Surface should be cleaned and impregnated with insulation mass to achieve a better joining. Apply one layer with a painting brush, and if the surface absorbs it quickly, apply it twice. To prepare the surface, apply a layer of adhesive with a mesh. Apply other layers following the same procedure as in the previous item.																			
	*Contact coating made of the emulsion of synthetic resins and water-glass used for impregnation of the set reinforced mortar.																			

	<p>*top coating is made of mineral binders, water-repellent admixtures, means for improving elasticity and resistance to mildew and algae. This layer should be made in fine grained and smooth structure, painted in colour determined by the Employer / Employer's representative, fully in line with the Design details.</p>																				
	<p>The openings should be protected with PVC foil. Price includes the purchase, installation of complete material, preparatory works, surface preparation and installation of the scaffolding.</p>																				
	Calculation per m2	m2	231,50	x	11,80 €	=	2.731,70 €		231,50	x	11,80 €	=	2.731,70 €								
1.18.	<p>Setting up of the facade plinth with decorative ready mixed marble based mortar, created on grain ("Kulle") as splash guard (as indicated on the drawings). Surface should be cleaned, washed and sprinkled with acrylic base with granulate, color of the base by the color chart of the manufacturer. Render should be applied on cleaned and dried surface by manufacturer's instruction. The color should be determined by the Employer / Employer's representative, according to the color chart of manufacturer.</p>																				
	Calculation per m2	m2	364,90	x	15,20 €	=	5.546,48 €		364,90	x	15,20 €	=	5.546,48 €								
1.19.	<p>Cleaning – washing the stone claded façade with pressurized water. Water pressure must be such so as not to damage the façade and moulding. Stains, patina, dust, salt and such must be cleaned. If required, chemical substances not damaging for the façade could be added.</p>																				
	Calculation per m2	m2	54,28	x	2,70 €	=	146,56 €		54,28	x	2,70 €	=	146,56 €								
1.20.	<p>Preparation of workshop drawings, supply of material and installation of a skylight made of aluminum profiles, with tempered safety glass 4/2/4; for covering of a shaft/funnel of 70 cm x 5.0 m. The length of the skylight shall be approximately 6.0 m, with open gables for ventilation of the shaft. This position includes all fastening elements, the construction of the mounting plates on the existing roof structure and all connections to the waterproofing layer of the flat roof. All structural details have to be approved beforehand by the Employer/Employer's representative.</p>																				
	Unit: Lump sum	Lump sum	1,00	x	850,00 €	=	850,00 €		1,00	x	850,00 €	=	850,00 €								
TOTAL FOR THERMAL INSULATION OF FACADE WALLS								146.947,59					146.947,59								
2. THERMAL INSULATION AND WATERPROOFING OF THE ROOF																					
2.01.	<p>Removal of existing thermal insulation and waterproofing from the flat impassable roof until reaching concrete floor in following layers (data from existing designs): - waterproofing 4+2+1 1,5cm - cement glazing 1:3 2cm - sloping layer 4-20cm - roofing paper - "Heraklith" boards 3cm - layer of roofing paper The price to include all the work and debris dumping at the town landfill.</p>																				
	Calculation per m2	m2	2.327,05	x	9,80 €	=	22.805,09 €		1	0	x	9,80 €	=	0							Change of roof technology, see new positions below.
2.02.	<p>Dismantling of the gullies from the flat roof.</p>																				
	Calculation per piece	pcs	14,00	x	10,00 €	=	140,00 €		1	0	x	10,00 €	=	0							Change of roof technology, see new positions below.
2.03.	<p>Installation of horizontal waterproofing and thermal insulation on the flat roof. Following layers are applied on prepared base:</p>																				
	a) Layer for equalizing the pressure, made of vapour-permeable and waterproof foil, b) Vapour barrier of the post bituminized aluminium foil lined with glass fibre fleece, c) Thermal insulation made of extruded polystyrene boards XPS d = 10 cm with heat transfer coefficient of Amax = 0,033 W / mK (on top of already placed foil), d) Layer used for separating from PVC foil, e) Sloping layer made of light-weight concrete d=5-16cm, sloped by 1%, f) Layer for equalizing the pressure, made of vapour-permeable and waterproofed foil,																				
	g) Waterproofing made of cold bitulith coating, hot bitumen coating or bitumen masses and two layers of waterproof bitumen strip. One strip is lined with aluminium foil, the other with glass fibre fleece. Every strip is d = 4 mm thick. The first layer is placed freely over the hot bitumen with overlapping of 10-15cm, welded along their whole length. The second layer is 100% welded to the first one. Put the waterproofing at least 15 cm up the walls. Pay special attention to connections between horizontal and vertical waterproofing.																				
	h) Heavy protection of waterproofing with gravel d = 5 cm, with the sliding layer of waterproof dimpled membrane, placed dry between waterproofing and gravel.																				
	Calculation is based on a m2 of the roof basis. The price includes all required material following the description from a) to h), including the making of a required cove.																				

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	Calculation per m2	m2	2.313,79	x	56,00 €	=	129.572,24 €	1	0	x	56,00 €	=	0	Change of roof technology, see new positions below.
2.04.	Waterproofing of the eaves with cold bitulith coating, hot bitumen coating or bitumen masses and two layers of waterproof bitumen strip. One strip is lined with aluminium foil, the other with glass fibre fleece. Every strip is d = 4 mm thick. The first layer is put freely over the hot bitumen with overlapping of 10-15cm, welded along their whole length. The second layer is 100% welded to the first one. Waterproofing must be put up the walls at minimum 15 cm height. Pay special attention to the connections between horizontal and vertical waterproofing.													
	Calculation per m2	m2	13,26	x	19,50 €	=	258,57 €	1	0	x	19,50 €	=	0	Change of roof technology, see new positions below.
2.05.	Protect waterproofing on eaves and part of the flat roofs, which is not protected with gravel, with "Krovoplast" or similar coating with equal or better technical characteristics. The price includes complete work and material, following the description.													
	Calculation per m2	m2	13,26	x	1,50 €	=	19,89 €	1	0	x	1,50 €	=	0	Change of roof technology, see new positions below.
	NOTE: The alternative technology for a flat roof cover can be offered as a deviation.													
N2.06	Installation of horizontal waterproofing and thermal insulation on the flat roof. Following layers are applied on prepared base: Purchase and setting up of thermal insulation on the buildings roofs, using expanded polystyrene EPS Austrotherm A 100, d = 8 cm, heat transfer coefficient $\lambda_{max} = 0,038 \text{ W / mK}$, boards to be placed above an already existed bitumen membrane. EPS A 100 boards should be made with slope of 1 %. Installation of horizontal waterproofing on the flat buildings roofs. This position with WOLFEN system include applying WOLFEN M, black PVC Thermoplastic waterproofing membrane. WOLFEN M membrane is applying with overlap of 10 cm and is mechanically fixed with Acnhors. Membrane joints has to be welded with hot air gun. All edges and corners has to be fixed with WOLFEN base angles and strips. WOLFEN waterproofing membrane has to be welded to the WOLFEN strips and base angles. Put the waterproofing at least 15cm up the walls. Special attention is attached to connections between horizontal and vertical waterproofing. Calculation as per m2 of the roof basis. Waterproofing of the eaves with cold bitulith coating, hot bitumen coating or bitumen masses and two layers of waterproof bitumen strip. One strip is lined with aluminium foil, the other with glass fibre fleece. Every strip is d = 4 mm thick. The first layer is put freely over the hot bitumen with overlapping of 10-15cm, welded along their whole length. The second layer is 100% welded to the first one. Waterproofing must be put up the walls at minimum 15 cm height. Pay special attention to the connections between horizontal and vertical waterproofing. Calculation per m2 Supply of materials and goods for flat roof cornice - parapet wall flashing. The flashing shall be made of galvanized steel sheets, required sheet thickness is 0.6mm with one side covered with Waterproofing material prepared for welding. All works should be done according the Technical drawings which are part of documentation for this tender specification. Also, if the high of eaves is lower than 20 cm, than put EXP boards to increase high up to 20 cm.													Optional offer in TD, instead of pos. 2.03.
		m2					2.313,79							Optional offer in TD, instead of pos. 2.04.
		m2					13,26							Optional offer in TD.
		m2					658,00							
		lump sum						1					151.267,83 €	Optional offer "Wolfen system" in Contract.
TOTAL FOR THERMAL INSULATION AND WATERPROOFING OF THE ROOF							152.795,79						151.267,83	
3. REPLACEMENT OF FACADE JOINERY														
3.01.	Dismantling of the existing joinery, all its fittings and mechanisms, including its transportation to the town landfill or its hand-over to the Employer/Employer's Representative (according to the future agreement) for storing away. Calculation is done per m2 of dismantled joinery.													
	269/159 pcs 113 269/59 pcs 130 89/249 pcs 79 49/69 pcs 8 183/159 pcs 2 183/59 pcs 2 179/159 pcs 1 179/59 pcs 2 89/89 pcs 2 99/89 pcs 2													
	99/59 pcs 1 99/69 pcs 1 269/159 pcs 9 224/189 pcs 6 89/159 pcs 1 69/69 pcs 2 89/59 pcs 4 179/59 pcs 1													

	199/324 199/324 199/249 389/362 259/321 259/272 89/272 149/234	pcs 11 pcs 3 pcs 14 pcs 1 pcs 1 pcs 1 pcs 1 pcs 1																		
	89/324 179/249 199/219 423/219 149/239 252/324 279/229 227/229	pcs 5 pcs 1 pcs 2 pcs 1 pcs 1 pcs 1 pcs 1 pcs 1																		
	89/219 109/229 609/239 359/239 64/239 479/69	pcs 1 pcs 1 pcs 1 pcs 1 pcs 1 pcs 1																		
	80/120 90/210	pcs1 pcs 1																		
	Calculation per m2		m2	1.241,89	x	7,21 €	=	8.953,99 €		1.241,89	x	7,21 €	=	8.953,99 €						
3.02.	Dismantling of protective grille made of chain-linked wire with its dumping at the town landfill or its hand-over to the Employer/Employer's Representative (according to the future agreement) for storing away. Calculation is done per m2 of dismantled protective mesh.																			
			m2	137,20	x	2,06 €	=	282,63 €		137,20	x	2,06 €	=	282,63 €						
3.03.	Production and installation of the facade PVC joinery. The price includes everything from description: the purchase of materials, manufacturing, transport and installation of fittings and blind frame, as well as the PVC sill of required width. Measures must be taken on site. Calculation is based per piece of the installed joinery, by the following description: -production and installation, -6-chamber PVC profiles, -heat transfer coefficient of U = 1.5 W / m ² K, -minimal permeability factor of solar energy (solar factor) of glass surfaces g65%, -double low-emission glass 4 +16 +4 mm, -fittings, required set for hanging and closing, - type of the opening, side hung windows using mechanism with hinges or bottom hung with ventus mechanism, in line with drawings - joinery schemes,																			
	-include PVC sill of required width in the position, - PVC profile colour - white. Note: Depending on the size of the opening, where it is necessary, big windows/doors elements should have additional reinforcement/stiffening of the profiles.																			
	1 1'.	269/159	pcs	113,00	x	576,80 €	=	65.178,40 €	3	105,00	x	576,80 €	=	60.564,00 €	Deductions of 8 gym windows which have been replaced by private donation.					
	2,2'	269/59	pcs	119,00	x	216,30 €	=	25.739,70 €	3	111,00	x	216,30 €	=	24.009,30 €	OFV 16, approved by Client on 23/09/2014.					
	2' 1 2"	269/59	pcs	12,00	x	216,30 €	=	2.595,60 €	5	14,00	x	216,30 €	=	3.028,20 €	Two roof windows.					
	3.	89/249	pcs	79,00	x	278,10 €	=	21.969,90 €		79,00	x	278,10 €	=	21.969,90 €						
	4.	49/69	pcs	8,00	x	56,65 €	=	453,20 €		8,00	x	56,65 €	=	453,20 €						
	5.	183/159	pcs	2,00	x	391,40 €	=	782,80 €		2,00	x	391,40 €	=	782,80 €						
	6.	183/59	pcs	2,00	x	149,35 €	=	298,70 €		2,00	x	149,35 €	=	298,70 €						
	7.	179/159	pcs	1,00	x	381,10 €	=	381,10 €		1,00	x	381,10 €	=	381,10 €						
	8.	179/59	pcs	2,00	x	149,35 €	=	298,70 €		2,00	x	149,35 €	=	298,70 €						
	9.	89/89	pcs	2,00	x	108,15 €	=	216,30 €		2,00	x	108,15 €	=	216,30 €						
	10.	99/89	pcs	2,00	x	118,45 €	=	236,90 €		2,00	x	118,45 €	=	236,90 €						
	11.	99/59	pcs	1,00	x	82,40 €	=	82,40 €		1,00	x	82,40 €	=	82,40 €						
	12.	99/69	pcs	1,00	x	97,85 €	=	97,85 €		1,00	x	97,85 €	=	97,85 €						
	13.	269/159	pcs	9,00	x	576,80 €	=	5.191,20 €	3	1,00	x	576,80 €	=	576,80 €	Deductions of 8 gym windows which have been replaced by private donation.					
	14.	224/189	pcs	6,00	x	561,35 €	=	3.368,10 €		6,00	x	561,35 €	=	3.368,10 €	OFV 16, approved by Client on 23/09/2014					
	15.	99/159	pcs	1,00	x	206,00 €	=	206,00 €		1,00	x	206,00 €	=	206,00 €						
	16.	69/69	pcs	2,00	x	72,10 €	=	144,20 €		2,00	x	72,10 €	=	144,20 €						
	17.	89/59	pcs	4,00	x	77,25 €	=	309,00 €		4,00	x	77,25 €	=	309,00 €						
	18.	179/59	pcs	1,00	x	149,35 €	=	149,35 €		1,00	x	149,35 €	=	149,35 €						
	21.	80/120	pcs	1,00	x	133,90 €	=	133,90 €		1,00	x	133,90 €	=	133,90 €						
3.04.	Production and installation of the facade aluminium joinery. The price includes everything from the description: the purchase of materials, manufacturing, transport and installation of fittings and blind frame, as well as the aluminium sill of required width. Measures should be taken on site. Calculation is based on a piece of the installed joinery, by the following description: - production and installation, - galvanized aluminium construction system with thermal break, - heat transfer coefficient of Umax = 3,0W/m ² K - aluminium jealousies, - fittings, required set for hanging and closing, - type of the opening, as shown on the drawings- joinery schemes, - AL sill of required width should be envisaged within the position, - profile colour - natural aluminium.																			
	Note: Only main entrance door shall be additionally equipped with emergency door handle, hydraulic closing mechanism and door pin stopper. Depending on the size of the opening, where it is necessary, big windows/doors elements should have additional reinforcement/stiffening of the profiles.																			
	Δ A1.	199/324	pcs	11,00	x	1.272,05 €	=	13.992,55 €		11,00	x	1.272,05 €	=	13.992,55 €						
	A2.	199/324	pcs	3,00	x	1.272,05 €	=	3.816,15 €		3,00	x	1.272,05 €	=	3.816,15 €						

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A3.	199/249	pcs	14,00	x	988,80 €	=	13.843,20 €		14,00	x	988,80 €	=	13.843,20 €		
A4.	389/362	pcs	1,00	x	2.832,50 €	=	2.832,50 €		1,00	x	2.832,50 €	=	2.832,50 €		
A5.	259/321	pcs	1,00	x	1.648,00 €	=	1.648,00 €		1,00	x	1.648,00 €	=	1.648,00 €		
A6.	259/272	pcs	1,00	x	1.411,10 €	=	1.411,10 €		1,00	x	1.411,10 €	=	1.411,10 €		
A7.	99/272	pcs	1,00	x	494,40 €	=	494,40 €		1,00	x	494,40 €	=	494,40 €		
A8.	149/234	pcs	1,00	x	690,10 €	=	690,10 €		1,00	x	690,10 €	=	690,10 €		
A9 and A10.	89/324	pcs	5,00	x	581,95 €	=	2.909,75 €		5,00	x	581,95 €	=	2.909,75 €		
A11.	179/249	pcs	1,00	x	870,35 €	=	870,35 €		1,00	x	870,35 €	=	870,35 €		
A12.	199/219	pcs	2,00	x	860,05 €	=	1.720,10 €		4	x	860,05 €	=	3.440,20 €	OFV 27, approved by Client on 31/10/2014.	
A13.	433/219	pcs	1,00	x	1.823,10 €	=	1.823,10 €		1,00	x	1.823,10 €	=	1.823,10 €		
A14.	149/239	pcs	1,00	x	710,70 €	=	710,70 €		4	x	710,70 €	=	2.842,80 €	OFV 27, approved by Client on 31/10/2014.	
A15.	252/324	pcs	1,00	x	1.648,00 €	=	1.648,00 €		4	x	1.648,00 €	=	6.592,00 €	OFV 41, approved by Client on 31/10/2014.	
A16.	279/229	pcs	1,00	x	1.266,90 €	=	1.266,90 €		1,00	x	1.266,90 €	=	1.266,90 €		
A17.	227/229	pcs	1,00	x	1.030,00 €	=	1.030,00 €		1,00	x	1.030,00 €	=	1.030,00 €		
A18.	89/219	pcs	1,00	x	391,40 €	=	391,40 €		4	x	391,40 €	=	1.565,60 €	OFV 41, approved by Client on 31/10/2014.	
A19.	109/229	pcs	1,00	x	484,10 €	=	484,10 €		1,00	x	484,10 €	=	484,10 €		
A20.	359/239	pcs	1,00	x	1.771,60 €	=	1.771,60 €		4	x	1.771,60 €	=	7.086,40 €	OFV 41, approved by Client on 31/10/2014.	
A21.	479/69	pcs	1,00	x	690,10 €	=	690,10 €		1,00	x	690,10 €	=	690,10 €		
A23.	90/210	pcs	1,00	x	365,65 €	=	365,65 €		4	x	365,65 €	=	1.462,60 €	OFV 41, approved by Client on 31/10/2014.	
3.05.	Purchase and fitting of curtains (with curtain rails) for internal sun protection. The curtain material shall be flame-resistan. The curtains shall be in standard spectrum of colors and sampled and approved by the Employer / Employer's Representative. Measures to be taken onsite. Curtains shall be installed on the following items: 1 & 1', 2 & 2', 3, 5, 6, 7, 8, 14, 15, 18														
	curtains-calculated as per square meter of the opening	m2	907,10	x	22,45 €	=	20.368,02 €		2	x	22,45 €	=	44,90 €	Excluded by Client (communication 01/08/2014)	
	curtain rails calculated per m	m	755,48	x	3,09 €	=	2.334,43 €		2	x	3,09 €	=	6,18 €		
3.06.	Production and fitting of protective, chain-linked wire, made of iron on ground floor windows, with corrosion protection, cleaning and final painting.														
	ø 1.	269/159	pcs	8											
	3.	89/249	pcs	24											
	5.	183/159	pcs	2											
	6.	183/59	pcs	2											
	7.	179/159	pcs	1											
	8.	179/59	pcs	2											
	14.	224/189	pcs	6											
	Δ 15.	252/324	pcs	1											
	23.	479/69	pcs	1											
	Calculation per m2	m2	137,20	x	79,31 €	=	10.881,33 €		137,20	x	79,31 €	=	10.881,33 €		
3.07.	Dismantling and re-fitting of protective bars on the gym windows with corrosion protection, cleaning and final painting. Calculation per piece.														
	ø 1 & 1'.	269/159	pcs	9,00	x	46,35 €	=	417,15 €		4	x	46,35 €	=	185,40 €	Deduction by OFV 32, approved by Client on 31/10/2014.
	2.	269/59	pcs	9,00	x	46,35 €	=	417,15 €		4	x	46,35 €	=	185,40 €	
	13.	269/159	pcs	9,00	x	46,35 €	=	417,15 €		4	x	46,35 €	=	185,40 €	
	bars in front of A23	pcs	9,00	x	46,35 €	=	417,15 €		4	x	46,35 €	=	185,40 €		
	TOTAL FOR REPLACEMENT OF FACADE JOINERY						226.732,06 €						186.087,00 €		
4	MEASURES TO ENABLE HIGHER COMFORT AND BETTER WORKING CONDITIONS														
	Painting of walls and ceilings (and interior works)														
4.01.	Scraping and skimming old walls and ceiling with emulsion putty. All surfaces need to be scraped and washed and then smoothen, cleaned and impregnated. Inspect and remedy minor damages and cracks using putty. Flatten with putty and skim with emulsion putty for the first time. All surfaces need to be smoothen, then flatten with putty and skimmed with emulsion putty for the second time. Perform all the works using required scaffold.														
	Calculation per m2														
	- lobby, corridors, windscreen														
	<i>Basement</i>														
	walls	m2	159,25	x	2,60 €	=	414,05 €		159,25	x	2,60 €	=	414,05 €		
	ceiling	m2	96,20	x	2,60 €	=	250,12 €		96,20	x	2,60 €	=	250,12 €		
	<i>Ground floor</i>														
	walls	m2	1.136,20	x	2,60 €	=	2.954,12 €		1.136,20	x	2,60 €	=	2.954,12 €		
	ceiling	m2	541,84	x	2,60 €	=	1.408,78 €		541,84	x	2,60 €	=	1.408,78 €		
	<i>Floor</i>														
	walls	m2	1.223,93	x	2,60 €	=	3.182,22 €		1.223,93	x	2,60 €	=	3.182,22 €		
	ceiling	m2	558,88	x	2,60 €	=	1.453,09 €		558,88	x	2,60 €	=	1.453,09 €		
	- classrooms, cabinets, library...														
	<i>basement</i>														
	walls	m2	341,97	x	2,60 €	=	889,12 €		341,97	x	2,60 €	=	889,12 €		
	ceiling	m2	250,70	x	2,60 €	=	651,82 €		250,70	x	2,60 €	=	651,82 €		
	<i>Ground floor</i>														
	walls	m2	1.644,82	x	2,60 €	=	4.276,53 €		1.644,82	x	2,60 €	=	4.276,53 €		
	ceiling	m2	826,35	x	2,60 €	=	2.148,51 €		826,35	x	2,60 €	=	2.148,51 €		
	<i>Floor</i>														
	walls	m2	2.074,91	x	2,60 €	=	5.394,77 €		2.074,91	x	2,60 €	=	5.394,77 €		
	ceiling	m2	1.059,75	x	2,60 €	=	2.755,35 €		1.059,75	x	2,60 €	=	2.755,35 €		
4.02.	Purchase of material and painting of walls with oil-based paint up to h=150cm, applying two layers of paint, in colour as selected by the Employer / Employer's Representative.														
	Calculation per m2														
	- lobby, corridors, windscreen														
	<i>Basement</i>														
	<i>Ground floor</i>														
	<i>Floor</i>														
	- classrooms, cabinets, library...														
	<i>Basement</i>														
	walls	m2	174,70	x	3,25 €	=	567,78 €		174,70	x	3,25 €	=	567,78 €		
	<i>Ground floor</i>														
	walls	m2	676,06	x	3,25 €	=	2.197,20 €		676,06	x	3,25 €	=	2.197,20 €		
	<i>Floor</i>														
	walls	m2	854,37	x	3,25 €	=	2.776,70 €		854,37	x	3,25 €	=	2.776,70 €		
4.03.	Painting internal walls and ceilings with semi-dispersed distemper, by applying two layers of the paint, in colour selected by the Employer / Employer's Representative, using scaffold.														
	Calculation per m2														
	- lobby, corridors, windscreen														
	<i>Basement</i>														
	walls	m2	70,07	x	1,60 €	=	112,11 €		70,07	x	1,60 €	=	112,11 €		

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	ceiling	m2	96,20	x	1,60 €	=	153,92 €		96,20	x	1,60 €	=	153,92 €	
	Ground floor													
	walls	m2	687,31	x	1,60 €	=	1,099,70 €		687,31	x	1,60 €	=	1,099,70 €	
	ceiling	m2	541,84	x	1,60 €	=	866,94 €		541,84	x	1,60 €	=	866,94 €	
	Floor													
	walls	m2	737,03	x	1,60 €	=	1,179,25 €		737,03	x	1,60 €	=	1,179,25 €	
	ceiling	m2	558,88	x	1,60 €	=	894,21 €		558,88	x	1,60 €	=	894,21 €	
	- classrooms, cabinets, library...													
	Basement													
	walls	m2	166,99	x	1,60 €	=	267,18 €		166,99	x	1,60 €	=	267,18 €	
	ceiling	m2	250,70	x	1,60 €	=	401,12 €		250,70	x	1,60 €	=	401,12 €	
	Ground floor													
	walls	m2	968,76	x	1,60 €	=	1,550,02 €		968,76	x	1,60 €	=	1,550,02 €	
	ceiling	m2	826,35	x	1,60 €	=	1,322,16 €		826,35	x	1,60 €	=	1,322,16 €	
	Floor													
	walls	m2	1,220,54	x	1,60 €	=	1,952,86 €		1,220,54	x	1,60 €	=	1,952,86 €	
	ceiling	m2	1,059,75	x	1,60 €	=	1,695,60 €		1,059,75	x	1,60 €	=	1,695,60 €	
4.04.	Cleaning the ground floor and the upper floor to remove construction waste and its dumping to a construction material landfill at 5 km distance.													
	Calculation per m2	m2	3.333,72	x	0,70 €	=	2.333,60 €		3.333,72	x	0,70 €	=	2.333,60 €	
4.05.	Supply and installation in existing wooden fanlight frame of a manual operated glass louver unit with metal structure elements; including removal of existing fixed glazing, all fastening material and making good of the adjacent frame by skimming/smoothing and oil coating. Operating lever to be placed in the lower part, for easy handling; size: approx. 90 cm wide and 1.0 m high; transparent float glass 4 mm thick.													
	Calculation as per piece	m2	24,00	x	255,60 €	=	6.134,40 €	2	0	x	255,60 €	=	0	Excluded by Client (communication 01/08/2014)
4.06.	Painting of visible pipes, installations in bright child friendly colors (red, blue, yellow, green) in oil based paint in two layers and painting of hydrant and switch boxes in oil based paint in two layers in colour determined by Employer / Employer's representative.													
	lump sum		1,00	x	600,00 €	=	600,00 €		1,00	x	600,00 €	=	600,00 €	
4.07.	Replacement of defect interior wooden door wing approx. 90 cm wide and 2.1 m high by a heavy duty wooden unit with smooth surface. This position includes the repair of the door frame, an exactly adapted new laminated tubular chip board door leaf, the change of the door lock, the door handle set, the locking plate, the hinges and coating of frame and wing (process: grinding, primer, grinding, two layers of synthetic resin paint). All materials shall be first quality. The doors to be treated shall be determined by the Employer/Employer's Representative.													
	Calculated as per piece	pcs	15,00	x	248,80 €	=	3.732,00 €	2	0	x	248,80 €	=	0	Excluded by Client (communication 01/08/2014)
4.08.	Skimming, filling and coating of frame and wing of interior doors with fanlight approx. 90 cm wide and 2.6 m high (coating process: grinding, primer, grinding, two layers of synthetic resin paint). The doors to be treated shall be determined by the Employer/Employer's Representative.													
	Calculated as per piece	pcs	15,00	x	53,00 €	=	795,00 €	2	0	x	53,00 €	=	0	Excluded by Client (communication 01/08/2014)
	Construction of a concrete slab in front of the boiler room													
4.09.	Construction of a concrete slab with 2% slope in front of the boiler room, with 12cm thick rammed concrete type MB20, including simultaneous installation of floating surface d=2cm; edge beam dim. 10cm x 20cm; bitumen expansion joints at each 2.0m and a waterproofing stripe between the pavement and the wall of the building. Including soil compaction and finishing works.													
	Calculation per m2	m ²	35,00	x	13,2 €	=	462,00 €		35,00	x	13,2 €	=	462,00 €	
	Planting new trees in school courtyard													
4.10.	Planting Prunus pisardi nigra-sp. tree or some similar species, in accordance with Employer / Employer's representative, 2,5m height in the school yard in front of the school between the gym and the main building. Trees shall be planted on min 5m distance and min. 4 m distance from the buildings. Dig a pit for planting throw out debris and dirt from the pit. Perform the planting by mixture of humus, fertilizer and sand in the ratio 6:3:1. During planting cover 2/3 of the depth of the pit with mentioned mixture and 1/3 with the addition of peat enriched fertilizer with 3 kg per tree. Having completed the planting of the seedlings trees shall be well watered.													
		pcs	15	x	36 €	=	540,00 €	2	0	x	36 €	=	0	Excluded by Client (communication 01/08/2014)
	GENERAL NOTE: If certain internal hindering items have to be removed, they have to be re-installed or replaced by new ones and these costs shall be included in the respective line items (e.g. curtain rails, sports wall equipment in sport halls, etc.).													
	TOTAL FOR MEASURES TO ENABLE HIGHER COMFORT AND BETTER WORKING CONDITIONS						60.743,28 €						49.541,88 €	
5	LIST OF SPARE PARTS													

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13	Supply and installation of self closing mechanism GU - BKS with the stoper inside-difference in price is 45e per piece (old self closing mechanism + door stopers= 78.5e-Mileva Lajovic ARH BoQ II-3 new price 123.5e)	pcs	4	2,00	x	45,00 €	=	90,00 €	OFV 24, approved by Client on 31/10/2014.
14	Dismantling of protective bars on the gym windows. Daso Pavic BoQ 3.07-46.35e/piece - just dismantling 10e/piece dimensions 260x159cm 36pieces	pcs	4	36,00	x	10,00 €	=	360,00 €	OFV 32, approved by Client on 31/10/2014.
14	Purchase and installation of external protection bars for gym windows, 9pieces with dimensins 269x159cm and 9 pieces dimensions 269x59cm, in total 52.78m2. Price takken from Braca Ribar Offer for variation 1-3 64.46e/m2	m2	4	52,78	x	64,46 €	=	3.402,20 €	OFV 32 (update to OFV 05), approved by Client on 31/10/2014.
16	Purchase and installation of additional protective chain wire. Price from DP ARH 3-3.07 79.31e	m2	4	46,60	x	79,31 €	=	3.695,85 €	OFV 32 (update to OFV 05), approved by Client on 31/10/2014.
17	Manual removal and planning of the soil for the atmosphere water channel near school wall in the back entrance and in front of boiler house and loading and transporting soil to the landfill	lumpsum	4	1,00	x	155,00 €	=	155,00 €	OFV 39, approved by Client on 31/10/2014.
18	Purchase of the material and installation of geotextile layer on the bottom of the channel and in front of boiler house. Price Vuk Karadzic ARH BoQ D4-4 4e/m2	m2	4	50,00	x	4,00 €	=	200,00 €	OFV 39, approved by Client on 31/10/2014.
19	Purchase of the material and installation of gravel fraction 8-16mm in the channel for atmosphere water in the back entrance part of school and in front of the boiler house. Material 17e,transport 5e, installation 10e profit 10%	m3	4	16,00	x	35,20 €	=	563,20 €	OFV 39, approved by Client on 31/10/2014.
20	Production and installation of the facade PVC joinery. The price includes everything from the description: the purchase of materials, manufacturing, transport and installation of fittings and blind frame.A15-dimensions 252cmx324cm- 1498e	piece	4	1,00	x	1.498,00 €	=	1.498,00 €	OFV 41, approved by Client on 31/10/2014.
21	Production and installation of the facade PVC joinery. The price includes everything from the description: the purchase of materials, manufacturing, transport and installation of fittings and blind frame.A18-dimensions 89cmx219cm - 341.4e	piece	4	1,00	x	341,40 €	=	341,40 €	OFV 41, approved by Client on 31/10/2014.
22	Production and installation of the facade PVC joinery. The price includes everything from the description: the purchase of materials, manufacturing, transport and installation of fittings and blind frame.A20-dimensions 359cmx239cm - 1621.6e	piece	4	1,00	x	1.621,60 €	=	1.621,60 €	OFV 41, approved by Client on 31/10/2014.
23	Production and installation of the facade PVC joinery. The price includes everything from the description: the purchase of materials, manufacturing, transport and installation of fittings and blind frame.A23-dimensions 90cmx210cm - 315.65e	piece	4	1,00	x	315,65 €	=	315,65 €	OFV 41, approved by Client on 31/10/2014.
24	Dismantling of old floor in the place predicted for new toilet. Price B.R ARH BoQ V-1 - 3.62e	m2	5	5,50	x	3,62 €	=	19,91 €	OFV 54, approved by Client on 28/11/2014.
25	Dismantling of wall and floor tiles in old toilet. Price B.R ARH BoQ V-1 - 3.62e	m2	5	15,00	x	3,62 €	=	54,30 €	OFV 54, approved by Client on 28/11/2014.
26	Replacement of damaged ceramic floor and wall tiles after laying new water and sewage installations Price B.R ARH BoQ V-11 - 22.25e	m2	5	15,00	x	22,25 €	=	333,75 €	OFV 54, approved by Client on 28/11/2014.
27	Purchase of material and installation of new cement screed. Price B.R ARH BoQ V-8 - 9.83e	m2	5	15,50	x	9,83 €	=	152,37 €	OFV 54, approved by Client on 28/11/2014.
28	Installation of new water and sewage pipes with all necessary fittings and valves for new hand wash and bowl for handicapped people with all necessary drilling in the concrete slab, making chanel for pipes,and after installation reparation of concrete slab, installation of new waterproof layer and screed. Material, fittings valves,sinks,grills 330e, transport 55e, 5 plumbers 10h- 210e, 8 unskilled laborers 10h 240e,profit 10%	piece	5	1,00	x	918,50 €	=	918,50 €	OFV 54, approved by Client on 28/11/2014.
29	Purchase and mounting of complete ceramic bowl, for handicapped people, with flush ceramic bowl with special seat 285e, flush 52e, delivery 10e, plumber 16.8, profit 10%-price from A11 fast rack- Vlado Milic	piece	5	1,00	x	400,00 €	=	400,00 €	OFV 54, approved by Client on 28/11/2014.
30	Purchase and mounting of complete ceramic lavatory set, with its supports, chrome plated single-lever basin mixer (hot and cold), chrome plated trap, towel holder, mirror for handicapped people Hand wash- 121e, chrome mixer 35e, plated trap 22e, mirror 50e, towel holder 10e, delivery 10e, plumber 15.3e, profit 10%	piece	5	1,00	x	290,00 €	=	290,00 €	OFV 54, approved by Client on 28/11/2014.
31	Purchase and installation of water proof insulation. Price from BR BoQ ARH V-9 21.74e/m2	m2	5	15,50	x	21,74 €	=	336,97 €	OFV 54, approved by Client on 28/11/2014.
32	Purchase and mounting of two holders for handicapped people- material 135e, transport 10e, plumber 4.2e, profit 10%	piece	5	2,00	x	165,00 €	=	330,00 €	OFV 54, approved by Client on 28/11/2014.

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33	Purchase of the material and installation of the ceramic floor tiles Price from B.J BoQ ARH V 11 22.25€/m2	m2	5	5,50	x	22,25	€ =	122,38	€	OFV 54, approved by Client on 28/11/2014.
34	Purchase of the material and installation of the ceramic wall tiles Price from B.R BoQ ARH V 12- 22.25€/m2	m2	5	25,00	x	22,25	€ =	556,25	€	OFV 54, approved by Client on 28/11/2014.
35	Skimming and painting with semi dispersive paint of the old ceiling and old walls. Price from B.R BoQ ARH V-13 4.35€/m2	m2	5	15,50	x	4,20	€ =	65,10	€	OFV 54, approved by Client on 28/11/2014.
36	Purchase and installation of one wall mounted air ventilator. Supply and delivery 60e, installation with making hole in the wall and cabling -50e, profit 10%-	piece	5	1,00	x	121,00	€ =	121,00	€	OFV 54, approved by Client on 28/11/2014.
37	Drilling chanel in ceiling and laying cables for power supply for new luminary and installation of new switch, after finishing -reparation of ceiling- work and material 250e	l-sum	5	1,00	x	250,00	€ =	250,00	€	OFV 54, approved by Client on 28/11/2014.
38	Delivery and mounting of ceiling mounted light fitting 1/28 W T16 IP54, opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material are calculated per unit. AS 1X28/1/IP54 OPAL, sa with light sources Mareli Bulgaria	piece	5	1,00	x	34,50	€ =	34,50	€	OFV 54, approved by Client on 28/11/2014.
39	Supply of the material assembling and installation of new aluminium door dimensions 205x105cm. Price from M.T BoQ ARH 4.10 a 10.3e/m2.	piece	5	1,00	x	340,93	€ =	340,93	€	OFV 54, approved by Client on 28/11/2014.
40	Purchase of the material and installation of gypsum wall on metal substructure with double boards and with reinforcement for lavatory and holders. Material and work 26.95e+ 1.5e reinforcement for radiators	m2	5	12,78	x	28,45	€ =	363,59	€	OFV 54, approved by Client on 28/11/2014.
41	Skimming of new gypsum walls in two layers. Price DP 4.01 2.6e	m2	5	16,78	x	2,60	€ =	43,63	€	OFV 54, approved by Client on 28/11/2014.
42	Painting with oil paint of new gypsum walls . Price DP 4.02 3.25e	m2	5	5,50	x	3,25	€ =	17,88	€	OFV 54, approved by Client on 28/11/2014.
43	Painting with semi dispersive color of new gypsum walls . Price DP 4.03 1.6e	m2	5	11,28	x	1,60	€ =	18,05	€	OFV 54, approved by Client on 28/11/2014.
44	Dismantling of old radiator and pipeline and installation on oposite side of new gypsum wall with all necessary preparatory and installation works like emptying of hole system.	lumpsum	5	1,00	x	400,00	€ =	400,00	€	OFV 54, approved by Client on 28/11/2014.
45	Cleaning of the site after all works, removal of the debris and transport to the landfill	lumpsum	5	1,00	x	200,00	€ =	200,00	€	OFV 54, approved by Client on 28/11/2014.
46	Production and installation of drips on facade beams, made of ready-made plastic-laminated galvanized steel metal sheets d=0.7mm, colour will be selected by the Employer / Employer's representative. Developed width up to 66cm. The item includes surface preparation and complete binding in line with the regulations. Undertake the entire procedure in compliance with the design and sample selected by the Employer / Employer's representative. Price from Daso Pavicic	m1	5	130,59	x	14,60	€ =	1.906,61	€	OFV 31, approved by Client on 25/12/2014.
47	Delivery and installation of fixed mounting bars at the door of the boiler room for natural circulation of air required for the combustion process of fuel in the boilers in the following schools - dimensions 60 x 68 cm	piece	5	2,00	x	99,00	€ =	198,00	€	OFV 44, approved by Client on 28/11/2014.
SUMMARY OF COSTS 6										
	TOTAL PRICE, VAT EXCLUDED:								28.547,60	€
	VAT (19%):								5.424,04	€
6	TOTAL PRICE (WITHOUT DISCOUNT), VAT INCLUDED:								33.971,64	€
SUMMARY OF COSTS 1-6										
1-6	TOTAL PRICE, VAT INCLUDED:								650.326,64	€

GROUP A5.2.2		Investor:		Ministry of Economy of Montenegro, Energy Efficiency Sector									
TABLE OF QUANTITIES of thermal-technical (heating) services for energy efficiency improvement in "Đašo Pavličić" Primary School in Herceg Novi		Project financed by:		KfW ENTWICKLUNGSBANK									
		Consultant:		FICHTNER GmbH&Co. KG									
		Sub-Consult/Lokalni projekti:		KOPRING PMC, Podgorica									
		School:		Objekat: P.S "Đašo Pavličić", Herceg Novi									
		Doc. origin:		Dokumentacija/Final Heating Design									
		Date:		28 November 2013									
No.	Item Description	Unit of measure	CONTRACT				VO	AMENDMENT 1			COMMENTS		
			Quantity	Unit price (€)	Amount (€)	Quantity		Unit price (€)	Amount (€)				
A - Measure No. 1: Energy management													
1	Purchase, supply and installation of ultrasonic heat gauge and cable from computer unit to heat gauge of 1,5m, for mounting into return piping line. The gauge is battery powered. Together with gauge a pair of temperature sensors Pt500 is delivered, one sensor mounted directly into flow gauge body, M-Bus module, brass bushing for sensors mounting, and set threaded unions. Manufacturer: "Siemens" or equivalent Type: "UH50 Ultraheat" Nominal flow: 10 m³/h Connector: 2"	pcs	1	x	1.234,80 €	=	1.234,80 €		1	x	1.234,80 €	=	1.234,80 €
2	Purchase, supply and installation of electronic flow gauge for light fuel oil. Manufacturer: "Aqua metro" or equivalent Type: "VZO 4 RE" Nominal flow: 50 l/h Minimum flow: 1 l/h	pcs	2	x	567,00 €	=	1.134,00 €		2	x	567,00 €	=	1.134,00 €
3	Purchase, supply and installation of control unit with M-Bus communication and display. Manufacturer: "Siemens" or equivalent Type: "Climatix POL638"	pcs	1	x	2.709,00 €	=	2.709,00 €	2	0	x	2.709,00 €	=	Excluded by Client (communication 01/08/2014)
4	Software development and staff training.	pcs	1	x	756,00 €	=	756,00 €	2	0	x	756,00 €	=	Excluded by Client (communication 01/08/2014)
TOTAL A - ENERGY MANAGEMENT						5.833,80 €					2.368,80 €		
B - Measure No. 4: Heating System Optimization													
B.I Dismantling of existing equipment and preliminary works													
1	Dismantling of existing equipment in the boiler room: boiler capacity 850 kW with burner, feeder and return pipes, expansion vessel, light distilled oil tank for daily requirements, pumps, air-release valves, valves and other fittings). Calculated as lump-sum.	pcs	1	x	1.512,00 €	=	1.512,00 €		1	x	1.512,00 €	=	1.512,00 €
2	Cleaning existing below-grade light distilled oil tank for seasonal and daily oil requirements, removal of sediments, dumping in set manner, replacement of suction group, maintenance service of safety valves and inspection of entire ancillary installation. Calculated as lump-sum.	pcs	1	x	1.900,08 €	=	1.900,08 €		1	x	1.900,08 €	=	1.900,08 €
3	Rinsing of the entire heating system in the school with the gym. Dismantling of all radiators (163 pieces) and removal of residue from the bottom of ribs. Fitting of new radiator brackets and remounting of radiators. Calculated per heat emitter.	pcs	163	x	31,50 €	=	5.134,50 €		163	x	31,50 €	=	5.134,50 €
4	Building concrete base for boilers, size 235 x 110 x 10 cm. The base is coated in ceramic tiles.	set	1	x	550,00 €	=	550,00 €		1	x	550,00 €	=	550,00 €
5	Making of openings on one vertical side of the existing chimney to fit new prefabricated chimneys through the old, chimney cleaning, waste removal and fitting of terminal cap at the top of the old chimney through which new chimneys need to be pulled. Calculated as lump-sum.	pcs	1	x	252,00 €	=	252,00 €		1	x	252,00 €	=	252,00 €
TOTAL B.I - DISMANTLING OF EXISTING EQUIPMENT AND PRELIMINARY WORKS						9.348,58 €					9.348,58 €		
B.II Boiler room elements and fittings													
1	Purchase, delivery and installation of compact three-way steel boiler with cylindrical combustion chamber for economical work with variable boiling temperature, for combustion of light distilled oil type EL, for heating systems with suppression temperatures (limiter temperature) up to 110°C, with "Therm-Control" system for operating without additional option for increasing return water temperature, i.e. protection of cold part of the boiler, with following properties: Manufacturer: "Viessmann" or equivalent Type: "Vitoplex 300 TX3A" Nominal heat capacity 300kW Norm usefulness degree 96% Permitted operating pressure 4 bar Exhaust pipe connection 200 mm Dimensions: length 2330 mm width 905mm height 1460 mm												

	A-C TOTAL PRICE, VAT INCLUDED:				81.193,94 €	
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GROUP A5.2.3 TABLE OF QUANTITIES of electrical services for energy efficiency improvement in "Dašo Pavičić" Primary School in Herceg Novi		Investor:		Ministry of Economy of Montenegro, Energy Efficiency Sector									
		Project financed by:		KfW ENTWICKLUNGSBANK									
		Consultant:		FICHTNER GmbH&Co. KG									
		Sub-Consultant:		KOPRINGER PMG, Podgorica / Lokalni projekti									
		School:		P.S. "Dašo Pavičić", Herceg Novi									
		Objekat:		Final Design of Electrical Services									
		Doc. origin:		Dokumentacija									
		Date:		28 November 2013									
No.	Item Description	Unit of measure	CONTRACT				AMENDMENT 1				COMMENTS		
			Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)				
1	LIGHTING INSTALLATION												
1.1.	Delivery and laying of cables in wall installations with repairing of damaged walls and ceilings, covering and bringing it back in previous conditions for electrical connection of light fitting above school boards. Installation should be done in line with technical description. Connection point is from nearest existing junction box. Commands are from existing switch in the classroom. One cable replacement is foreseen in every classroom. Average cable length per one outgoing connection spot is:												
	PP-Y 3x1,5 mm2	m	6,00					6,00					
	Works and material	pcs	26	x	25,92	=	673,92 €	26	x	25,92	=	673,92 €	
1.2.	Delivery and laying of cables in wall installations with repairing of damaged walls and ceilings covering and bringing it back in previous conditions for electrical connection of emergency lights. Connection point is from nearest existing junction box. Average cable length per one outgoing connection spot:												
	PP-Y 3x1,5 mm2	m	14					14					
	Works and material	pcs	28	x	60,48	=	1.693,44 €	28	x	60,48	=	1.693,44 €	
1.3.	Dismantling of existing luminaires. Price is calculated per unit.	pcs	398	x	4,32	=	1.719,36 €	398	x	4,32	=	1.719,36 €	
1.4.	Delivery and mounting of ceiling mounted luminaire 1/54W (or 2x28 W) T16 F840 [STD] T16 x 1/54W (or 2x28W), with electronic high frequency ballast, completely equipped with mounting gear and light source 840; Norms 12464 for DSE for working stations. Works and material are calculated per unit.	pcs	199	x	116,64	=	23.211,36 €	199	x	116,64	=	23.211,36 €	
	Spare bulbs for this type of the luminaire	pc	20	x	6,62	=	132,48 €	20	x	6,62	=	132,48 €	
1.5.	Delivery and mounting of ceiling mounted luminaires 2/35WT16 F840 [STD] with electronic high frequency ballast, completely equipped with mounting gear and light source 840; Norms 12464 for DSE for working stations. Works and material to be calculated per unit:	pcs	12	x	139,68	=	1.676,16 €	12	x	139,68	=	1.676,16 €	
	Spare bulbs for this type of the luminaire	pc	1	x	6,77	=	6,77 €	1	x	6,77	=	6,77 €	
1.6.	Delivery and mounting of pendant luminaires 1/80W T16 F840 with asymmetrical light distribution for school boards lighting, with electronic high frequency ballast completely equipped with mounting gear and light source 840. Luminaire has to be mounted on 2.7 m height from floor level and 0.9 m from wall with board mounted on it. Works and material to be calculated per unit:	pcs	24	x	204,48	=	4.907,52 €	24	x	204,48	=	4.907,52 €	
	Spare bulbs for this type of the luminaire	pc	2	x	8,06	=	16,13 €	2	x	8,06	=	16,13 €	
1.7.	Delivery and mounting of ceiling mounted luminaires 2/35 W T16 IP50, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material to be calculated per unit:	pcs	26	x	184,32	=	4.792,32 €	26	x	184,32	=	4.792,32 €	
	Spare bulbs for this type of the luminaire	pc	3	x	6,77	=	20,30 €	3	x	6,77	=	20,30 €	
1.8.	Delivery and mounting of ceiling mounted luminaires 2/28 W T16 IP50, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material to be calculated per unit:	pcs	21	x	169,92	=	3.568,32 €	21	x	169,92	=	3.568,32 €	
	Spare bulbs for this type of the luminaire	pc	2	x	6,62	=	13,25 €	2	x	6,62	=	13,25 €	
1.9.	Delivery and mounting of ceiling mounted luminaires 1/28 W T16 IP50, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material to be calculated per unit:	pcs	58	x	135,36	=	7.850,88 €	58	x	135,36	=	7.850,88 €	
	Spare bulbs for this type of the luminaire	pc	6	x	6,62	=	39,74 €	6	x	6,62	=	39,74 €	
1.10.	Delivery and mounting of ceiling mounted luminaires 1/28 W T16 IP50, with opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material to be calculated per unit:	pcs	2	x	100,80	=	201,60 €	3	0	x	100,80	=	0
	Spare bulbs for this type of the luminaire	pc	1	x	6,62	=	6,62 €	3	0	x	6,62	=	0
1.11.	Delivery and mounting of ceiling mounted light fitting 1/28 W T16 IP54, with opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material to be calculated per unit:	pcs	22	x	108,00	=	2.376,00 €	3	0	x	108,00	=	0
	Spare bulbs for this type of the luminaire	pc	2	x	6,62	=	13,25 €	3	0	x	6,62	=	0
1.12.	Delivery and mounting of ceiling mounted luminaires 2/18 W TC-L IP54, with opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material to be calculated per unit:	pcs	31	x	129,60	=	4.017,60 €	3	0	x	129,60	=	0
	Spare bulbs for this type of the luminaire	pc	3	x	6,77	=	20,30 €	3	0	x	6,77	=	0
1.13.	Delivery and mounting of ceiling mounted luminaires 2/35 W T16, with IP65 protection, completely equipped with light source, electrical pre-assembly device, electronic high frequency ballast with dark light diffusor and mounting gear. Works and material to be calculated per unit:	pcs	5	x	126,72	=	633,60 €	3	0	x	126,72	=	0

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	Spare bulbs for this type of the luminaire	pc	1	x	6,77	=	6,77 €	3	0	x	6,77	=	0	
1.14.	Delivery and mounting of ceiling mounted emergency luminaire with electronic control gear 8W, 1h. Works and material to be calculated per unit:	pcs	1	x	50,40	=	50,40 €	1	x	50,40	=	50,40 €		
	Spare bulbs for this type of the luminaire	pc	1	x	2,88	=	2,88 €	1	x	2,88	=	2,88 €		
1.15.	Delivery and mounting of ceiling mounted emergency luminaires with electronic control gear, equivalent or with better technical characteristics than RESCLITE ESCAPE AD NT1 WH - Zumtobel. Works and material, with bulb included, to be calculated per unit:	pcs	22	x	286,56	=	6.304,32 €	22	x	286,56	=	6.304,32 €		
	Spare bulbs for this type of the luminaire	pc	2	x	276,48	=	552,96 €	2	x	276,48	=	552,96 €		
1.16.	Delivery and mounting of ceiling mounted emergency luminaires with electronic control gear, equivalent or with better technical characteristics than ONLITE RESCLITE ANTI PANIC AD NT1 - Zumtobel. Works and material, with bulb included, to be calculated per unit:	pcs	4	x	286,56	=	1.146,24 €	4	x	286,56	=	1.146,24 €		
	Spare bulbs for this type of the luminaire	pc	1	x	276,48	=	276,48 €	1	x	276,48	=	276,48 €		
1.17.	Delivery and mounting of wall mounted emergency luminaire with electronic control gear, equivalent or with better technical characteristics than ONLITE RESCLITE WALL IP65 - Zumtobel. Works and material, with bulb included, to be calculated per unit:	pcs	2	x	293,76	=	587,52 €	2	x	293,76	=	587,52 €		
	Spare bulbs for this type of the luminaire	pc	1	x	283,68	=	283,68 €	1	x	283,68	=	283,68 €		
TOTAL FOR LIGHTING INSTALLATION							66.802,18 €					59.526,43 €		
2	POWER SUPPLY AND ELECTRICAL INSTALLATION FOR BOILER ROOM AND HVAC SERVICES													
2.1.	Delivery and laying of cables in wall installations with PVC rigid installation pipes and galvanized cable trays in boiler room for construction of the electrical circuits of electrical consumers in the boiler room and combined water heater in auxiliary room next to gym. Power cord for water softeners is taken from the existing boiler electrical cabinet. Power cord for combined water heater is taken from the existing main electrical cabinet. RO-S, through existing cable trays and partly through rigid PVC pipes in wall installation. Works and material are calculated per average measure unit.													
	PP-Y 3x1,5 mm2	m	20,00	x	2,74	=	54,72 €	20,00	x	2,74	=	54,72 €		
	PP-Y 3x2,5 mm2	m	135,00	x	3,46	=	466,56 €	135,00	x	3,46	=	466,56 €		
	PP-Y 5x2,5 mm2	m	25,00	x	3,89	=	97,20 €	25,00	x	3,89	=	97,20 €		
	PP-Y 5x4 mm2	m	18,00	x	5,18	=	93,31 €	18,00	x	5,18	=	93,31 €		
	PP00-y 5x6 mm2	m	12,00	x	6,19	=	74,30 €	12,00	x	6,19	=	74,30 €		
	P/F 1x16 mm2	m	15,00	x	4,32	=	64,80 €	15,00	x	4,32	=	64,80 €		
	OUTLET THREE PHASE 3P+N+PE 16A/400V IP55	pcs	2,00	x	11,52	=	23,04 €	2,00	x	11,52	=	23,04 €		
	OUTLET 2P+E / 230V/ IP 55	pcs	6,00	x	10,08	=	60,48 €	6,00	x	10,08	=	60,48 €		
	Two-way switch IP55 10A	pcs	1,00	x	7,20	=	7,20 €	1,00	x	7,20	=	7,20 €		
2.2.	Dismantling of existing switchboard and delivery and mounting of prefabricated wall mounted IP 54 switchbox in boiler room "RT Ko", completely equipped with following parts:													See OFV 01, approved by Client on 23/09/2014.
	Disconnector switch INS 1-0, 40A, 3P	pcs	1,00					3	0					
	Motor protection switch 2.5 - 4A	pcs	1,00					3	0					
	Motor protection switch 1,6 - 2,5A	pcs	4,00					3	0					
	automatic switch 3p C60H-D 20A 10 kA	pcs	1,00					3	0					
	automatic switch 3p C60H-D 16A 10 kA	pcs	2,00					3	0					
	automatic switch 1p C60H 16A 10 kA	pcs	4,00					3	0					
	automatic switch 1p C60H 10A 10 kA	pcs	3,00					3	0					
	The price includes all material required for installation of this equipment.													
	TOTAL SWITCH BOX "RT Ko"	pcs	1,00	x	622,08	=	622,08 €	3	0	x	622,08	=	0	
2.3.	Delivery and mounting following parts, in existing switchbox RO-S: automatic switch 1p C60H 20A 10 kA The price includes all material required for installation of this equipment. Total for switchbox RO-S	pcs	3,00						3,00					
		pcs	1,00	x	25,92	=	25,92 €	1,00	x	25,92	=	25,92 €		
2.4.	Delivery and mounting of cables for power supply of electric fans on ceilings in the classrooms. Cables to be supplied from the existing junction box for the classrooms. The cables need to be placed mainly in the walls and ceilings or above the suspended ceiling. Installation to be in full compliance with the technical description. The item includes mounting in ceilings or walls, electric connection on both sides of cables, as well as bringing the damaged walls or ceilings to the original condition. Fan control to be provided by the controller, which shall be mounted next to the light switch in the classrooms. Average cable length per one fan is 8m, of PP-Y 5x1,5 mm2. Total for the supply and installation of:	pcs	60	x	34,56	=	2.073,60 €	60	x	34,56	=	2.073,60 €		
2.5.	Delivery and mounting of industrial ceiling fan 230 V / 50 Hz max. power 100W 5-speed. The fan has 3 metal blades with a diameter of 1,2 m, operating with noise level less than 20 dB (from a distance of 1,5 m). The item includes wall controller, that shall be mounted next to the lights switc in the classrooms. Total for the supply and installation of:	pcs	60	x	136,80	=	8.208,00 €	60	x	136,80	=	8.208,00 €		
2.6.	Delivery and installation of simple switches 10A, 230V, instead of existing broken switches. Total for the supply and installation of:	pcs	10	x	7,20	=	72,00 €	10	x	7,20	=	72,00 €		

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2.7.	Delivery and installation of single phase sockets 16A, 230V, 2P + E instead of existing broken sockets. Total for the supply and installation of:	pcs	10	x	10,08	=	100,80 €		10	x	10,08	=	100,80 €		
TOTAL FOR POWER SUPPLY AND ELECTRICAL INSTALLATION FOR BOILER ROOM AND HEATING SERVICES							12.044,02 €						11.421,94 €		
3	POTENTIAL EQUALIAZATION														
3.1.	Delivery and mounting of deep galvanized tape Fe-Zn 20x3 mm for potential equalization in boiler room, according to the installation layouts. Tape is mounted on tape carriers type C.L. JUS N.B4.925-P. Works and material to be calculated per measure unit:	m	21,00	x	2,59	=	54,43 €		21,00	x	2,59	=	54,43 €		
3.2.	Delivery and mounting of tape carriers type C.L. JUS N.B4.925-P. Works and material to be calculated per measure unit:	pcs	20,00	x	5,04	=	100,80 €		20,00	x	5,04	=	100,80 €		
3.3.	Delivery and mounting of tape junction elements type JUS N.B4. 936 for connection between tapes. Works and material to be calculated per measure unit:	pcs	4,00	x	5,04	=	20,16 €		4,00	x	5,04	=	20,16 €		
3.4.	Delivery and laying of cables P/F 1x16 mm2 on wall installations with PVC installation pipes and galvanized cable trays in boiler room for connecting all metal conductive parts with potential equalization bus bar. Works and material to be calculated per measure unit:	m	16,00	x	2,88	=	46,08 €		16,00	x	2,88	=	46,08 €		
TOTAL FOR POTENTIAL EQUALIAZATION							221,47 €						221,47 €		
4	LIGHTNING AND GROUNDING INSTALLATION														
4.1.	Dismantling of existing lightning protection system.	lump sum	1,00		216,0	=	216,00 €		1,00		216,0	=	216,00 €		
4.2.	Delivery and mounting of deep galvanized tape Fe-Zn 20x3mm for connecting grounding system with lightning installation system on the roof - according to technical report, recommendation and technical demands. Works and material are calculated per measure unit.	m	190,00	x	2,6	=	492,48 €		190,00	x	2,6	=	492,48 €		
4.3.	Delivery and mounting of tape junction elements type JUS N.B4. 936 for connection between tapes. Works and material are calculated per measure unit.	pcs	45,00	x	5,0	=	226,80 €		45,00	x	5,0	=	226,80 €		
4.4.	Delivery and mounting of tape carriers type on every 1m. Works and material to be calculated per measure unit.														
	P-S-K	pcs	38,00	x	5,0	=	191,52 €		38,00	x	5,0	=	191,52 €		
	C.L. JUS N.B4.925-P	pcs	4,00	x	5,0	=	20,16 €		4,00	x	5,0	=	20,16 €		
4.5.	Delivery and mounting of deep galvanized tape Fe/Zn 25x4 mm2 for grounding of gutters. Tape should be connected to nearest connection point to foundation earthing, through earth trench and under new pavements. Works should be performed according to technical report and technical recommendation. Total for works and material:	m	216,00	x	2,6	=	559,87 €		216,00	x	2,6	=	559,87 €		
4.6.	Delivery and mounting of prefabricated tape junction elements for gutters according to JUS and IEC standards and technical report. Works and material to be calculated per measure unit.														
	NGO 15. AY JUS N.B4.914-O(P)	pcs	18,00	x	7,2	=	129,60 €		18,00	x	7,2	=	129,60 €		
TOTAL FOR LIGHTNING AND GROUNDING INSTALLATION							1.836,43 €						1.836,43 €		
5	TESTING & MAINTENANCE DESIGN														
5.1	Testing of electrical grounding installation and lightning protection system with issuance of attest.	lump sum	1,00		360,00 €	=	360,00 €		1,00		360,00 €	=	360,00 €		
5.2	Testing of new electrical power supply installation.	lump sum	1,00		216,00 €	=	216,00 €		1,00		216,00 €	=	216,00 €		
5.3	Preparation of Maintenance Design.	lump sum	1,00		360,00 €	=	360,00 €		1,00		360,00 €	=	360,00 €		
TOTAL FOR TESTING & MAINTENANCE DESIGN							936,00 €						936,00 €		
SUMMARY OF COSTS 1-5															
1	LIGHTING INSTALLATION						66.802,18 €							59.526,43 €	
2	POWER SUPPLY AND ELECTRICAL INSTALLATION FOR BOILER ROOM AND HVAC SERVICES						12.044,02 €							11.421,94 €	
3	POTENTIAL EQUALIAZATION						221,47 €							221,47 €	
4	LIGHTNING AND GROUNDING INSTALLATION						1.836,43 €							1.836,43 €	
5	TESTING						936,00 €							936,00 €	
	TOTAL PRICE, VAT EXCLUDED						81.840,10 €							73.942,27 €	
	TOTAL PRICE WITH 3% DISCOUNT						79.384,89 €							71.724,00 €	
	VAT (19 %)						15.083,13 €							13.627,56 €	
1-5	TOTAL PRICE (DISCOUNT INCLUDED), VAT INCLUDED						94.468,02 €							85.351,56 €	
6	ADDITIONAL WORKS														
1	Delivery and mounting of wall mounted metal switchbox RT KOT in boiler room completely equipped with following parts: Metal switchbox dim:800x600x200mm IP54	pcs pcs	1	150	150,00				3	1	x	150	=	150,00 €	OFV 01, approved by Client on 23/09/2014.

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	Disconnecter switch INS 1-0, 40A, 3P	pcs	1	60	60,00	3	1	x	60	=	60,00	€	
	circuit breaker 1p (6-25)A 10 kA Doepke	pcs	20	6,5	130,00	3	20	x	6,5	=	130,00	€	
	Motor protection switch 2.5 - 4A	pcs	2	45	90,00	3	2	x	45	=	90,00	€	
	Motor protection switch 1,6 - 2,5A	pcs	3	45	135,00	3	3	x	45	=	135,00	€	
	rotary switch 10A 51U	pcs	4	19	76,00	3	4	x	19	=	76,00	€	
	rotary switch 10A 90U	pcs	3	25	75,00	3	3	x	25	=	75,00	€	
	signal led indicator 220V	pcs	3	17	51,00	3	3	x	17	=	51,00	€	
	contactor 40-40 20A	pcs	4	37	148,00	3	4	x	37	=	148,00	€	
	Cable P/F 10,16mm2	m	10	2,2	22,00	3	10	x	2,2	=	22,00	€	
	Time duration of works: 8h X Engaged workers:2		16	4	64,00	3	16	x	4	=	64,00	€	
	Rails, comb busbars,pvc canals for cable trunking, terminals ...	lump sum		50	50,00	3			50	=	50,00	€	
2	Delivery and laying of cables for new distribution system for power supply of light fittings for lighting in PS Dašo Pavičić H.Novi,with making the chanel in ceiling and plastering the chanel after laying cable . Connection is from nearest existing switchbox and junction box. Commands are from existing switches in the centralized place. All necessary small connection kits is envisaged. Average cable length per one outgoing Works and material per luminary	pcs				3	348	x	60,48	=	21.047,04	€	OFV 02, approved by Client on 23/09/2014.
3	Reconstruction of existing switchboxes for providing regularly functioning and protection of new lamps: Delivery and mounting of switch box ready-made, with a lock. The board is technoplastic wall recessed or surface-mounted for the installation of 36 modules (2x18M). The price includes all material required for installation of the equipment. The following equipment shall be installed in switchbox: circuit breaker 1P (6-32)A 10 kA Doepke Cable P/F 10mm2 Rails, comb busbars,pvc canals for cable trunking, terminals ... Time duration of works: 4h X Engaged workers:2 Prices from offer A27 for Salko Aljkovic school- Fast track No. of local switchboxes	pcs pcs m lump sum hw set pcs				3 3 3 3 3 3 3	1 15 5 1 8 8 8	x	50,00 6,00 1,60 20,00 4,00 200,00 200,00	=	1.600,00	€	OFV 03, approved by Client on 23/09/2014.
4	Reconstruction of existing switchboxes for providing regularly functioning and protection of new lamps: Intervention in existing local switchbox near music classroom. Delivery and mounting: circuit breaker 1P (6-32)A 10 kA Doepke circuit breaker 1P 63A 10 kA Doepke Cable P/F 10mm2 Rails, comb busbars,pvc canals for cable trunking, terminals ... Time duration of works: 4h X Engaged workers:2 Prices from offer A27 for Salko Aljkovic school- Fast track No. of local switchboxes	pcs pcs m lump sum hw set pcs				3 3 3 3 3 3 3	17 3 5 1 8 1 1	x	6,00 7,00 1,60 20,00 4,00 183,00 183,00	=	183,00	€	OFV 03, approved by Client on 23/09/2014.
5	Delivery and mounting of ceiling mounted luminaires 1/28 W T16 IP50, with opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material to be calculated per unit: AS 1X28/1/IP54 OPAL, sa izvorima svijetla. Mareli Bugarska Spare bulb for this type of luminaire F.28/840 T5 1/30	pcs pc				3 3	2 1	x	34,50 4,03	=	69,00 4,03	€	OFV 04, approved by Client on 23/09/2014.
6	Delivery and mounting of ceiling mounted light fitting 1/28 W T16 IP54, with opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material to be calculated per unit: AS 1X28/1/IP54 OPAL, sa izvorima svijetla. Mareli Bugarska Spare bulb for this type of luminaire F.28/840 T5 1/30	pcs pc				3 3	22 2	x	34,50 4,03	=	759,00 8,06	€	OFV 04, approved by Client on 23/09/2014.
7	Delivery and mounting of ceiling mounted luminaires 2/18 W TC-L IP54, with opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material to be calculated per unit: ORION IP54 1xE27 max 23W CFL Spare bulb for this type of luminaire CFL 20W E27	pcs pc				3 3	31 3	x	28,75 5,41	=	891,25 16,23	€	OFV 04, approved by Client on 23/09/2014.
8	Delivery and mounting of ceiling mounted luminaires 2/35 W T16, with IP65 protection, completely equipped with light source, electrical pre-assembly device, electronic high frequency ballast with dark light diffusor and mounting gear. Works and material to be calculated per unit: RCS236 2x36W T8 EB IP65 MARELI Spare bulb for this type of luminaire T8 G13 36W	pcs pc				3 3	5 1	x	40,25 2,30	=	201,25 2,30	€	OFV 04, approved by Client on 23/09/2014.
9	Delivery and laying of cables for new distribution system for power supply of light fittings for lighting in PS Dašo Pavičić H.Novi,with making the chanel in ceiling and plastering the chanel after laying cable . Connection is from nearest existing switchbox and junction box. Commands are from existing switches in the centralized place. All necessary small connection kits is envisaged. Average cable length per one outgoing connection point: PP-Y 3x1,5 mm2 Price taken from DP-EI-ToQ- 1.2 Works and material per luminary	pcs				4	14	x	60,48	=	846,72	€	OFV 33, approved by Client on 31/10/2014.
SUMMARY OF COSTS 6													
	TOTAL PRICE, VAT EXCLUDED:											26.678,88	€
	VAT (19%):											5.068,99	€

GROUP A5.3.1		Investor:		Ministry of Economy of Montenegro, Energy Efficiency Sector										
TABLE OF QUANTITIES		Project financed by:		KfW ENTWICKLUNGSBANK										
of building and trade works for energy efficiency		Consultant:		FICHTNER GmbH&Co. KG										
improvement in "Bratstvo i jedinstvo" Secondary		Sub-Consult/ Lokalni projekti:		KOPRINGER PMC, Podgorica										
School in Ulcinj		School:		Objekat: S.S "Bratstvo i jedinstvo", Ulcinj										
		Doc. origin:		Dokumentacija/Final Architectural Design										
		Date:		05 February 2014										
No.	Item Description	Unit of measure	CONTRACT				AMENDMENT 1				COMMENTS			
			Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)					
I THERMAL INSULATION OF FACADE WALLS														
1.01.	Clean the facade surface from dirt, moss and dust. Undertake the cleaning mechanically or chemically. During cleaning, be careful not to damage the surface. Surface firmness and absorption should be provided. Prior to this, dirty, wet and non-bearing surface should be remedied. The interior mortar and coating should set prior to commencing the works. Works to be conducted depending on the surface: *smooth surfaced furrowed, *bubbling brushed with dry brush, *wet surfaces dried and protected, *mildew and algae cleaned by using algae remover, *binding mortar cleaned and coated with flexible and cement free adhesive, *dusty surface brushed, cleaned under high pressure, washed with water and dried, *lime mortar removed and covered with equalization coating, *mortar remains mechanically removed, *joints between bricks filled with cement mortar, filled joints cleaned with foam, paint cleaned with water and dried. Calculation as per m2 of the cleaned surface. The price includes usage of scaffold.	m2	1,420.00	x	1,50 €	=	2,130.00 €		1,420.00	x	1,50 €	=	2,130.00 €	
1.02.	Repair of damaged parts of facade using repairing mortar, with previous chasing of damaged parts and base preparation. Calculation per m2 of plastered position. The price includes usage of scaffold.	m2	130.00	x	8,50 €	=	1,105.00 €		130.00	x	8,50 €	=	1,105.00 €	
1.03.	Setting up of "Demit" thermal facade. On the external side, thermal insulation of facade walls will be made of expanded EPS polystyrene having heat transfer coefficient of $\lambda_{max} = 0,037$ W/mK, thickness $\delta_{min} = 8$ cm, produced in line with the relevant EN standards. External thermal insulation composite system (ETICS) is required to have an ETAG 004 certificate. The lower part of the facade walls reaching up to the height of $h = 1,0 - 1,60$ m from ground will be treated with stiffer insulating material, XPS extruded polystyrene, thickness $d = 8$ cm resistant to mechanical damages, with heat transfer coefficient of $\lambda = 0,035 - 0,04$ W/mK. In the zones above the openings at up to 50 cm width, facade walls will be coated with HP mineral wool thickness 8 cm, flammability class A1. Use EPS/XPS, thickness $d = 3$ cm to treat jambs on the external side of the openings. Thermal plates are lap-joint, attached to facade wall with corresponding enriched mineral adhesive, anchored with relevant dowels. Surface of the plates is protected with reinforced mortar, which consists of the following elements: *first layer – enriched plaster based on cement binder, mineral aggregate and admixtures to improve elasticity and water repellence. Surface for this layer of mortar will be flat and smooth. Any unevenness at joints of the installed polystyrene plates will be filled with polyurethane foam. Reinforcing mesh with adequate overlapping and extra protection at the openings and corners is laid in a fresh layer of this mortar. In case of need for the additional mechanical anchoring, use impact bolt through the reinforcing mesh 24 hours after applying this layer. * reinforcing mesh * second layer of mortar, apply same procedure as with the first layer. This mortar is laid to well-settled first layer and polished with a screed afterwards. * contact coating made of the emulsion of synthetic resins and water-glass used for impregnation of the dried reinforced mortar. * top coating is made of mineral binders, water-repellent admixtures, means for improving elasticity and resistance to mildew and algae. This top layer will be made in grainy and smooth structure, painted in colour selected by a Employer / Employer's representative, while the entire procedure will be conducted in line with the design details. Before setting up the thermal plates, generally the following works should be conducted: * All works on the roof, including the covering and sheet metal works * Windows and doors replacement * Plastering of inside wall and ceiling surfaces * Concrete pavement * Setting up of all installations on the façade * Covering and protection of all non-treated surfaces – glass, wood, aluminium...													

	* Control and testing of the existing facility surface: Use the means of impregnation- basic coating at the most critical points of the facility. When the basic coating sets, place the EPS cube of 5x5x5 cm using polystyrene adhesive. Once the adhesive has completely settled, minimum 3 days if working conditions are adequate, try to separate the cube manually.																			
	If in the process of separating polystyrene only the adhesive separates and not parts of the basis- the basis is sufficiently strong, solid and stable. If in the process of separating polystyrene, the adhesive remains, or if part of the adhesive remains on the wall and part on the polystyrene - it means that the adhesive is adequate and strong. If in the process of separating polystyrene, part of the adhesive and cradling is separated - it means that the basis is not strong enough and it will withstand a new layer of thermal insulation.																			
	Use the reinforcing mesh or corner profiles for the window corners and jambs. To complete the facade along the plinth, use reinforced layer or install U profile battens adjusted to thickness of a thermal plate.																			
	At heights exceeding 8 meters, plates need additional anchoring with appropriate bolts																			
	During installation of facade, cradling, mortar and adhesive, temperature of air must not drop below +5°C or be above +25°C. Mortars must not be applied in case of strong wind, rain or fog.																			
	The price includes the purchase, installation of entire material, preparatory works, surface preparation, installation of thermal facade fitting described layers and installation of required scaffolding. Calculation is based on m2 of the installed facade.																			
	NOTE:																			
	Part of the facade above the openings will be coated with hard-pressed mineral wool, thickness d=8cm.																			
	Processing of jambs is included in the price, it won't be calculated separately.																			
	The planned facade systems should be aligned with the appropriate EN standards.																			
	External thermal insulation composite system (ETICS) is required to have an ETAG 004 certificate. ETA certificate (European Technical Approval) is a certificate issued by the European Organization for Technical Approval, which confirms that the thermal insulation system is in compliance with the parameters laid down by this organization - mechanical resistance and stability, safety in the event of fire, hygiene, health and environmental sustainability, safety of use, noise protection, energy efficiency and heat retention.																			
	EPS	m2	1.082,40	x	19,50 €	=	21.106,80 €		1.082,40	x	19,50 €	=	21.106,80 €							
	XPS	m2	211,00	x	24,50 €	=	5.169,50 €		211,00	x	24,50 €	=	5.169,50 €							
	HP mineral wool	m2	52,00	x	21,30 €	=	1.107,60 €		52,00	x	21,30 €	=	1.107,60 €							
1.04.	Setting up of the facade plinth with decorative ready mixed marble based mortar, created on grain ("Kulie") as splash guard (as indicated on the drawings). Surface should be cleaned, washed and sprinkled with acrylic base with granulate, color of the base by the color chart of the manufacturer. Render should be applied on cleaned and dried surface by manufacturer's instruction. The color should be determined by the Employer / Employer's representative, according to the color chart of manufacturer.	m2	86,44	x	15,20 €	=	1.313,89 €		86,44	x	15,20 €	=	1.313,89 €							
TOTAL FOR THERMAL INSULATION OF FACADE WALLS							31.932,79 €						31.932,79 €							
II REMEDIATION OF FLAT ROOFS																				
2.01.	Removal of existing layers of flat roof, up to the concrete roof structure with following layers: "waterproofing with protective coating (3 layers of building paper and 4 layers with protection made of "albit folia"), " sloping layer (lean concrete d=5-16cm). The price includes removal of waterproofing from the attic and roof cornice. The price includes all the work and transporting debris to a town landfill. During dismantling, make sure not to damage RC floor structure. Calculation per m2 of roof base.	m2	1.496,58	x	9,80 €	=	14.666,48 €	1	0	x	9,80 €	=	0							Change of roof technology, see new positions below.
2.02.	Dismantling of the gullies from the building's roof. Calculation per piece of fully dismantled gully and all its elements.	pcs	10,00	x	10,00 €	=	100,00 €	1	0	x	10,00 €	=	0							Change of roof technology, see new positions below.
2.03.	Purchase and installation of vapour-permeable-waterproof foil over layer of newly fitted waterproofing on the building's roof. The price includes all works and material as per description. Calculation as per m2 of the lined foil.	m2	1.496,58	x	1,50 €	=	2.244,87 €	1	0	x	1,50 €	=	0							Change of roof technology, see new positions below.

<p>Installation of horizontal waterproofing on the flat buildings roofs. This position with WOLFEN system include applying WOLFEN M, black PVC Thermoplastic waterproofing membrane. WOLFEN M membrane is applying with overlap of 10 cm and is mechanically fixed with Acnhors. Membrane joints has to be welded with hot air gun. All edges and corners has to be fixed with WOLFEN base angles and strips. WOLFEN waterproofing membrane has to be welded to the WOLFEN strips and base angles. Put the waterproofing at least 15cm up the walls. Special attention is attached to connections between horizontal and vertical waterproofing. Calculation as per m2 of the roof basis. The price includes all works and material as per description.</p> <p>NOTE: Entire waterproofing overlapping and putting waterproofing up the walls is to be included in the price of works. The price includes preparation with cleaning, dedusting, removal of bubbles, cuts and wrinkles and such on existing insulation.</p> <p>Purchase and installation of gullies on the building's roof. Gullies for flat roofs DN100 with vertical discharge, made of stainless steel with double flanges for fixing waterproofing; additional gully parts: ball grating, upper part, leveling element. Calculation per piece, and the price induces all the required work and material, and installation of protection grating.</p> <p>Supply of materials and goods for flat roof cornice - parapet wall flashing. The flashing shall be made of galvanized steel sheets, required sheet thickness is 0.6mm with one side covered with Waterproofing material prepared for welding. All works should be done according the Technical drawings which are part of documentation for this tender specification. Also, if the high of eaves is lower than 20 cm, than put EXP boards to increase high up to 20 cm.</p>	m2					1,496,58						Optional offer in TD, instead of pos. 2.07.	
	pcs						10,00						Optional offer in TD, instead of pos. 2.10; amount corrected.
	m2						400,00						Optional offer in TD.
	lump sum							1				92.335,28 €	Optional offer "Wolfen system" in Contract.
TOTAL FOR FLAT ROOFS REMEDIATION							93.267,96 €					92.335,28 €	
III REPLACEMENT OF THE FAÇADE JOINERY													
3.01.	Dismantling of façade joinery and the glass bricks of fanlight over atrium, all its elements and mechanisms. Transportation to the town landfill or hand-over to the Employer/Employer's Representative (according to the agreement) for storing. Calculation as per piece of dismantled joinery.												
	*windows												
	dim. 640/210cm	pcs	1,00	x	73,13 €	=	73,13 €		1,00	x	73,13 €	=	73,13 €
	dim. 720/210cm	pcs	15,00	x	85,49 €	=	1.282,35 €		15,00	x	85,49 €	=	1.282,35 €
	dim. 960/210cm	pcs	4,00	x	103,00 €	=	412,00 €		4,00	x	103,00 €	=	412,00 €
	dim. 480/210cm	pcs	5,00	x	56,65 €	=	283,25 €		5,00	x	56,65 €	=	283,25 €
	dim. 240/210cm	pcs	4,00	x	27,81 €	=	111,24 €		4,00	x	27,81 €	=	111,24 €
	dim. 240/65m	pcs	3,00	x	8,24 €	=	24,72 €		3,00	x	8,24 €	=	24,72 €
	dim. 170/65cm	pcs	1,00	x	6,18 €	=	6,18 €		1,00	x	6,18 €	=	6,18 €
	dim. 1200/125cm	pcs	1,00	x	82,40 €	=	82,40 €		1,00	x	82,40 €	=	82,40 €
	dim. 1200/75cm	pcs	1,00	x	41,20 €	=	41,20 €		1,00	x	41,20 €	=	41,20 €
	dim. 200/70cm	pcs	4,00	x	30,90 €	=	123,60 €		4,00	x	30,90 €	=	123,60 €
	dim. 1210/108cm (glass bricks)	pcs	2,00	x	20,60 €	=	41,20 €		2,00	x	20,60 €	=	41,20 €
	*doors												
	dim.105/205cm	pcs	1,00	x	10,30 €	=	10,30 €		1,00	x	10,30 €	=	10,30 €
3.02.	Dismantling of the façade aluminium joinery with all its fittings and mechanisms. Transportation to the town landfill or hand-over to the Employer/Employer's Representative (according to the future agreement) for storing. Calculation as per piece of dismantled joinery.												
	doors												
	dim.230/230cm	pcs	1,00	x	30,90 €	=	30,90 €		1,00	x	30,90 €	=	30,90 €
3.03.	Dismantling of facade panels made of vacuum glass d=10cm with appurtenant single-leaf doors (2 pcs) and dumping at the landfill or hand-over to the Employer/Employer's Representative (as agreed) for storing. Calculation per m2 of fully dismantled item.												
	m2		97,00	x	7,21 €	=	699,37 €		97,00	x	7,21 €	=	699,37 €
3.04.	Production and installation of the facade PVC joinery . The price includes everything from the description:												

	<p>*Production and assembling *6-chamber PVC profiles reinforced on the inside with galvanized steel U profiles, no thermal bridge *Non-recycled PVC to be used *Heat transfer coefficient $U_{max} = 1,5 \text{ W/m}^2\text{K}$ *Minimal required solar energy transmittance factor for glazed surfaces is $g_{s65\%}$. *Glass - double-glazed 4+16+4 mm low emission with argon or some other inert gas between glass panes *Fittings: required set for hanging and closing *Opening - as shown on the drawings annexed *The item should include PVC sill (window bench) of required width *Profile colour: white.</p>																				
	Measures to be taken onsite. Calculation per piece of installed joinery fully in line with the description.																				
	Note: Depending on the size of the opening, where it is necessary, big windows/doors elements should have additional reinforcement/stiffening of the profiles.																				
	Window.																				
	Marked in the design as 0																				
	Clear opening 640/210cm	pcs	1,00	x	1.977,60 €	=	1.977,60 €		1,00	x	1.977,60 €	=	1.977,60 €								
	Window.																				
	Marked in the design as 1																				
	Clear opening 720/210cm	pcs	15,00	x	2.071,33 €	=	31.069,95 €		15,00	x	2.071,33 €	=	31.069,95 €								
	Window.																				
	Marked in the design as 2																				
	Clear opening 960/210cm	pcs	4,00	x	1.364,75 €	=	5.459,00 €		4,00	x	1.364,75 €	=	5.459,00 €								
	Window.																				
	Marked in the design as 3																				
	Clear opening 480/210cm	pcs	4,00	x	1.354,45 €	=	5.417,80 €		4,00	x	1.354,45 €	=	5.417,80 €								
	Window.																				
	Marked in the design as 3'																				
	Clear opening 480/210cm	pcs	1,00	x	1.354,45 €	=	1.354,45 €		1,00	x	1.354,45 €	=	1.354,45 €								
	Window.																				
	Marked in the design as 4																				
	Clear opening 240/210cm	pcs	5,00	x	674,65 €	=	3.373,25 €		5,00	x	674,65 €	=	3.373,25 €								
	Window.																				
	Marked in the design as 4'																				
	Clear opening 240/210cm	pcs	1,00	x	674,65 €	=	674,65 €		1,00	x	674,65 €	=	674,65 €								
	Window.																				
	Marked in the design as 5																				
	Clear opening 240/170cm	pcs	2,00	x	564,44 €	=	1.128,88 €		2,00	x	564,44 €	=	1.128,88 €								
	Window.																				
	Marked in the design as 5'																				
	Clear opening 240/170cm	pcs	2,00	x	564,44 €	=	1.128,88 €		2,00	x	564,44 €	=	1.128,88 €								
	Window.																				
	Marked in the design as 6																				
	Clear opening 240/65cm	pcs	3,00	x	217,33 €	=	651,99 €		3,00	x	217,33 €	=	651,99 €								
	Window.																				
	Marked in the design as 7																				
	Clear opening 170/65cm	pcs	1,00	x	159,65 €	=	159,65 €		1,00	x	159,65 €	=	159,65 €								
	Window.																				
	Marked in the design as 8																				
	Clear opening 410/300cm	pcs	1,00	x	1.766,45 €	=	1.766,45 €		1,00	x	1.766,45 €	=	1.766,45 €								
	Window.																				
	Marked in the design as S1																				
	Clear opening 1200/125cm	pcs	1,00	x	2.111,50 €	=	2.111,50 €		1,00	x	2.111,50 €	=	2.111,50 €								
	Window.																				
	Marked in the design as S2																				
	Clear opening 1200/75cm	pcs	1,00	x	1.194,80 €	=	1.194,80 €		1,00	x	1.194,80 €	=	1.194,80 €								
	Doors.																				
	Marked in the design as A1																				
	Clear opening 105/205cm	pcs	1,00	x	293,55 €	=	293,55 €		1,00	x	293,55 €	=	293,55 €								
	Window.																				
	Marked in the design as A2																				
	Clear opening 200/70cm	pcs	4,00	x	206,00 €	=	824,00 €		4,00	x	206,00 €	=	824,00 €								
	Window.																				
	Marked in the design as A3																				
	Clear opening 240/140cm	pcs	1,00	x	458,35 €	=	458,35 €		1,00	x	458,35 €	=	458,35 €								
	Window.																				
	Marked in the design as A4																				
	Clear opening 240/180cm	pcs	5,00	x	592,25 €	=	2.961,25 €		5,00	x	592,25 €	=	2.961,25 €								
3.05.	Production and installation of the facade aluminium joinery . The price includes everything from the description:																				
	<p>* Production and assembling * Self-closing mechanism * Profiles - aluminium, with thermal break * Infill: double-glass panel 4+16+4 mm, with argon or some other inert gas between the panes, with one glass as low-emission or infill: aluminium sandwich panel with polyurethane as infill * Heat transfer coefficient $U_{max} = 3,0 \text{ W/m}^2\text{K}$ * Solar energy transmittance factor $g_{s65\%}$ * Fitting: required set for hanging and closing * Knob - chrome plated - mate * Fit rubber door stoppers on the floor * Opening as shown in the drawings annexed * Profile colour - natural aluminium.</p>																				
	Measures to be taken onsite. Calculation per piece of installed joinery, fully in line with the description.																				

4.10.	Production and installation of the vertical gutters of 100/100mm square section, made of ready-made galvanized and plastic coated sheet, colour will be selected by the Employer / Employer's representative. Gutters should be installed with all required anchors and clips, with the necessary binding and joining material. Calculation as per m1 of the installed gutter, including a collector at the joint between horizontal and vertical gutters and entire binding and joining material.	m1	15,50	x	14,60 € =	226,30 €	15,50	x	14,60 € =	226,30 €	
4.11.	Dismantling of protective bars from the windows. Transportation to a temporary location. The price includes complete dismantling with all fittings and mechanisms. Calculation as per piece of dismantled grille.										
	dim.120/155cm	pcs	4,00	x	15,00 € =	60,00 €	4,00	x	15,00 € =	60,00 €	
	dim.135/135cm	pcs	1,00	x	15,00 € =	15,00 €	1,00	x	15,00 € =	15,00 €	
4.12.	Dismantling of window shutters. Transportation to a temporary location for storing. The price includes complete dismantling with all fittings and mechanisms. Calculation as per piece of dismantled window shutters.										
	dim.120/155cm	pcs	3,00	x	15,00 € =	45,00 €	3,00	x	15,00 € =	45,00 €	
4.13.	Installation of protective bars made of ironmongery on windows with previous cleaning, scraping and painting with base and graphite paint in the colour selected by the Employer / Employer's representative. The item includes works on adjusting the bars to the reconstructed facade. The price includes all the work, material, etc. Calculation per piece.										Instead of task 4.13 and task 4.14: Supply of the material and installation of protective grille for exterior channel for atmosphere water on the back entrance of the school to the corner of the annex building. Grille is made of metal L profiles and bars which are welded to the L profiles. All metal elements are painted with metal protective paint- value - cost neutral. OFV 20, approved by Client on 31/10/2014.
	dim.120/155cm	pcs	4,00	x	46,35 € =	185,40 €	4	4,00	x	46,35 € =	185,40 €
	dim.135/135cm	pcs	1,00	x	46,35 € =	46,35 €	4	1,00	x	46,35 € =	46,35 €
4.14.	Installing of window blinds with previous cleaning. The item includes works on adjusting the bars to the reconstructed facade. The price includes all the work, material, etc.										See 4.13.
	dim.120/155cm	pcs	3,00	x	46,35 € =	139,05 €	4	3,00	x	46,35 € =	139,05 €
4.15.	Production and installation of the external window parapet sills, made of ready made plastic-laminated galvanized steel metal sheets=0.7mm, colour will be selected by the Employer / Employer's representative. Developed width up to 50cm. The item includes surface preparation and complete binding following the regulations. Undertake the entire procedure in compliance with the design and sample selected by the Employer / Employer's representative.	m1	307,45	x	15,04 € =	4.623,43 €	307,45	x	15,04 € =	4.623,43 €	
4.16.	Demolition of the concrete water ponds at the main entrance, smoothing of the area and construction of a 80cm wide pavement with 2% slope, with 12cm thick rammed concrete type MB20, including simultaneous installation of floating surface d=2cm; edge beam dim.10cm x 20cm; bitumen expansion joints at each 2.0m and a waterproofing stripe between the pavement and the wall of the building.	m2	20,00	x	16,30 € =	326,00 €	20,00	x	16,30 € =	326,00 €	
4.17.	Supply and installation of two concrete covers for external rainwater shafts. aprox. 50cm*50cm										
	Calculation as per piece	pcs.	2,00	x	45,00 € =	90,00 €	2,00	x	45,00 € =	90,00 €	
TOTAL FOR NON-EE AND ANCILLARY WORKS ARISING FROM IMPLEMENTATION OF EE MEASURES						21.605,26					15.765,26
V MEASURES TO ENABLE HIGHER COMFORT AND BETTER WORKING CONDITIONS											
5.01.	Removal of existing floor vinyl tiles in closed atrium. Total thickness of the layers is d=7cm. The boards are removed together with all the layers until RC structure is reached. The price includes removal and loading onto a truck with its transportation to a location up to 5 km distance. Calculation as per m2 of the floor.	m2	137,00	x	4,60 € =	630,20 €	137,00	x	4,60 € =	630,20 €	
5.02.	Purchase of material and installation of thermal insulation in the floor in the closed atrium using extruded polystyrene d=2cm.										
	The price to include fitting of PVC membrane d=0.01cm above thermal insulation as protection against damages during fitting of cement screed.										
	Calculation per m2 of fitted thermal insulation, d=2cm with PVC membrane.	m2	137,00	x	4,40 € =	602,80 €	137,00	x	4,40 € =	602,80 €	
5.03.	Making of the reinforced scrimmed cement screed in closed atrium as base for further flooring. The price includes installation of the mesh (1kg/m2) with and overlap 5cm (1,08 m2/m2). Floated coat is used as finishing layer. Screed is fitted over thermal insulation boards. Screed thickness is d=3,5cm depending on the type of the floor. Calculation as per m2 of the treated surface, including all work and material.	m2	137,00	x	7,20 € =	986,40 €	137,00	x	7,20 € =	986,40 €	
5.04.	Tiling floor in closed atrium using granite tiles I class, size, colour and tone selected by the Employer / Employer's representative.										

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5.13.	Polishing and painting of the ceilings in the storage room in open atrium (room no. 26a). Employer / Employer's representative will select the tone of semi dispersed water-based distemper. The item includes pre-painting, and correction with the toned dispersive filler or pointing plaster. Final painting should be done in double layer. Calculation as per m2, including all material, work and required scaffolding.	m2	45,00	x	3,90 €	=	175,50 €		45,00	x	3,90 €	=	175,50 €
5.14.	Painting walls of corridors around the open atrium using oil-base paint up to 1.10m height in required number of layers. The Employer / Employer's representative will select the colour. The item includes all required preliminary works for quality execution of works. Painting of visible pipes, installations in bright child friendly colors (red, blue, yellow, green) in oil based paint in two layers and painting of hydrant and switch boxes in oil based paint in two layers in colour determined by Employer / Employer's representative. Calculation per m2 of surface.	m2	45,00	x	3,25 €	=	146,25 €		45,00	x	3,25 €	=	146,25 €
5.15.	Removal of the existing, ceramic floor tiles with screed (tiles laid in concrete base thickness d=5cm-12cm) in sanitary facilities, removal and loading onto a truck with their transportation to a location up to 5 km distance with all their sub-layers until reaching existing floor rc concrete slab. Calculation as per m2 of the floor area.	m2	92,00	x	3,50 €	=	322,00 €		92,00	x	3,50 €	=	322,00 €
5.16.	Removal of the existing ceramic wall tiles with undercoat layer from the walls in sanitary facilities. Taking out, loading and transport to a location up to 5km distance. The price includes possible usage of the scaffold. Calculation as per m2 of the floor area.	m2	385,00	x	3,50 €	=	1.347,50 €		385,00	x	3,50 €	=	1.347,50 €
5.17.	Removal of the existing rotten mortar from the walls, removal of debris, loading onto a truck and its transportation to a location at up to 5 km distance, using scaffold. Calculation as per m2 of removed mortar.	m2	30,00	x	3,00 €	=	90,00 €		30,00	x	3,00 €	=	90,00 €
5.18.	Dismantling of suspended metal ceiling type "Hunter-Douglas" together with substructure in sanitary facilities. The useable profiles from the sanitary areas shall be reused to repair 50m2 of suspended ceiling in the classrooms. The price includes debris loading onto a truck and dumping at a landfill up to 5 km distance, and usage of scaffold.												
	Calculation per m2												
	dismantled ceiling.	m2	62,00	x	2,50 €	=	155,00 €		62,00	x	2,50 €	=	155,00 €
	re-installed ceiling	m2	50,00	x	8,50 €	=	425,00 €		50,00	x	8,50 €	=	425,00 €
5.19.	Scraping of the old paint from the inside ceiling and walls in sanitary facilities, removal and loading of the debris onto a truck, and its transportation to a landfill up to 5 km distance. This item includes all required pre-works for new painting and using of the scaffolding. Calculation as per m2 of the scraped painted area.	m2	131,00	x	0,30 €	=	39,30 €		131,00	x	0,30 €	=	39,30 €
5.20.	Dismantling of the inside, single wing, double layered plywood door. The price needs to include transportation to a landfill up to 5 km distance. Undamaged door should be registered and given to the Employer/Employer's Representative. Calculation as per piece.												
	- dim. 105/210+80cm	pcs	2,00	x	10,00 €	=	20,00 €		2,00	x	10,00 €	=	20,00 €
	- dim. 85/210+80cm	pcs	6,00	x	10,00 €	=	60,00 €		6,00	x	10,00 €	=	60,00 €
	- dim. 85/210+30cm	pcs	1,00	x	10,00 €	=	10,00 €		1,00	x	10,00 €	=	10,00 €
	- dim. 90/200	pcs	1,00	x	10,00 €	=	10,00 €		1,00	x	10,00 €	=	10,00 €
	- dim. 80/200cm	pcs	3,00	x	10,00 €	=	30,00 €		3,00	x	10,00 €	=	30,00 €
	- dim. 75/190cm	pcs	12,00	x	10,00 €	=	120,00 €		12,00	x	10,00 €	=	120,00 €
5.21.	Making of the scrimmed cement screed for a sloping layer in the toilets. The price includes installation of the mesh (1kg/m2) with an overlap 5cm (1,08 m2/m2). Floated coat is used as finishing layer. Screed thickness is d = 4 cm. Calculation as per m2 of the treated surface, including all work and material.	m2	90,00	x	8,50 €	=	765,00 €		90,00	x	8,50 €	=	765,00 €
5.22.	Setting up of horizontal waterproofing beneath floor in the toilets, on different floors, in the following layers (from the bottom up):												
	- bitulit + poliasbestos + glass mesh												
	- poliasbestos + glass mesh												
	- poliasbestos												
	Put the waterproofing at least 10 cm up the wall. Calculation is based on a m2 of the basis (section pulled up the walls is included in the price). The price includes all works and materials, in line with the description, including the cleaning and surface preparation for a quality installation of a new waterproofing.												
	Note: Entire waterproofing overlapping and pulling the waterproofing up the walls to be included in the price of works.	m2	90,00	x	21,00 €	=	1.890,00 €		90,00	x	21,00 €	=	1.890,00 €

5.29.	Polishing and painting of the internal walls in sanitary facilities. Employer / Employer's representative will select the tone of semi dispersed distemper. Repeat the polishing until a completely flat surface is achieved, and apply layers of paint until reaching an even tone. This item includes scraping, plastering, neutralization, impregnating, pre-painting, and correction with the toned dispersive filler or pointing plaster. Final painting should be done twice. Calculation per m2, including all material, work and required scaffolding.	m2	101,00	x	4,20 €	=	424,20 €	101,00	x	4,20 €	=	424,20 €		
5.30.	Polishing and painting of the ceilings in sanitary facilities. Employer / Employer's representative will select the tone of semi dispersed distemper. This item includes, pre-painting, and correction with the toned dispersive filler or pointing plaster. Final painting should be done in double layer. Calculation as per m2, including all material, work and required scaffolding.	m2	30,00	x	3,90 €	=	117,00 €	30,00	x	3,90 €	=	117,00 €		
5.31.	Production and installation of the indoor PVC joinery . The price includes everything from the description: - Production and assembling - 6-chamber PVC profiles reinforced on the inside with galvanized steel U profiles, no thermal bridge - Non-recycled PVC to be used - Heat transfer coefficient U _{max} = 1,5 W/m K - Infill: aluminium sandwich panel with infill made of polyurethane - Fitting: required set for hanging and closing - Mechanism for self-closing - Knob – chrome plated - mat - Rubber door stoppers to be installed on the floor - Opening as show in the diagram - Profile colour – white.													
	Measures to be taken onsite. Calculation per piece of installed joinery fully in line with the description.													
	Doors													
	Clear opening dim.105/210+80cm													
	Marked in the design as 0	pcs	1,00	x	417,15 €	=	417,15 €	1,00	x	417,15 €	=	417,15 €		
	Doors													
	Clear opening dim.85/210+80cm													
	Marked in the design as 1	pcs	6,00	x	334,75 €	=	2.008,50 €	6,00	x	334,75 €	=	2.008,50 €		
	Doors													
	Clear opening dim.85/210+30cm													
	Marked in the design as 2	pcs	1,00	x	278,10 €	=	278,10 €	1,00	x	278,10 €	=	278,10 €		
	Doors													
	Clear opening dim.80/200cm													
	Marked in the drawings as 3 & 3'	pcs	4,00	x	216,30 €	=	865,20 €	4,00	x	216,30 €	=	865,20 €		
	Doors													
	Clear opening dim.75/190cm													
	Marked in the design as 4	pcs	12,00	x	200,85 €	=	2.410,20 €	12,00	x	200,85 €	=	2.410,20 €		
5.32.	Scraping and skimming old walls and ceiling in classrooms, atrium and corridors with emulsion putty. All surfaces need to be scraped and washed and then smoothen, cleaned and impregnated. Inspect and remedy minor damages and cracks using putty. Flatten with putty and skim with emulsion putty for the first time. All surfaces need to be smoothen, then flatten with putty and skimmed with emulsion putty for the second time. Perform all the works using required scaffold.	m2	2.074,20	x	2,60 €	=	5.392,92 €	2	619,33	x	2,60 €	=	1610,25 €	Facade walls, bricked up areas and sanitary areas only (communication 01/08/2014).
5.33.	Purchase of material and painting of walls in classrooms, atrium and corridors with oil-based paint up to h=150cm, applying two layers of paint, in colour as selected by the Employer / Employer's Representative.	m2	1.481,60	x	3,25 €	=	4.815,20 €	2	372,31	x	3,25 €	=	1.210,01 €	Facade walls, bricked up areas and sanitary areas only (communication 01/08/2014).
5.34.	Skimming and painting walls and ceiling in classrooms, atrium and corridors, on ceilings in classrooms and corridors in contact zones with the facade wall at average width of 1.00m and on other points with visible damages caused by moisture. Semi-dispersed point is used in colour selected by the the Employer / Employer's Representative. Skimming is applied at required number of times until completely flat surface is obtained, and painting is repeated until even tone is achieved. Smoothening, plastering, neutralization, impregnation, prepainting, corrections with dispersed putty or skimming compound. Finishing layer of paint is applied twice. Calculation is per m2 including all the material, work and required scaffold.	m2	592,60	x	3,90 €	=	2.311,14 €	2	247,62	x	3,90 €	=	965,72 €	Facade walls, bricked up areas and sanitary areas only (communication 01/08/2014).

SUMMARY OF COSTS I-VI								
I	THERMAL INSULATION OF FAÇADE WALLS					31.932,79 €		
II	REMEDICATION OF FLAT ROOFS					92.335,28 €		
III	REPLACEMENT OF FAÇADE JOINERY					66.309,34 €		
IV	NON-EE AND ANCILLARY WORKS ARISING FROM IMPLEMENTATION OF EE MEASURES					21.605,26 €		
V	MEASURES TO ENABLE HIGHER COMFORT AND BETTER WORKING CONDITIONS					91.714,74 €		
VI	SPARE PARTS					113,82 €		
	TOTAL PRICE, VAT EXCLUDED					304.943,91 €		
	TOTAL PRICE WITH 9% DISCOUNT					295.795,59 €		
	VAT (19 %)					56.201,16 €		
I-VI	TOTAL PRICE (DISCOUNT INCLUDED), VAT INCLUDED					351.996,76 €		
VII	ADDITIONAL WORKS							
1	Plastering of internal toilet walls with cement mortar 1:3 in two layers with the previous spraying of cement slurry to prepare the wall for ceramic tiles. Calculation is based on a m2 of the plastered wall, without the openings. The price includes all necessary works, materials with battens, transportation and scaffolding. Because of old and damaged walls it was necessary plastering of all wall surface after dismantling old wall tiles, to enable proper installation of new wall tiles. In BoQ ARH 5.24 it was predicted to plaster just 46m2, we plastered in total 372.6m2 so the difference is 326.6. Price: BJ-ARH-ToQ- 5.24 7.80e	m ²	3	326,60	x	7,80 € =	2.547,48 €	OFV 07, approved by Client on 23/09/2014.
2	Dismantling of roof cornice flashing. Price: BJ-ARH-ToQ- 4.01 1.0e	m ¹	3	52,00	x	1,00 € =	52,00 €	OFV 07, approved by Client on 23/09/2014.
3	Purchase and setting up of thermal insulation on steel, using expanded polystyrene Austrotherm A 100, EPS d=8 cm, heat transfer coefficient λmax= 0,038 W/ mk, boards to be placed above existing steel plates, between joinings of steel plates. Distance between two EPS boards to be filled with PU foam. EPS boards should be fixed with screws. Wolfen list of deviation BJ 2.04 9.89e/m2 Thermal insulation	m ²	3	162,55	x	9,89 € =	1.607,64 €	OFV 07, approved by Client on 23/09/2014.
4	Horizontal waterproofing. Supply material and laying thermoplastic waterproofing membrane on flat roof. Waterproofing membrane should be homogenous, 1,5 mm thick, black colour, reinforced with glass fleese, produced extruded, with equal desity through whole surface. It should be PVC based and high polimer plasticised, diffusion oppened with µs 13.000, UV stabile and bitumen compatible according DIN EN 1548 (90 days at 70°C). External fire protection at DIN ENV 1187 Broof(t1) life long material, without fire protection agenses, as well as without high toxic metals. Membrane should be overlaped with 10 cm and mechanically fixed through thermal insulation boards, to the surface. All joints should be hot air welded. Wolfen list of deviation BJ 2.07 46.33e/m2 Horizontal waterproofing	m ²	3	162,60	x	46,33 € =	7.533,26 €	OFV 07, approved by Client on 23/09/2014.
5	Supply and instal XPS strips 15 cm thick and 20 cm width with OSB board on top in order to extend atica above horizontal surface. XPS boards with OSB to be fixed with screws to surface. All angle strips and wall plates should be overlapped and welded with waterproofing membrane. If parapet wall il lower than 30 cm, than horizontal and vertical waterproofing should be connected with flashings and welded with waterproofing membrane. Vertical waterproofing membrane shall be the same as horizontal with characteristics as described above. Vertical thermal insulation	m ¹	3	52,00	x	12,89 € =	670,28 €	OFV 07, approved by Client on 23/09/2014.
6	Supply of materials and goods for flat roof cornice - parapet wall flashing. The flashing shall be made of galvanized steel sheets, required sheet thickness is 0.6mm with one side covered with Waterproofing material prepared for welding. All works should be done according the Technical drawings which are part of documentation for this tender specification. Also, if the high of eaves is lower than 20 cm, than put EXP boards to increase high up to 20 cm. Wolfen list of deviation BJ 2.11 9.26e	m ¹	3	52,00	x	9,26 € =	481,52 €	OFV 07, approved by Client on 23/09/2014.
7	Supply of materials and installation of white pvc foil on windows of the ground floor- 50cm width- total area 20.95m2. Material 12.5e, installation 2.4e profit 10%	m ²	3	20,95	x	16,39 € =	343,37 €	OFV 07, approved by Client on 23/09/2014.
8	Dismantling of old wooden windows from toilet on ground floor 25e	pieces	4	2,00	x	25,00 € =	50,00 €	OFV 19, approved by Client on 31/10/2014.
9	Reparation with plaster of the edges - jams and parapets after dismantling of the wooden windows- D.P ARH BoQ 1.02- 6.5e	m ¹	4	7,00	x	6,50 € =	45,50 €	OFV 19, approved by Client on 31/10/2014.
10	Making a hole 20x50cm in a concrete wall d=20cm. 50e	pieces	4	1,00	x	50,00 € =	50,00 €	OFV 19, approved by Client on 31/10/2014.

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11	Supply of the material and installation of ventilation pipe fi 110mm from the toilet on the ground floor, fixing it in the corridor with making two holes in walls. B.J VIK BoQ III 1-8.8e/m1	m1	4	3,00	x	11,00 € =	33,00 €	OFV 19, approved by Client on 31/10/2014.
12	Supply of the material and installation of gypsum box on a metal substructure for covering the ventilation pipe. B.J ARH BoQ 5.27 17.7e/m1	m1	4	3,00	x	17,70 € =	53,10 €	OFV 19, approved by Client on 31/10/2014.
13	Supply and installation of two plastic grills fi 110mm for ventilation, one on façade wall and another on suspended ceiling in the toilet. Material and installation 15e	pieces	4	2,00	x	15,00 € =	30,00 €	OFV 19, approved by Client on 31/10/2014.
14	Skimming and painting of the gypsum box in semi dispersive color B.J ARH BoQ 5.29 4.2e/m1	m1	4	3,00	x	4,20 € =	12,60 €	OFV 19, approved by Client on 31/10/2014.
15	Supply of materials and installation of white pvc foil on windows of the ground floor-50cm width- total area 5m2. Material 12.5e, installation 2.4e profit 10%	m2	4	5,00	x	16,39 € =	81,95 €	OFV 19, approved by Client on 31/10/2014.
16	Supply of the material and installation of two concrete laying reinforced concrete beams section 30x20cm l= 720cm in connection with façade and metal profile on pavement in the atrium in front of room 26a. Material 95e, transport 25e, installation 50e, profit 10%	pieces	4	2,00	x	187,00 € =	374,00 €	OFV 19, approved by Client on 31/10/2014.
17	Supply of the material and installation of reinforced concrete pavement in the atrium in front of the room 26a, with previous dismantling of old damaged pavement and tree parts in the soil. Dimensions 110x720cmx2+80x690cmx2. M.T ARH BoQ 4.16 -13.2e/m2 + dismantling of old pavement 3.5e/m2= 16.7e	m2	4	26,88	x	16,70 € =	448,90 €	OFV 19, approved by Client on 31/10/2014.
18	Dismantling two manhole covers with frame, making extension of manhole and reinstallation of frame with cover on new pavement. Price per piece 55e	pieces	4	2,00	x	55,00 € =	110,00 €	OFV 19, approved by Client on 31/10/2014.
19	Supply of the material and installation of extension of downpipes for atmosphere water, the existing ones goes throo the school and the exit points are on the lower parts of the facade connection with pavements, and because of the new layer of thermal insulation on façade we have to extend the existing pipes fi160 with pvc fittings l=50cm- 10 pieces- B.J VIK BoQ III 1-	m1	4	5,00	x	15,00 € =	75,00 €	OFV 19, approved by Client on 31/10/2014.
20	Purchase and installation of galvanized metal sheet covers d=0.7mm for the plastic condens pipes on the lower part of the façade 15 pieces l=0.8m, d.w= 50cm. B.J	m1	4	12,00	x	14,60 € =	175,20 €	OFV 19, approved by Client on 31/10/2014.
21	Supply and installation of self closing mechanism GU - BKS with the stoper inside- difference in price is 45e per piece (old self closing mechanism + door stopers= 78.5e- Mileva Lajovic ARH BoQ II-3 new price 123.5e)	pcs	4	1,00	x	45,00 € =	45,00 €	OFV 26, approved by Client on 31/10/2014.
22	Purchase and installation of galvanized plastificated metal sheet façade atic flashing , d=0.7mm d.w.= 66cm on the part of connection of the annex building and gym. B.J BoQ ARH 4.07 d.w40cm 14.6e/	m1	4	5,30	x	17,10 € =	90,63 €	OFV 35, approved by Client on 31/10/2014.
23	Dismantling and refitting of air conditioning outdoor unit fixed to the upper window frame. During installation, works need to be adjusted with installation of external ironmongery. B.J BoQ ARH 4.05 lumpsum	lumpsum	4	1,00	x	40,00 € =	40,00 €	OFV 35, approved by Client on 31/10/2014.
24	Deduction: Dismantling and refitting of air conditioning outdoor unit fixed to the upper window frame. During installation, works need to be adjusted with installation of external ironmongery. B.J BoQ ARH 4.05	lumpsum	4	1,00	x	-100,00 € =	-100,00 €	OFV 35, approved by Client on 31/10/2014.
25	Purchase of the river gravel fraction 8-16mm, transport and installation on the roof as Wolfin protection on parts in the atrium, thickness of the layer is 5cm (235m2). Material 18e,transport 7e, installation on	m3	4	12,00	x	44,00 € =	528,00 €	OFV 35, approved by Client on 31/10/2014.
26	Purchase and installation of two vertical gutters on annex building. B.J BoQ ARH 4.10 14.6e/m1	m1	4	15,00	x	14,60 € =	219,00 €	OFV 37, approved by Client on 31/10/2014.
27	Purchase and mounting of cisterns (transfer from horizontal to vertical gutters) made of galvanized sheet metal d=0,70mm. Price taken from fast track Njegos ARH BoQ AI 10 - 35e/piece	piece	4	2,00	x	35,00 € =	70,00 €	OFV 37, approved by Client on 31/10/2014.
28	Purchase of the material nad installation of demit façade EPS d=8cm with all layers and final decorative mortar, on the walls and lower part of the stairs in the area between the annex building and school(81.48m2), and on the wall between school and gym(30.08m2). B.J BoQ ARH 4.05 lumpsum 100e	m2	4	111,56	x	19,50 € =	2.175,42 €	OFV 37, approved by Client on 31/10/2014.
29	Dismantling and re-installation of external air-conditioning units, from the wall between annex building and school. Price B.J BoQ ARH 4.03- 58e/piece	piece	4	1,00	x	58,00 € =	58,00 €	OFV 37, approved by Client on 31/10/2014.

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30	Purchase of the material- metal boxes 60x40x3mm, metal plates 150x150x5mm, assembling and installation of metal structure for the canopy on the gym wall to cover the gap between two buildings and prevent water penetration in the school. All structure is 12.5m long and 1.2m wide, painted with metal protective color. Total number of the holders is 14, and they are connected with the metal box 60x40x3mm on their end. Material 484e,transport 45e, assembling and installation 396e, profit 10%	piece	4	1,00	x	1.017,50 €	=	1.017,50 €	OFV 37, approved by Client on 31/10/2014.	
31	Purchase and installation of galvanized plastic coated profiled TR sheet metal d=0,6mm for the canopy cover. Price B.J BoQ ARH 5.06- 14.6e/m2	m2	4	15,60	x	14,60 €	=	227,76 €	OFV 37, approved by Client on 31/10/2014.	
32	Purchase of the material and installation of eps boards for the slope on the roof entrance slab in the teachers room	m2	5	12,50	x	3,00 €	=	37,50 €	OFV 47, approved by Client on 28/11/2014.	
33	Purchase of the material and installation of Wolfin insulation membran on the roof entrance slab in the teachers room. MT WOLFIN list of deviation 2.06- 25.91e	m2	5	14,00	x	25,91 €	=	362,74 €	OFV 47, approved by Client on 28/11/2014.	
34	Purchase of the material and installation of metal sheet flashings on the roof entrance slab over the teachers room. M.T ARH BoQ 2.07- 12.6e	m1	5	11,50	x	12,60 €	=	144,90 €	OFV 47, approved by Client on 28/11/2014.	
35	Setting up of the facade plinth with decorative ready mixed marble based mortar, created on grain ("Kulie") as splash guard (as indicated on the drawings). Surface should be cleaned, washed and sprinkled with acrylic base with granulate, color of the base by the color chart of the manufacturer. Render should be applied on cleaned and dried surface by manufacturer's instruction. The color should be determined by the Employer / Employer's representative, according to the color chart of manufacturer.	m2	5	59,56	x	15,20 €	=	905,31 €	OFV 53, approved by Client on 15/12/2014.	
SUMMARY OF COSTS VII										
TOTAL PRICE, VAT EXCLUDED:								20.596,56 €		
VAT (19%):								3.913,35 €		
VII	TOTAL PRICE (WITHOUT DISCOUNT), VAT INCLUDED:								24.509,91 €	
SUMMARY OF COSTS I-VII										
I-VII	TOTAL PRICE, VAT INCLUDED:								312.720,81 €	

GROUP A5.3.2		Investor:		Ministry of Economy of Montenegro, Energy Efficiency Sector										
TABLE OF QUANTITIES of thermal-technical (heating) services for energy efficiency improvement in "Bratstvo i jedinstvo" Secondary School in Ulcinj		Project financed by:		KIW ENTWICKLUNGSBANK										
		Consultant:		FICHTNER GmbH&Co. KG										
		Sub-Consultant:		KOPRING PMC, Podgorica										
		School:		Objekat: S.S "Bratstvo i jedinstvo", Ulcinj										
		Doc. origin:		Dokumentacija: Final Heating Design										
		Date:		28 November 2013										
No.	Item Description	Unit of measure	CONTRACT			AMENDMENT 1			COMMENTS					
			Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)		Amount (€)				
Measure No. 4: Reconstruction of the air conditioning system														
1	Purchase, delivery and installation of air conditioning units in mono-split system with inverted compressor, manufacturer "Daikin" Japan or equivalent, required value COP > 3.3, comprised of:													
	External unit heat pump, type RXN60K, dimensions 795x595x300mm, weight 42kg.													
	Internal unit mounted highly up on the wall FTXN60K heat capacity for cooling/heating 6.5/7.6kW, voltage 230 V, dimensions 1050x290x238mm, weight 12kg, catalogue value COP 3.41, outlets for copper pipes 1/2", 1/4".													
	Copper pipes for connecting external and internal units are up to 5 m length each, diameter 12.7 & 6.35mm, insulated with prefabricated tube thermal insulation with expanded natural rubber thickness 13mm. Condensate drainage pipes 2 m long is a PVC pipes internal diameter 16mm.													
	The item includes all required equipment for units installation, brackets, hangers, nuts and bolts...	pcs	2	x	1.449,00 €	=	2.898,00 €							
								2	x	1.449,00 €	=	2.898,00 €		
2	Servicing existing A/C units - monosplit systems. Cleaning filters on internal units, rinsing exchanger and disinfection of the unit interior. Inspection of Freon installation, freon recharging, replacement of damaged insulation on copper pipes. Item is calculated per monosplit system.	pcs	36	x	44,10 €	=	1.587,60 €							
								36	x	44,10 €	=	1.587,60 €		
TOTAL - RECONSTRUCTION OF A/C SYSTEM							4.485,60 €					4.485,60 €		
SUMMARY OF COSTS A														
A	RECONSTRUCTION OF A/C SYSTEM						4.485,60 €					4.485,60 €		
	TOTAL PRICE, VAT EXCLUDED						4.485,60 €					4.485,60 €		
	TOTAL PRICE WITH 3% DISCOUNT						4.351,03 €					4.351,03 €		
	VAT (19 %)						826,70 €					826,70 €		
A	TOTAL PRICE (DISCOUNT INCLUDED), VAT INCLUDED						5.177,73 €					5.177,73 €		
B ADDITIONAL WORKS														
1	Delivery and installation split system GREE, capacity 12 BTU, type:GWH12NB, complete with associated piping and electrical I signal cables to connect the outdoor and indoor unit, and clamps. Supply and delivery 430, assembling and installation 60e	piece						3	1	x	490,00 €	=	490,00 €	OFV 08, approved by Client on 23/09/2014.
2	Delivery and installation split system GREE, capacity 18 BTU, type:GWH18NB, complete with associated piping and electrical I signal cables to connect the outdoor and indoor unit, and clamps. Supply and delivery 620e assembling and installation 60e	piece						3	1	x	680,00 €	=	680,00 €	OFV 08, approved by Client on 23/09/2014.
3	Delivery and installation of universal remote controllers for air conditioners. Supply and delivery 15e assembling and installation 2e	piece						3	17	x	17,00 €	=	289,00 €	OFV 08, approved by Client on 23/09/2014.
SUMMARY OF COSTS VII														
	TOTAL PRICE, VAT EXCLUDED:												1.459,00 €	
	VAT (19%):												277,21 €	
VII	TOTAL PRICE (WITHOUT DISCOUNT), VAT INCLUDED:												1.736,21 €	
SUMMARY OF COSTS I-VII														
I-VII	TOTAL PRICE, VAT INCLUDED:												6.913,94 €	

GROUP A5.3.3 TABLE OF QUANTITIES of electrical services for energy efficiency improvement in "Bratstvo i jedinstvo" Secondary School in Ulcinj		Investor:		Ministry of Economy of Montenegro, Energy Efficiency Sector								
		Project financed by:		KIW ENTWICKLUNGSBANK								
		Consultant:		FICHTNER GmbH&Co. KG								
		Sub-Consultant:		Lokalni projekti: KOPRING PMC, Podgorica /								
		School:		Objekat: S.S. "Bratstvo i jedinstvo", Ulcinj								
		Doc. origin:		Dokumentacija: Final Design of Electrical Services								
		Date:		28 November 2013								
No.	Item Description	Unit of measure	CONTRACT				AMENDMENT 1				COMMENTS	
			Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)			
1	LIGHTING											
1.1.	Delivery and laying of cables in wall installations, with repairing of damaged walls and ceilings, covering and bringing it back in previous condition. Cables are used for electrical connection of light fitting above school boards and panic lights. Installation should be done in line with technical description. Cables should be laid in walls and ceilings beneath the plaster, or above the suspended ceiling. Connection point is from nearest existing junction box. Commands are from existing switch in the classroom or in the school corridor. One cable replacement is envisaged in every classroom. Average cable length per one outgoing connection spot is:	m	8,00			3	8,00				Only sanitary rooms, ordered by Client in communication 01/08/2014.	
	Works and material included:	pcs	408,00	x	34,56 =	14100,48	3	10,00	x	34,56 =	345,60	
1.2.	Dismantling of existing luminaires. Price is calculated per unit.	pcs	433	x	4,32 =	1870,56	3	12	x	4,32 =	51,84	Only sanitary rooms, ordered by Client in communication 01/08/2014.
1.3.	Delivery and mounting of ceiling mounted luminaire 1/54W (or 2x28 W) T16 F840 [STD] T16 x 1/54W (or 2x28W), with electronic high frequency ballast, completely equipped with mounting gear and light source 840; Norms 12464 for DSE for working stations. Works and material are calculated per unit.	pcs	177	x	116,64 =	20645,28	3	0	x	116,64 =	0	Excluded by Client (communication 01/08/2014)
	Spare bulbs for this type of the luminaire	pc	18	x	6,62 =	119,23	3	0	x	6,62 =	0	
1.4.	Delivery and mounting of pendant luminaire 1/54W (or 2x28 W) T16 F840 [STD] T16 x 1/54W (or 2x28W), with electronic high frequency ballast, completely equipped with mounting gear and light source 840; Norms 12464 for DSE for working stations. Works and material are calculated per unit.	pcs	6	x	187,20 =	1123,20	3	0	x	187,20 =	0	Excluded by Client (communication 01/08/2014)
	Spare bulbs for this type of the luminaire	pc	1	x	6,62 =	6,62	3	0	x	6,62 =	0	
1.5.	Delivery and mounting of ceiling mounted luminaire 1/80W T16 F840 with asymmetrical light distribution for school boards lighting, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material are calculated per unit.	pcs	48	x	204,48 =	9815,04	3	0	x	204,48 =	0	Excluded by Client (communication 01/08/2014)
	Spare bulbs for this type of the luminaire	pc	5	x	8,06 =	40,32	3	0	x	8,06 =	0	
1.6.	Delivery and mounting of ceiling mounted luminaire 1/28 W T16 IP50, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material are calculated per unit.	pcs	52	x	135,36 =	7038,72	3	0	x	135,36 =	0	Excluded by Client (communication 01/08/2014)
	Spare bulbs for this type of the luminaire	pc	5	x	6,62 =	33,12	3	0	x	6,62 =	0	
1.7.	Delivery and mounting of ceiling mounted luminaire 1/28 W T16 IP50, with opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material are calculated per unit.	pcs	16	x	100,80 =	1612,80	3	0	x	100,80 =	0	Excluded by Client (communication 01/08/2014)
	Spare bulbs for this type of the luminaire	pc	1	x	6,62 =	6,62	3	0	x	6,62 =	0	
1.8.	Delivery and mounting of ceiling mounted light fitting 1/28 W T16 IP54, with opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material are calculated per unit.	pcs	17	x	108,00 =	1836,00	3	0	x	108,00 =	0	OFV 06, approved by Client on 23/09/2014 (following Client's communication 01/08/2014).
	Spare bulbs for this type of the luminaire	pc	2	x	6,62 =	13,25	3	0	x	6,62 =	0	
1.9.	Delivery and mounting of ceiling mounted luminaire 2/18 W TC-L IP50 with opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material are calculated per unit.	pcs	1	x	118,08 =	118,08	3	0	x	118,08 =	0	Excluded by Client (communication 01/08/2014)
	Spare bulbs for this type of the luminaire	pc	1	x	6,77 =	6,77	3	0	x	6,77 =	0	
1.10.	Delivery and mounting of ceiling mounted luminaire 2/18 W TC-L IP54 with opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material are calculated per unit.	pcs	13	x	129,60 =	1684,80	3	0	x	129,60 =	0	OFV 06, approved by Client on 23/09/2014 (following Client's communication 01/08/2014).
	Spare bulbs for this type of the luminaire	pc	1	x	6,77 =	6,77	3	0	x	6,77 =	0	
1.11.	Delivery and mounting of ceiling mounted luminaire 2/35 W T16, with IP65 protection, completely equipped with light source, electrical pre-assembly device, electronic high frequency ballast with dark light diffusor and mounting gear. Works and material, with bulb included, are calculated per unit.	pcs	20	x	126,72 =	2534,40	3	0	x	126,72 =	0	Excluded by Client (communication 01/08/2014)
	Spare bulbs for this type of the luminaire	pc	2	x	6,77 =	13,54	3	0	x	6,77 =	0	
1.12.	Delivery and mounting of ceiling mounted emergency luminaire with electronic control gear 8W, 1h. Works and material are calculated per unit.	pcs	58	x	50,40 =	2923,20	3	0	x	50,40 =	0	Excluded by Client (communication 01/08/2014)
	Spare bulbs for this type of the luminaire	pc	6	x	2,88 =	17,28	3	0	x	2,88 =	0	

GROUP A5.3.4		Investor:		Ministry of Economy of Montenegro, Energy Efficiency Sector									
TABLE OF QUANTITIES of sanitary (water supply and sewage) services for energy efficiency improvement in "Bratstvo i jedinstvo" Secondary School in Ulcinj		Project financed by:		KIW ENTWICKLUNGSBANK									
		Consultant/ Konsultant:		FICHTNER GmbH&Co. KG									
		Sub-Consult/ Lokalni projekat:		KOPRING PMC, Podgorica									
		School/ Objekat:		S. S. "Bratstvo i jedinstvo", Ulcinj									
		Doc. origin/ Dokumentacija:		Final Design of Sanitary (Water Supply and Sewage) Services									
		Date:		05 February 2014									
No.	Item Description	Unit of measure	CONTRACT				VO	AMENDMENT 1			COMMENTS		
			Quantity	Unit price (€)	Unit	Amount (€)		Quantity	Unit price (€)	Amount (€)			
I WORKS ON REMOVAL OF SANITARY EQUIPMENT, WATER SUPPLY AND SEWAGE DISTRIBUTION LINES													
1	Removal of existing showers with belonging elements. Carrying, truck loading, transport and disposal to the waist depot are included within the price.												
	Calculation as per piece	pieces	4,00	x	10,00 €	=	40,00 €		4,00	x	10,00 €	=	40,00 €
2	Removal of existing lavatories, with siphon trap and faucet, with belonging elements. Carrying, truck loading, transport and disposal to the waist depot are included within the price.												
	Calculation as per piece	pieces	5,00	x	10,00 €	=	50,00 €		5,00	x	10,00 €	=	50,00 €
3	Removal of existing urinals, with siphon trap and belonging elements. Carrying, truck loading, transport and disposal to the waist depot are included within the price.												
	Calculation as per piece	pieces	7,00	x	10,00 €	=	70,00 €		7,00	x	10,00 €	=	70,00 €
4	Removal of existing toilet bowls with water tank with belonging elements. Carrying, truck loading, transport and disposal to the waist depot are included within the price.												
	Calculation as per piece	pieces	1,00	x	10,00 €	=	10,00 €		1,00	x	10,00 €	=	10,00 €
5	Removal of existing floor drains. Carrying, truck loading, transport and disposal to the waist depot are included within the price.												
	Calculation as per piece	pieces	9,00	x	5,00 €	=	45,00 €		9,00	x	5,00 €	=	45,00 €
6	Removal of existing sewage installations made of cast iron, with belonging elements. Concrete floor smashing, excavation, removal, truck loading, transport and disposal to the waist depot are included within the price.												
	Calculation as per m'	m'	35,00	x	7,00 €	=	245,00 €		35,00	x	7,00 €	=	245,00 €
7	Removal of existing water supply installations made of zinc-plated steel pipes within the wall, floor and ceiling, with belonging elements (valves, fittings etc.). Wall chase cutting, removal, carrying, truck loading, transport and disposal to the waist depot are included within the price.												
	Calculation as per m'	m'	80,00	x	7,00 €	=	560,00 €		80,00	x	7,00 €	=	560,00 €
8	Removal of existing cast-iron squat toilette and belonging elements. Carrying, truck loading, transport and disposal to the waist depot are included within the price.												
	Calculation as per m'	pieces	13,00	x	15,00 €	=	195,00 €		13,00	x	15,00 €	=	195,00 €
	TOTAL REMOVAL WORKS						1.215,00 €					1.215,00 €	
II WATER SUPPLY INDOOR INSTALLATIONS													
1	Purchase and installation of water supply PP-R pipes for operating pressure of 10,00 bars, together with all required fittings. Pipes must be anchored to the wall by saddles and covered by flexible thermal insulation to prevent condensation. Hot water pipeline has to be thermally insulated on order to prevent heat losses. Pipe joints should be butt welded all in accordance with pipe manufacturer's recommendations. Installed pipes should be tested at 12 bars pressure. Pipe diameter enclosed within item is nominal pipe diameter "DN". All chase cuttings, hole perforations and restoration to the original state, should be incalculated within the works performance price.												
	Calculation as per m' of installed pipe												
	dØ20mm(DN15)	pieces	63,00	x	3,50 €	=	220,50 €		63,00	x	3,50 €	=	220,50 €
	dØ25mm(DN20)	pieces	2,10	x	4,50 €	=	9,45 €		2,10	x	4,50 €	=	9,45 €
	dØ32mm(DN25)	pieces	14,80	x	5,60 €	=	82,88 €		14,80	x	5,60 €	=	82,88 €
2	Purchase and installation of straight stop valves. The valves should be consisted of chrome plated cap and installed on each outflow point at the separate distribution line branches within sanitary facilities according to the design.												
	Calculation as per installed piece												
	dØ20mm(DN15)	pieces	23,00	x	12,00 €	=	276,00 €		23,00	x	12,00 €	=	276,00 €
	dØ25mm(DN20)	pieces	1,00	x	14,00 €	=	14,00 €		1,00	x	14,00 €	=	14,00 €
3	Purchase and installation of "EK" angle valves DN 20mm. The valves should be installed at each outflow point, except the shower, both at hot and cold water distributions.												
	Calculation as per installed piece												
	EK DN20mm	pieces	22,00	x	14,00 €	=	308,00 €		22,00	x	14,00 €	=	308,00 €
4	Complete water supply installations test at test pressure of 12 bars. Upon completed test the Report should be made. The Report should be signed by Contractor and Supervisor. Complete material and equipment are included within the price.												
	Calculation as per m of tested pipeline	m	79,90	x	2,00 €	=	159,80 €		79,90	x	2,00 €	=	159,80 €

No.		Item Description	Unit of measure	CONTRACT				AMENDMENT 1				COMMENTS	
				Quantity	Unit price (€)	Amount (€)	VO	Quantity	Unit price (€)	Amount (€)			
GROUP A5.4.1		Investor: Ministry of Economy of Montenegro, Energy Efficiency Sector											
		Project financed by: KIW ENTWICKLUNGSBANK											
		Consultant: FICHTNER GmbH&Co. KG											
		Sub-Consultant: KOPRING PMC, Podgorica											
		School: P.S "Maršal Tito", Ulcinj											
		Objekat: P.S "Maršal Tito", Ulcinj											
		Doc. origin: Final Architectural Design											
		Dokumentacija: Final Architectural Design											
		Date: 05 February 2014											
		TABLE OF QUANTITIES											
		of building and trade works for energy efficiency											
		Improvement in "Maršal Tito" Primary School in Ulcinj											
I		REPLACEMENT OF FACADE JOINERY											
1.01.	Dismantling of the existing joinery, all its fittings and mechanisms, including its transportation to the town landfill or its hand-over to the Employer/Employer's Representative (according to the future agreement) for storing away. Calculation is done per piece of dismantled joinery.												
	dim.200/140cm (window)	pcs	218,00	x	6,18 €	=	1.347,24 €		218,00	x	6,18 €	=	1.347,24 €
	dim.200/230cm (doors)	pcs	6,00	x	10,30 €	=	61,80 €		6,00	x	10,30 €	=	61,80 €
	dim.200/70cm (window)	pcs	1,00	x	3,09 €	=	3,09 €		1,00	x	3,09 €	=	3,09 €
	dim.110/258cm (fixed glass panel)	pcs	2,00	x	6,18 €	=	12,36 €		2,00	x	6,18 €	=	12,36 €
	dim.480/258cm (glass panel with double two-leaf doors)	pcs	1,00	x	27,81 €	=	27,81 €		1,00	x	27,81 €	=	27,81 €
	dim.200/258cm (fixed glass panel)	pcs	2,00	x	11,33 €	=	22,66 €		2,00	x	11,33 €	=	22,66 €
	dim.200/140cm (mesh on windows)	pcs	3,00	x	6,18 €	=	18,54 €		3,00	x	6,18 €	=	18,54 €
1.02.	Production and installation of the facade PVC joinery. The price includes everything from description: - Production and assembling - 6-chamber PVC profiles reinforced on the inside with anodized steel U profiles, no thermal bridge - Non-recycled PVC to be used - Heat transfer coefficient U _{max} = 1,5 W/m ² K - Minimal required solar energy transmittance factor for glazed surfaces is g ₅₆₅ %. - Glass - double-glazed 4+16+4 mm low emission with argon or some other inert gas between glass panes - Fittings: required set for hanging and closing - Opening - as shown on the drawings annexed - The item should include external galvanized plastic-laminated steel metal sheet sill d=0.7mm (window bench) of required width. No internal sill required. - Profile colour: white.												
	Measures to be taken onsite. Calculation per piece of installed joinery fully in line with the description.												
	Note: Depending on the size of the opening, where it is necessary, big windows/doors elements should have additional reinforcement/stiffening of the profiles.												
x	POS 2 - window 200/258cm	pcs	2,00	x	804,43 €	=	1.608,86 €		2,00	x	804,43 €	=	1.608,86 €
x1	strip trimming	m1	9,16	x	3,61 €	=	33,02 €		9,16	x	3,61 €	=	33,02 €
a	POS 3 - window 200/140cm	pcs	185,00	x	443,93 €	=	82.127,05 €		185,00	x	443,93 €	=	82.127,05 €
a1	sill d.w.=40cm, length 2m	pcs	185,00	x	40,17 €	=	7.431,45 €		185,00	x	40,17 €	=	7.431,45 €
a2	strip trimming	m1	1.258,00	x	3,61 €	=	4.535,09 €		1.258,00	x	3,61 €	=	4.535,09 €
b	POS3* - window 190/140cm	pcs	1,00	x	437,75 €	=	437,75 €		1,00	x	437,75 €	=	437,75 €
b1	sill d.w.=40cm, length 2m	pcs	1,00	x	40,17 €	=	40,17 €		1,00	x	40,17 €	=	40,17 €
b2	strip trimming	m1	6,80	x	3,61 €	=	24,51 €		6,80	x	3,61 €	=	24,51 €
c	POS 4 - glass panel 200/230cm	pcs	5,00	x	729,24 €	=	3.646,20 €		5,00	x	729,24 €	=	3.646,20 €
c1	handrail in the width of the doors	pcs	10,00	x	40,17 €	=	401,70 €		10,00	x	40,17 €	=	401,70 €
c2	strip trimming	m1	33,00	x	3,61 €	=	118,97 €		33,00	x	3,61 €	=	118,97 €
c3	mechanism for putting the doors in closed position	pcs	5,00	x	55,62 €	=	278,10 €		5,00	x	55,62 €	=	278,10 €
d	POS 4* - glass panel 190/230cm	pcs	1,00	x	712,76 €	=	712,76 €		1,00	x	712,76 €	=	712,76 €
d1	handrail in the width of the doors	pcs	2,00	x	55,62 €	=	111,24 €		2,00	x	55,62 €	=	111,24 €
d2	strip trimming	m1	6,60	x	3,61 €	=	23,79 €		6,60	x	3,61 €	=	23,79 €
d3	mechanism for putting the doors in closed position	pcs	1,00	x	55,62 €	=	55,62 €		1,00	x	55,62 €	=	55,62 €
e	POS 5 - window 200/70cm	pcs	1,00	x	227,63 €	=	227,63 €		1,00	x	227,63 €	=	227,63 €
e1	sill d.w.=40cm, length 2m	pcs	1,00	x	40,17 €	=	40,17 €		1,00	x	40,17 €	=	40,17 €
e2	lever	pcs	1,00	x	55,62 €	=	55,62 €		1,00	x	55,62 €	=	55,62 €
e3	strip trimming	m1	5,40	x	3,61 €	=	19,47 €		5,40	x	3,61 €	=	19,47 €
f	POS 6 - window 200/140cm	pcs	31,00	x	438,78 €	=	13.602,18 €		31,00	x	438,78 €	=	13.602,18 €
f1	sill d.w.=40cm, length 2m	pcs	31,00	x	40,17 €	=	1.245,27 €		31,00	x	40,17 €	=	1.245,27 €
f2	lever	pcs	31,00	x	55,62 €	=	1.724,22 €		31,00	x	55,62 €	=	1.724,22 €
f3	strip trimming	m1	210,80	x	3,61 €	=	759,93 €		210,80	x	3,61 €	=	759,93 €
g	POS 6* - window 190/140cm	pcs	1,00	x	438,78 €	=	438,78 €		1,00	x	438,78 €	=	438,78 €
g1	sill d.w.=40cm, length 1,9m	pcs	1,00	x	40,17 €	=	40,17 €		1,00	x	40,17 €	=	40,17 €
g2	lever	pcs	1,00	x	55,62 €	=	55,62 €		1,00	x	55,62 €	=	55,62 €
g3	strip trimming	m1	6,80	x	3,61 €	=	24,51 €		6,80	x	3,61 €	=	24,51 €
1.03.	Production and installation of the facade aluminium joinery. The price includes everything from the description: - Production and assembling - Self-closing mechanism - Profiles - aluminium, with thermal break - Infill: double-glass panel 4+16+4 mm, with argon or some other inert gas between the panes, with one glass as low-emission or infill: aluminium sandwich panel with polyurethane as infill - Heat transfer coefficient U _{max} = 3,0 W/m ² K - Solar energy transmittance factor g ₅₆₅ % - Fitting: required set for hanging and closing - Knob - chrome plated - mate - Fit rubber door stoppers on the floor - Opening as shown in the drawings annexed - Profile colour - natural aluminium.												

	Measures to be taken onsite. Calculation per piece of installed joinery, fully in line with the description.																			
	Note: Only main entrance door shall be additionally equipped with emergency door handle, hydraulic closing mechanism and door pin stopper. Depending on the size of the opening, where it is necessary, big windows/doors elements should have additional reinforcement/stiffening of the profiles.																			
a	POS 1 - glass panel 110/258+480/258+110/258cm	pcs	1,00	x	4.234,33 €	=	4.234,33 €		1,00	x	4.234,33 €	=	4.234,33 €							
a1	emergency door handle	pcs	2,00	x	123,60 €	=	247,20 €		2,00	x	123,60 €	=	247,20 €							
a2	hydraulic closing mechanisms	pcs	2,00	x	55,62 €	=	111,24 €		2,00	x	55,62 €	=	111,24 €							
a3	strip trimming	m1	19,16	x	3,61 €	=	69,07 €		19,16	x	3,61 €	=	69,07 €							
a4	door pin stopper	pcs	2,00	x	56,65 €	=	113,30 €		2,00	x	56,65 €	=	113,30 €							
1.04.	Production and installation of facade aluminium joinery, without thermal break, in line with the joinery scheme, with high quality mechanism for opening, fittings and hinges, on steel substructure- blind frame. Panel and weather jalousie are used as infill. Fanlight is made of floated glass 4 mm thickness, with bottom hung leaves. Include removal of the old glass panel and its dumping at landfill selected by the Employer/Employer's Representative. The item includes all required cleaning and dumping at the landfill, as well as required works for mounting of the joinery (proper installation, required chase cutting, plastering and paintwork, edge strips if required). Calculation per piece of completed item. Prior to production, measures to be taken onsite.																			
	Measures to be taken onsite. Calculation per piece of installed joinery, fully in line with the description.																			
	POS 7 - double-leaf doors with fanlight 300/300cm	pcs	1,00	x	1.731,43 €	=	1.731,43 €		1,00	x	1.731,43 €	=	1.731,43 €							
1.05.	Production of facade PVC joinery. The price includes everything from the description:																			
	Production and installation of PVC profiles without thermal break, in line with the joinery scheme, with high quality mechanism for opening, fittings and hinges. Floated glass 4 mm thickness is used as infill, opening as shown in the joinery scheme. In front of the window is fixed element with infill made of weather jalousie. Include removal of the old glass panel and its dumping at landfill selected by the Employer/Employer's Representative. The item includes all required cleaning and dumping at the landfill, as well as required works for mounting of the joinery (proper installation, required chase cutting, plastering and paintwork, edge strips if required). Calculation per piece of completed item. Prior to production, measures to be taken onsite.																			
a	POS8 - window R120cm (round)	pcs	3,00	x	706,58 €	=	2.119,74 €		3,00	x	706,58 €	=	2.119,74 €							
b	POS8 - louvers R120cm (round)	pcs	3,00	x	855,93 €	=	2.567,79 €		3,00	x	855,93 €	=	2.567,79 €							
1.06.	Production and installation of protective grille for windows at the ground floor. The grille is made of steel box profiles 60*60mm which form frame, with external dimensions 200*112cm, grill (stretched metal of approximate dimensions of a rhomb cca 85*35mm) as infill. The grille is welded to angle profiles L30*30 and then fitted into the frame so that L profile is visible on the external side. The entire structure is anchored, appropriately protected and painted in some of the standard colors, selected by the Employer / Employer's representative with previous approval obtained from the building users.																			
	Measures to be taken onsite. Calculation per piece of installed joinery, fully in line with the description.																			
	POS m - 200/112cm	pcs	7,00	x	180,25 €	=	1.261,75 €		7,00	x	180,25 €	=	1.261,75 €							
1.07.	Purchase and fitting of curtains (with curtain rails) for internal sun protection. The curtain material shall be flame-resistant. The curtains shall be in standard spectrum of colors and sampled and approved by the Employer / Employer's Representative. Measures to be taken onsite. Measures to be taken onsite.																			Excluded by Client (communication 01/08/2014)
	curtains-calculated as per square meter of the opening	m2	352,8	x	22,45 €	=	7.921,77 €		2	0	x	22,45 €	=	0						
	curtain rails calculated per m	m	220,50	x	3,09 €	=	681,35 €		2	0	x	3,09 €	=	0						
	TOTAL FOR REPLACEMENT OF FACADE JOINERY						142.372,33													133.769,21
II	RECONSTRUCTION OF ROOF																			
2.01.	Removal of existing thermal insulation and waterproofing from the flat impassable roof until reaching TR sheet metal ceiling structure consisting of following assumed layers: -gravel -waterproofing (PVC membrane), -thermal insulation (mineral wool). The price to include all the work and debris dumping at the town landfill.																			Change of roof technology, see new positions below.
	Calculation per m2	m ²	3.790,00	x	4,80 €	=	18.192,00 €		1	0	x	4,80 €	=	0						

2.02.	Dismantling of gullies from flat roof and related installation for rainwater discharge along the facade walls. Calculation per piece of fully dismantled gullies, with all appurtenant elements and dumping at town landfill.																			Change of roof technology, see new positions below.
	Calculation per piece	pcs	38,00	x	10,00 €	=	380,00 €	1	0	x	10,00 €	=	0							
2.03.	Purchase and installation of gullies on the flat roof. Gullies to be timely embedded in waterproofing, fully in line with the instructions. Calculation per piece, and the price includes all the required work and material, and installation of protective grating.																			Change of roof technology, see new positions below.
	The price includes cutting existing roof trapezoidal sheet metal cover and concrete facade patent panel d=10cm where gullies points i.e., at risers penetration points.																			
	Calculation per piece																			
	gullies	pcs	35,00	x	38,00 €	=	1.330,00 €	1	0	x	38,00 €	=	0							
	spouts	pcs	2,00	x	38,00 €	=	76,00 €	1	0	x	38,00 €	=	0							
2.04.	Purchase of material and installation of 2mm polyethylene membrane on roof, over trapezoidal sheet metal.																			Change of roof technology, see new positions below.
	Calculation per m2	m ²	3.790,00	x	2,50 €	=	9.475,00 €	1	0	x	2,50 €	=	0							
2.05.	Purchase of material and installation of thermal insulation on flat roof, using extruded polystyrene boards (8+12cm), total thickness 10cm-20cm and rated heat transfer coefficient of $\lambda = 0,033$ W/mK or less (EN 12667), with low water absorption.																			Change of roof technology, see new positions below.
	Thermal insulation to be fitted with 1% inclination, as shown on the drawings enclosed in the design.																			
	Calculation per m2 of horizontal roof projection.	m ²	3.790,00	x	16,70 €	=	63.293,00 €	1	0	x	16,70 €	=	0							
2.06.	Purchase of material and laying finishing layer on the flat roof, consisting of vapour-permeable multi-layer PVC waterproof membrane, reinforced with polyester mesh, with its installation along the wall and attics at cca h=50cm height, together with previous fitting of geotextil. The membrane is pulled up the attics, with flat bars placed on top of it for flashing the attics, which is separate item. Waterproofing is placed up the walls of lamellas which are delevelled and ended in a strip and connection to the wall is treated properly (preparation of contact surface and filling in connection between the strip and the wall), as shown in the detail of PVC membrane manufacturer, which is composite part of this item (length 42,10m). Roof PVC membrane should be resilient to decaying, weather elements and UV radiation. It is connected with hot welding. PVC membrane needs to be vapour-permeable. During installation, it is necessary to follow manufacturer's instruction. Supervisor to be provided with calculation to wind resilience.																			Change of roof technology, see new positions below.
	Calculation per m2 of fitted roof, complete with treatment of all penetration points, gullies and such, which shall not be subject to additional payment. The price also includes all preparatory works, binding material and strips, etc., necessary for proper membrane installation.																			
		m2	4.000,00	x	17,20 €	=	68.800,00 €	1	0	x	17,20 €	=	0							
2.07.	Production and installation of the roof cornice flashings, made of ready-made galvanized sheet metal d=0.7mm, coated in plastics, colour will be selected by the Designer. The item includes surface preparation and complete binding following the regulations. The entire process should be carried out in line with the design, and sample selected by the Designer. Calculation is per m1 of performed flashing, complete with all the binding and joining material.																			Change of roof technology without flashings, see new positions below.
	Calculation per m1																			
	cornice d.w. 30cm	m ¹	589,00	x	12,60 €	=	7.421,40 €	1	0	x	12,60 €	=	0							
	NOTE: The alternative technology for a flat roof cover can be offered as a deviation.																			
N2.08	Dismantling of gullies from flat roof and related installation for rainwater discharge along the facade walls. Calculation per piece of fully dismantled gullies, with all appurtenant elements and dumping at town landfill.	pcs																		Optional offer in TD, instead of pos. 2.02.
																				38
N2.09	Purchase and installation of gullies on the flat roof. Gullies to be timely embedded in waterproofing, fully in line with the instructions. Calculation per piece, and the price includes all the required work and material, and installation of protective grating. The price includes cutting existing roof trapezoidal sheet metal cover and concrete facade patent panel d=10cm where gullies points i.e., at risers penetration points. Calculation per piece.																			Optional offer in TD, instead of pos. 2.03.
	gullies	pcs																		35
	spouts	pcs																		2
N2.10	Purchase of material and installation of Knauf SD 200 membrane on roof, over trapezoidal sheet metal. Calculation per m2.	m ²																		Optional offer in TD, instead of pos. 2.04.
																				3790

	ETA certificate (European Technical Approval) is a certificate issued by the European Organization for Technical Approval, which confirms that the thermal insulation system is in compliance with the parameters laid down by this organization - mechanical resistance and stability, safety in the event of fire, hygiene, health and environmental sustainability, safety of use, noise protection, energy efficiency and heat retention.																			
	Calculation per m1																			
	jamb width 28cm treated with demit	m2	305,03	x	16,60	=	5.063,53 €		305,03	x	16,60	=	5.063,53 €							
	jamb width 7cm treated with bavalit	m2	76,26	x	11,80	=	899,84 €		76,26	x	11,80	=	899,84 €							
	window bench width 35cm	m1	438,00	x	6,50	=	2.847,00 €		438,00	x	6,50	=	2.847,00 €							
	NOTE: Facade walls of the school building, gym and boiler room to be treated only with decorative ready-mixed lime-cement based render "Bavalit" type, with base preparation.																			
	Setting up of the facade plinth with decorative ready mixed marble based mortar, created on grain ("Kulie") as splash guard (as indicated on the drawings). Surface should be cleaned, washed and sprinkled with acrylic base with granulate, color of the base by the color chart of the manufacturer. Render should be applied on cleaned and dried surface by manufacturer's instruction. The color should be determined by the Employer / Employer's representative, according to the color chart of manufacturer.	m2	4.435,00	x	11,80 €	=	52.333,00 €		4.435,00	x	11,80 €	=	52.333,00 €							
		m2	351,27	x	15,20 €	=	5.339,30 €		351,27	x	15,20 €	=	5.339,30 €							
3.07.	Closing of 4 ventilation openings at gym facades. Closing shall be performed by building a wall with gas concrete masonry ("Ytong" or equivalent with similar or better characteristics) with proper connection to the existing structure. The surface shall be smoothly finished prepared for ETICS installation.																			
	Calculated per m2	m2	2,00	x	38,00 €	=	76,00 €		2,00	x	38,00 €	=	76,00 €							
3.08.	Correction of protective paint of steel structure, which got damaged during dismantling and installation of joinery with previous base preparation. Surface was estimated lump sum. The item includes all the required material and work.																			
	Calculation per m2	m2	45,36	x	7,20 €	=	326,59 €		45,36	x	7,20 €	=	326,59 €							
3.09.	Production and installation of the vertical gutters of 120/120mm square section, made of ready-painted, galvanized and plastic coated sheet metal thickness d=0,7mm, colour will be selected by the Designer. Gutters should be installed with all required anchors and flanges with the necessary binding and joining material.																			
	Calculation per m1	m1	300,00	x	14,60 €	=	4.380,00 €		300,00	x	14,60 €	=	4.380,00 €							
3.10.	Patching holes on the plinth of the building using repairing plaster, with base preparation.																			
	Calculation per m2	m2	90,00	x	8,50 €	=	765,00 €		90,00	x	8,50 €	=	765,00 €							
	WORKS ARISING FROM IMPLEMENTATION OF EE MEASURES						123.356,28						102.331,67							
IV	MEASURES TO ENABLE HIGHER COMFORT AND BETTER WORKING CONDITIONS																			
4.01.	Removal of the existing, ceramic floor tiles with screed in sanitary facilities, removal and loading onto a truck with their transportation to a location up to 5 km distance with all their sub-layers until reaching existing waterproofing. Calculation as per m2 of the floor area.	m2	173,15	x	3,50 €	=	606,03 €		173,15	x	3,50 €	=	606,03 €							
4.02.	Careful removal of the existing ceramic wall tiles with undercoat layer in sanitary facilities. Taking out, loading and transport to a location up to 5km distance. The price includes possible usage of the scaffold. Calculation as per m2 of the floor area.	m2	572,52	x	3,50 €	=	2.003,82 €		572,52	x	3,50 €	=	2.003,82 €							
4.03.	Dismantling of the inside, single wing, double layer plywood door with fanlights. The price needs to include transportation to a landfill up to 5 km distance. Undamaged door should be registered and given to the Employer/Employer's Representative. Calculation as per piece.																			
	- dim. 91/280cm	pcs	8,00	x	10,00 €	=	80,00 €		8,00	x	10,00 €	=	80,00 €							
	- dim. 61/210cm	pcs	24,00	x	10,00 €	=	240,00 €		24,00	x	10,00 €	=	240,00 €							
4.04.	Dismantling of suspended plaster ceiling together with substructure. The ceiling is at 2.90m height from the floor. The price includes debris loading onto a truck and dumping at a landfill up to 5 km distance. Calculation per m2.	m2	169,00	x	1,50 €	=	253,50 €		169,00	x	1,50 €	=	253,50 €							
4.05.	Repair of damages in plasterboards in toilets, filling holes, replacement of wet parts and such. Base needs to be prepared for painting. Calculation per m2. I.e per piece for individual surface under 1m/sq. Quantity is set lump sum, as there are many damages.	m2	169,00	x	7,80 €	=	1.318,20 €		169,00	x	7,80 €	=	1.318,20 €							
4.06.	Setting up of horizontal waterproofing in the toilets, on different floors, in the following layers (from the bottom up): - bitulit + poliasbestos + glass mesh - poliasbestos + glass mesh - poliasbestos																			

	Put the waterproofing at least 10 cm up the wall. Calculation is based on a m2 of the basis (section pulled up the walls is included in the price). The price includes all works and materials, in line with the description, including the cleaning and surface preparation for a quality installation of a new waterproofing.																				
	Note: Entire waterproofing overlapping and putting the waterproofing up the walls to be included in the price of works.																				
	floor	m2	184,09	x	21,00 €	=	3.865,95 €		184,09	x	21,00 €	=	3.865,95 €								
4.07.	Tiling the toilet walls with the class I ceramic tiles, while the size, paint and tone will be selected by the Designer and approved sample by the Employer/Employer's Representative.																				
	Line the tiles in layer of adhesive, placing them joint bonding manner, by pointing the joints using pointing plaster.																				
	Ceramics will be placed up to the door height except in wardrobes in the shower booths section where entire surface of the walls will be tiled.																				
	Coating of the jambs and niches is included in the item price and it won't be calculated separately.																				
	Calculation per m2 of completed item together with AL angle strips.	m2	352,56	x	21,50 €	=	7.580,04 €		352,56	x	21,50 €	=	7.580,04 €								
4.08.	Floor coating in the toilets and other premises with the class I anti-slip tiles. The size, colour and tone will be selected by the Designer and approved sample by the Employer/Employer's Representative.																				
	Line the tiles in the waterproof adhesive layer in joint bonding manner, by using pointing plaster.																				
	In the toilets, where there is a grate in the floor, sloping toward the grate is at least 1% (regulate the sloping with the cement screed thickness).																				
	Calculation per m2 of completed item.	m2	173,15	x	21,50 €	=	3.722,73 €		173,15	x	21,50 €	=	3.722,73 €								
4.09.	Polishing and painting of the internal walls in sanitary facilities. Designer will select the tone of semi dispersed distemper. Repeat the polishing until a completely flat surface is achieved, and apply layers of paint until reaching an even tone. This item includes scraping, plastering, neutralization, impregnating, pre-painting, and correction with the toned dispersive filler or pointing plaster. Final painting should be done twice.																				
	Calculation per m2, including all material,	m2	298,80	x	4,20 €	=	1.254,96 €	2	159,00	x	4,20 €	=	667,80 €								Deduction due to bigger areas covered with wall tiles.
4.10.	Production and mounting of indoor joinery. The price comprises all items from description: Purchase of material and mounting of indoor joinery, produced of hard and high resistant PVC profiles, reinforced by zinc plated steel „ U“ profiles, strictly according to joinery drawings and details, including high quality of accessories, hinges, opening/closing handles etc. , all in white color. PVC panels should be used for doors and float glass for fan lights above the doors.																				
	This item implicates all needed cleanings and transportation of waste materials to the waste depot, as well as all necessary works for joinery mounting (proper fitting, needed wall chase cutting, plastering, painting and use of jamb silts). Calculation is per completely finished item. The profiles are white. Prior to manufacture of joinery , the Contractor is obliged to take „on site“ measures.																				
a	Mark in the plan 1u Masonry measure, dimensions 91/205+80cm, outside opening, 180° opening angle (where of fan light dimensions 91/80cm)	pcs	8,00	x	340,93 €	=	2.727,44 €		8,00	x	340,93 €	=	2.727,44 €								
b	Mark in the plan 2u Masonry measure, dimensions 71/185, outside opening	pcs	24,00	x	188,49 €	=	4.523,76 €		24,00	x	188,49 €	=	4.523,76 €								
4.11.	Purchase of material and fitting of monolith suspended ceiling made of mineral boards on its own substructure attached to trapezoidal sheet metal structure. Calculation per m2 including all the material, work and required scaffolding.	m2	169,00	x	17,70 €	=	2.991,30 €		169,00	x	17,70 €	=	2.991,30 €								
4.12.	Purchase, delivery and installation of metal floor covering of expansion joint. Metal cover shall be min 3mm thick. Before installation, equipment shall be sampled and approved by Employer/Employer's Representative.																				
	Calculation per m1.	m	10,00	x	21,00 €	=	210,00 €		10,00	x	21,00 €	=	210,00 €								
4.13.	Purchase and installation of metal hydrant covers (doors), painted in red with oil based paint in two layers.																				
	Calculated as per piece	pcs	12,00	x	25,00 €	=	300,00 €		12,00	x	25,00 €	=	300,00 €								
4.14.	Removal of all paint from metal bearing structures and handrails of all staircases and preparing the surfaces for painting.																				
		lump sum	1,00	x	300,00 €	=	300,00 €		1,00	x	300,00 €	=	300,00 €								
4.15.	Painting of all metal bearing structures and handrails of all staircases with protective paint. Final painting shall be done with oil based paint in two layers in some of the standard colors, selected by the Employer / Employer's representative with previous approval obtained from the building users.																				

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		lump sum	1,00	x	650,00 €	=	650,00 €	2	0	x	650,00 €	=	Excluded by Client (communication 01/08/2014)
4.16.	Replacement of pavement with approx. 12cm thick rammed concrete type MB20, including simultaneous installation of floating surface d=2cm; edge beam dim. 10cm x 20cm; bitumen expansion joints at each 2.0m and a waterproofing stripe between the pavement and the wall of the building. Including demolition of old concrete slabs, transportation to a landfill up to 5 km distance and finishing works.												
	Calculation per m2												
	areas of old rain water downpipes	m ²	10,00	x	13,2	=	132,00 €		10,00	x	13,2	=	132,00 €
	areas around the boiler house and at the conduits	m ²	30,00	x	13,2	=	396,00 €		30,00	x	13,2	=	396,00 €
4.17.	Repair of wooden doors with fanlights, 90 cm wide and 2.9 m high. This item includes the repair of the door frame, the change of the door lock, the door handle set, the locking plate, the hinges (min. 3 units) and coating of frame and wing (process: grinding, primer, grinding, two layers of synthetic resin paint). All materials shall be first quality. The doors to be treated shall be determined by the Employer/Employer's Representative.												
	Calculated as per piece	pcs	10,00	x	78,00 €	=	780,00 €	2	0	x	78,00 €	=	Excluded by Client (communication 01/08/2014)
4.18.	Skimming, filling and coating of frame and wing of interior doors with fanlight approx. 90 cm wide and 2.9 m high (coating process: grinding, primer, grinding, two layers of synthetic resin paint). The doors to be treated shall be determined by the Employer/Employer's Representative.												
	Calculated as per piece	pcs	50,00	x	53,00 €	=	2.650,00 €	2	0	x	53,00 €	=	Excluded by Client (communication 01/08/2014)
4.19.	Supply and installation in existing wooden fanlight frame of a manual operated glass louver unit with metal structure elements; including removal of existing fixed glazing, all fastening material and making good of the adjacent frame by skimming/smoothing and oil coating. Operating lever to be placed in the lower part, for easy handling; size: approx. 90 cm wide and 1.0 m high; transparent float glass 4 mm thick.												
	Calculated as per piece	pcs	30,00	x	256,60 €	=	7.698,00 €	2	0	x	256,60 €	=	Excluded by Client (communication 01/08/2014)
4.20.	Supply and installation of metal blinds from white coated aluminium, following the attached scheme. Blinds should be made of sturdy quality material, mounted on a metal substructure. The substructure shall consist of two metal bars that shall be attached with stainless steel crews to the window frame. Blinds shall be fixed mounted with a slight slope, corresponding to the position of the best protection from the sun during the day and considering the orientation of the window. The blinds shall allow easy maintenance of the window, especially the cleaning of the panes. The blinds shall be sampled and approved by the Employer/Employer's Representative. Measures shall be taken on-site, adapted to each window frame.												
	Position of the metal blinds is presented in the drawings MT-02-ARH-13 and MT-02-ARH-12												
	Calculation per m2	m2	229,60	x	87,55 €	=	20.101,48 €	2	0	x	87,55 €	=	Excluded by Client (communication 01/08/2014)
4.21.	Planting lime (Prunus pisardi nigra-sp.) tree or some similar species, in accordance with Employer / Employer's representative, in the school courtyard in front of the school between the gym and the main building. Trees shall be planted on min 5m distance and min. 4 m distance from the buildings and 2.5m high. Dig a pit for planting throw out debris and dirt from the pit. Perform the planting by mixture of humus, fertilizer and sand in the ratio 6:3:1. During planting cover 2/3 of the depth of the pit with mentioned mixture and 1/3 with the addition of peat enriched fertilizer with 3 kg per tree. Having completed the planting of the seedlings trees shall be well watered.												
		pcs	20,00	x	36	=	720,00 €	2	0	x	36	=	Excluded by Client (communication 01/08/2014)
4.22.	Dismantling of suspended metal ceiling type "Hunter-Douglas" together with substructure at entrance porch. The price includes debris loading onto a truck and dumping at a landfill up to 5 km distance, and usage of scaffold. Supply and installation of a new suspended metal ceiling type "Hunter-Douglas", including all fastening elements and finishes.												
	Calculation per m2												
	dismantled ceiling.	m2	74,00	x	2,50 €	=	185,00 €		74,00	x	2,50 €	=	185,00 €
	new ceiling	m2	74,00	x	33,40 €	=	2.471,60 €		74,00	x	33,40 €	=	2.471,60 €
	GENERAL NOTE: If certain internal hindering items have been removed, they have to be re-installed or replaced by new ones and these costs shall be included in the respective line items (e.g. curtain rails, sports wall equipment in sport halls, etc.).												
	TOTAL FOR MEASURES TO ENABLE HIGHER COMFORT AND BETTER WORKING						67.761,80 €						34.575,16 €

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9	Installation of new water and sewage pipes with all necessary fittings and valves for new hand wash and bowl for handicapped people with all necessary drilling in the concrete slab, making channels for pipes, and after installation reparation of concrete slab, installation of new waterproof layer and screed. Material, fittings valves 130e, transport 35e, 3 plumbers 10h- 126e, 2 unskilled laborers 10h 60e, profit 10%- price from A11 fast rack- Viado Mliic	pcs	3	1,00	x	385,00 €	=	385,00 €	OFV 12, approved by Client on 23/09/2014.
10	Purchase and mounting of complete ceramic bowl, for handicapped people, with flush Ceramic bowl with special seat 285e, flush 52e, delivery 10e, plumber 16.8, profit 10%- price from A11 fast rack- Viado Mliic	pcs	3	1,00	x	400,00 €	=	400,00 €	OFV 12, approved by Client on 23/09/2014.
11	Purchase and mounting of complete ceramic lavatory set, with its supports, chrome plated single-lever basin mixer (hot and cold), chrome plated trap, towel holder, mirror for handicapped people Hand wash- 121e, chrome mixer 35e, plated trap 22e, mirror 50e, towel holder 10e, delivery 10e, plumber 15.3e, profit 10%	pcs	3	1,00	x	290,00 €	=	290,00 €	OFV 12, approved by Client on 23/09/2014.
12	Purchase and installation of water proof insulation. Price from M.T BoQ ARH 4.06 21e/m2	m2	3	6,35	x	21,00 €	=	133,35 €	OFV 12, approved by Client on 23/09/2014.
13	Purchase and mounting of two holders for handicapped people. Material 135e, transport 10e, plumber 4.2e, profit 10%	pcs	3	3,00	x	165,00 €	=	495,00 €	OFV 12, approved by Client on 23/09/2014.
14	Purchase of the material and installation of the ceramic floor tiles Price from M.T BoQ ARH 4.08 21.5e/m2	m2	3	6,35	x	21,50 €	=	136,53 €	OFV 12, approved by Client on 23/09/2014.
15	Purchase of the material and installation of the ceramic floor tiles Price from M.T BoQ ARH 4.09 21.5e/m2	m2	3	27,00	x	21,50 €	=	580,50 €	OFV 12, approved by Client on 23/09/2014.
16	Skimming and painting with semi dispersive paint of the suspended ceiling. Price from M.T BoQ ARH 3.04 4.2e/m2	m2	3	6,35	x	4,20 €	=	26,67 €	OFV 12, approved by Client on 23/09/2014.
17	Supply of the material and reparation of gypsum partition walls- boards, substructure and insulation. Price from offer for variation no 10- marsal Tito 26.95e/m2	m2	3	10,50	x	26,95 €	=	282,98 €	OFV 12, approved by Client on 23/09/2014.
18	Purchase and installation of one wall mounted air ventilator. Supply and delivery 60e, installation with making hole in the wall and cabling -50e, profit 10%-	pcs	3	1,00	x	121,00 €	=	121,00 €	OFV 12, approved by Client on 23/09/2014.
19	Delivery and mounting of ceiling mounted light fitting 1/28 W T16 IP54, opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material are calculated per unit. AS 1X28/1/IP54 OPAL, sa with light sources Mareli Bulgaria	pcs	3	1,00	x	34,50 €	=	34,50 €	OFV 12, approved by Client on 23/09/2014.
20	Dismantling of old existing door together with metal frame. Price from M.T BoQ ARH 1.01 10.3e/m2.	pcs	3	1,00	x	10,30 €	=	10,30 €	OFV 12, approved by Client on 23/09/2014.
21	Extension of door hole, cutting walls and reinforcement of jambs for installation of a new door- dimensions 105/205cm. Cutting walls 70e, reinforcement of the jambs 65e, profit 10%	pcs	3	1,00	x	148,50 €	=	148,50 €	OFV 12, approved by Client on 23/09/2014.
22	Supply of the material assembling and installation of new aluminium door dimensions 205x105cm. Price from M.T BoQ ARH 4.10 a 10.3e/m2.	pcs	3	1,00	x	340,93 €	=	340,93 €	OFV 12, approved by Client on 23/09/2014.
23	Purchase and mounting of cisterns (transfer from horizontal to vertical gutters) made of galvanised sheet metal d=0,70mm. Price taken from fast track Njegos ARH BoQ AI 10 - 35e/piece	piece	3	42,00	x	35,00 €	=	1.470,00 €	OFV 13, approved by Client on 23/09/2014.
24	Fixing the metal coating on the existing metal columns of the entrance canopy, providing all necessary metal parts and connection elements. Material 50e, installation and fixing 45e, profit 10%	piece	4	1,00	x	104,50 €	=	104,50 €	OFV 18, approved by Client on 31/10/2014.
25	Supply of the protective paint for metal and painting of metal canopy (front and 2 sides) and three metal columns. Price from Mileva Lajovic ARH BoQ III 12- 7.45e/m2	m2	4	36,64	x	7,45 €	=	272,97 €	OFV 18, approved by Client on 31/10/2014.
26	Dismantling and reinstallation of external AC units. Price B.J ARH BoQ 4.03 58e	piece	4	4,00	x	58,00 €	=	232,00 €	OFV 18, approved by Client on 31/10/2014.
27	Dismantling and reinstallation external and internal AC units on another place with new cables and making new holes in walls. Price B.J ARH BoQ 4.03 58e +25e	piece	4	4,00	x	83,00 €	=	332,00 €	OFV 18, approved by Client on 31/10/2014.

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28	Supply of the material and installation of two big ramps for handicapped persons in the yard of Marsal Tito school and two small ramps on the two entrance doors. Ramps are made of metal boxes 60x40x3mm as substructure and metal sheet d=5mm for path. Ramps have necessary hand rails. All metal elements are painted with protective paint. Dimension of the ramps are 1.20x11.1m, 1.20x10.2m and two ramps 1.20x1m- in total 23.3m. Material 1964e, transport	lump sum	4	1,00	x	4.156,90 €	=	4.156,90 €	OFV 21, approved by Client on 31/10/2014.
29	Installation of metal substructure of metal boxes 60x40x3mm in the toilets in order to enable possibility for mounting gypsum suspended ceiling. Material 135e, installation 65e, profit 10%	lump sum	4	1,00	x	220,00 €	=	220,00 €	OFV 23, approved by Client on 31/10/2014.
30	Supply and installation of self closing mechanism GU - BKS with the stoper inside- difference in price is 45e per piece (old self closing mechanism + door stoper= 78.5e- Mileva Lajovic ARH BoQ II-3 new price 123.5e)	pcs	4	2,00	x	45,00 €	=	90,00 €	OFV 25, approved by Client on 31/10/2014.
31	Purchase and installation metal boxes and I profiles for substructure for installation of EPS boards d=10cm on the edges of the canopy and the main building. Material 70e, installation 55e, profit 10%	lumpsum	4	1,00	x	137,50 €	=	137,50 €	OFV 34, approved by Client on 31/10/2014.
32	Purchase and installation of EPS boards d=8cm on the edges of the entrance canopy on metal substructure-with special foam. Price from S.M BoQ ARH 1.13-8.1e/m2	m2	4	8,31	x	8,10 €	=	67,31 €	OFV 34, approved by Client on 31/10/2014.
33	Purchase of the river gravel fraction 8-16mm, transport and installation on the roof as Wollfin protection on parts near the street, thickness of the layer is 5cm (279m2). Material 18e, transport 7e, installation on	m3	4	14,00	x	44,00 €	=	616,00 €	OFV 34, approved by Client on 31/10/2014.
34	Reparation and fixing of interior metal door-part of windshield-	lumpsum	4	1,00	x	55,00 €	=	55,00 €	OFV 36, approved by Client on 31/10/2014.
35	Purchase and installation of gypsum boards for ceiling type Armstrong 60x120cm. Price M.T BoQ ARH 3.03 9.6e/m2	m	4	63,36	x	9,60 €	=	608,26 €	OFV 36, approved by Client on 31/10/2014.
SUMMARY OF COSTS VI									
	TOTAL PRICE, VAT EXCLUDED:							22.480,92 €	
	VAT (19%):							4.271,37 €	
VI	TOTAL PRICE (WITHOUT DISCOUNT), VAT INCLUDED:							26.752,29 €	
SUMMARY OF COSTS I-VI									
I-VI	TOTAL PRICE, VAT INCLUDED:							532.427,98 €	

Montenegro Energy Efficiency Program in Public Buildings (EEPPB)

GROUP A5.4.2		Investor:		Ministry of Economy of Montenegro, Energy Efficiency Sector									
TABLE OF QUANTITIES of thermal-technical (heating) services for energy efficiency improvement in "Maršal Tito" Primary School in Ulcinj		Project financed by:		KW ENTWICKLUNGSBANK									
		Consultant:		FICHTNER GmbH&Co. KG									
		Sub-Consultant:		Lokalni projekta KOPRING PMC, Podgorica									
		School:		Objekat: P.S "Maršal Tito", Ulcinj									
		Doc. origin:		Dokumentacija: Final Heating Design									
		Date:		05 February 2014									
No.	Item Description	Unit of measure	CONTRACT				VO	AMENDMENT 1				COMMENTS	
			Quantity	Unit price (€)	Amount (€)			Quantity	Unit price (€)	Amount (€)			
A - Measure No. 1: Energy management													
1	Purchase, supply and installation of ultrasonic heat gauge and cable from computer unit to heat gauge of 1.5m, for mounting into return piping line. The gauge is battery powered. Together with gauge a pair of temperature sensors PT500 is delivered, one sensor mounted directly into flow gauge body, M-Bus module, brass bushing for sensors mounting, and set of threaded unions. Manufacturer: "Siemens" or equivalent Type: "UH50 Ultraheat" Nominal flow: 15 m ³ /h Connector: 2"	pcs	1 x	1,445,22 €	=	1,445,22 €		1 x	1,445,22 €	=	1,445,22 €		
2	Purchase, supply and installation of electronic flow gauge for light fuel oil. Manufacturer: "Aqua metro" or equivalent Type: "VZO 4 RE" Nominal flow: 50 l/h Minimum flow: 1 l/h	pcs	2 x	560,70 €	=	1,121,40 €		2 x	560,70 €	=	1,121,40 €		
3	Purchase, supply and installation of control unit with M-Bus communication and display. Manufacturer: "Siemens" or equivalent Type: "Climatix POL638"	pcs	1 x	2,709,00 €	=	2,709,00 €	2	0 x	2,709,00 €	=		Excluded by Client (communication 01/08/2014)	
4	Software development and staff training.	pcs	1 x	756,00 €	=	756,00 €	2	0 x	756,00 €	=		Excluded by Client (communication 01/08/2014)	
TOTAL A - ENERGY MANAGEMENT						6,031,62 €					2,566,62 €		
B - Measure No. 4: New Heating System													
B.I Dismantling of existing equipment and preliminary works													
1	Dismantling of existing equipment in the boiler room (2 boilers capacity 480 kW with burners, 3 feeders and collector pipes each, two expansion vessels, 4 circulating pumps with external motor, air-release valves, insulated pipes, valves and other fittings).	pcs	1 x	1,512,00 €	=	1,512,00 €		1 x	1,512,00 €	=	1,512,00 €		
2	Cleaning existing above-grade light distilled oil tank capacity 10m ³ , removal of sediments, dumping in set manner, replacement of suction group, maintenance service of safety valves and inspection of entire ancillary installation.	pcs	1 x	1,386,00 €	=	1,386,00 €		1 x	1,386,00 €	=	1,386,00 €		
3	Building concrete base for boilers, size two times 190 x 115 x 10 cm. The base is coated in ceramic tiles.	pcs	1 x		=	500,00 €		1 x		=	500,00 €		
4	Making of openings on one vertical side of the existing chimney to fit new prefabricated chimneys through the old, chimney cleaning, waste removal and fitting of terminal cap at the top of the old chimney through which new chimneys need to be pulled.	pcs	1 x	252,00 €	=	252,00 €		1 x	252,00 €	=	252,00 €		
5	Rinsing of the entire heating system in the school with the gym. Dismantling of all functional radiators (118 pieces) cleaning the exterior of the radiators and removal of residue from the bottom of ribs, cleaning air-release radiator valves, remounting of radiators and fitting of new radiator brackets.	pcs	1 x	3,780,00 €	=	3,780,00 €		1 x	3,780,00 €	=	3,780,00 €		
6	Repair of walls and ceilings at points of penetration of pipes of the old installation which are not being used for pulling through pipes of the new system.	lump-sum		250,00 €	=	250,00 €			250,00 €	=	250,00 €		
7	Dismantling of existing broken down panel radiators in the rooms next to gym (4 pieces), on the upper floor in toilets (2 pieces) and corridor (1 piece).	pcs	1 x	126,00 €	=	126,00 €		1 x	126,00 €	=	126,00 €		
TOTAL B.I - DISMANTLING OF EXISTING EQUIPMENT AND PRELIMINARY WORKS						7,806,00 €					7,806,00 €		
B.II Boiler room elements and fittings													

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27	Purchase and installation of PP-R water pipes for connecting equipment for chemical water treatment, for operating pressure of 10 bars with all required fittings. Pipes need to be fixed to walls with double pipe clips at every 1.5 to 2.0 m. Pipes on branching need to be insulated with "plamalleks" or equivalent material, to prevent condensation. Pipes are welded with butt welded joint. Pipe diameter is rated diameter of DN25.	m	8	x	11,34 €	=	90,72 €		8	x	11,34 €	=	90,72 €
28	Purchase and delivery of "brinoks" hose DN 20 with unions at ends, 5 m length, for filling and discharging the installation.	pcs	1	x	46,62 €	=	46,62 €		1	x	46,62 €	=	46,62 €
29	Pipe temperature sensor: * Metering range : -50... +130°C * Metering element: NTC thermistor * threaded connecting: R 1/2" * Nipple length: 200 mm	pcs	4	x	100,04 €	=	400,18 €		4	x	100,04 €	=	400,18 €
30	Axial fan for boiler room ventilation together with thermostat for fan engagement at escalated temperatures, "Sistemair AR 315 D4-2K" or equivalent. Amount of air at inlet up to 1500m³/h.	pcs	1	x	343,98 €	=	343,98 €		1	x	343,98 €	=	343,98 €
31	Electric calorifier capacity 9kW, power supply 400V, for maintaining minimal temperature in the boiler room and prevention of installation from freezing at low outdoor temperatures in the period when the heating system is not running, installation together with thermostat for activation.	pcs	1	x	526,68 €	=	526,68 €		1	x	526,68 €	=	526,68 €
32	Purchase of material and coating the pipes, feeder and collector, with insulation made of rock wool, thickness 50 mm, with AL sheeting thickness 0.5 mm, complete with installation kit. Fire-resistance class flammability A1 in line with SIST EN 13501-1 & JUS U.J1.050. Calculated per m2 of insulation measured on the external side of the pipe.	m²	15	x	36,54 €	=	548,10 €		15	x	36,54 €	=	548,10 €
TOTAL B.II - BOILER ROOM ELEMENTS AND FITTINGS							49.606,51 €						49.606,51 €
B.III Heating system reconstruction													
1	Purchase of material and installation of pipeline (distribution and air-release networks) using seamless steel pipes, in line with JUS C.B5.221 or DIN 2448, with following dimensions:												
	Ø114,3x3,6	m	8	x	32,51 €	=	260,06 €		8	x	32,51 €	=	260,06 €
	Ø88,9x3,2	m	45	x	24,85 €	=	1.118,34 €		45	x	24,85 €	=	1.118,34 €
	Ø76,1x2,9	m	8	x	20,41 €	=	163,30 €		8	x	20,41 €	=	163,30 €
	Ø48,3x2,6	m	20	x	12,48 €	=	249,60 €		20	x	12,48 €	=	249,60 €
	Ø42,4x2,6	m	50	x	10,72 €	=	535,80 €		50	x	10,72 €	=	535,80 €
	Ø26,9x2,3	m	65	x	7,74 €	=	503,10 €		65	x	7,74 €	=	503,10 €
	Ø21,3x2,0	m	200	x	7,06 €	=	1.411,20 €		200	x	7,06 €	=	1.411,20 €
	Ø17,2x1,8	m	25	x	6,05 €	=	151,20 €		25	x	6,05 €	=	151,20 €
2	Binding, hanging and joining material, elbows, branches and such are calculated as 60% of the previous pipe item. This item includes cleaning, prime coating and finishing layer of paint resistant to high temperatures. Calculated as 60% of the previous item		0,6	x	4.392,60 €	=	2.635,56 €		0,6	x	4.392,60 €	=	2.635,56 €
3	Purchase, delivery and installation of cold rolled steel panel radiators, with two lateral sides and upper grille panel, properties: Manufacturer: "Sanica" Turkey, type 22 or equivalent Connections: 4x1/2" female thread Test pressure 13 bar Maximal operating temperature: 110°C Radiator dimensions and thermal output at mode 90/70/20°C 600/600/106mm, 1351W	pcs	6	x	65,52 €	=	393,12 €		6	x	65,52 €	=	393,12 €
	800/600/106mm, 1802W	pcs	4	x	76,24 €	=	304,94 €		4	x	76,24 €	=	304,94 €
	1000/600/106mm, 2252W	pcs	3	x	86,69 €	=	260,06 €		3	x	86,69 €	=	260,06 €
	1200/600/106mm, 2702W	pcs	7	x	97,66 €	=	683,59 €		7	x	97,66 €	=	683,59 €
	1400/600/106mm, 3153W	pcs	1	x	121,34 €	=	121,34 €		1	x	121,34 €	=	121,34 €
4	Purchase, delivery and installation of thermostatic radiator valve connection size 1/2"	pcs	140	x	15,28 €	=	2.138,64 €		140	x	15,28 €	=	2.138,64 €
5	Purchase, delivery and installation of thermostatic head for installation in buildings that accommodate many people, with flexural strength of the thermostatic head min. 1000 N (anti-theft). Continuous setting of temperature is done using special key without having to remove protective cap. The thermostat has liquid sensor. Temperature range from 8 °C to 26 °C												

C ADDITIONAL WORKS											
1	Delivery and installation of non combustible insulation jacket with vapor barrier resistant to cutting complete with the material for connection, insulation thickness 57mm. Producer Kaiman type Kaiflex. Design and installation of linings for Kaiman insulation made of Al sheet thickness of 0.7mm for pipelines at points of entry through the walls of the school building. Silicon processing all constituent compounds to prevent water penetration. The position should include the dismantling of existing insulation from pipeline. Dismantling 10e, material 266.36e, transport 25e, installation 85e, profit 10%	pcs	4	4	x	414,00 €	=	1.656,00 €			OFV 17, approved by Client on 31/10/2014.
2	Excision of part of radiator heating pipeline installation and refit the radiator connection on the ground floor- connection to the bathroom. Dismantling 55e, modification of old pipelines 100e, new pipelines for radiator in the bathroom 40e, profit 10%	pcs	4	1	x	214,50 €	=	214,50 €			OFV 17, approved by Client on 31/10/2014.
3	Design and installation of protective metal boxes for regulating balancing valves- material 35e, assembling 20e, transport and installation 30e	pcs		6	x	95,00 €	=	570,00 €			OFV 17, approved by Client on 31/10/2014.
4	Corrosion protection and painting with epoxy coating resistant to the influence of salt, existing ventilation tower on the roof – gym with previous cleaning and preparing the surface for painting- material 35e, transport, protection and painting 40e	pcs	4	4	x	75,00 €	=	300,00 €			OFV 17, approved by Client on 31/10/2014.
5	Dismantling of the existing pipe distribution made of seamless steel pipes, dimensions: DN100 for heating the gym. The pipes are laid in underground concrete channel under the earth. Work and equipment 4.8e	m1	5	90,00	x	4,80 €	=	432,00 €			OFV 62, approved by Client on 24/12/2014.
6	Delivery and installation of seamless steel pipes, of the quality 1.1212 in accordance with the standard JUS C.B5.221 (DIN 2448), of the following dimensions: - Ø88,9x3,2 – (DN80) work and material 23.66e	m1	5	150,00	x	23,66 €	=	3.549,00 €			OFV 62, approved by Client on 24/12/2014.
7	For connecting, fastening and sealing material, elbows, branches, etc. 60% of previous position of the pipe is taken. This position involves cleaning, painting with protective colour and painting with final colour resistant to high temperatures. 60% from the previous position is paid.		5	0,60	x	3.549,00 €	=	2.129,40 €			OFV 62, approved by Client on 24/12/2014.
8	Supply of material and making the pipe insulation by mineral wool, thickness: 50mm, the plating of aluminum sheet, thickness: 0.7 mm, complete with material for installation. Fire class A1 according to the standard EN 13501-1 and JUS U.J1.050. Payment will be done per m2 of insulation measured from the outside of the pipe. Silicon processing of all connections to prevent water penetration. Work and material 34.9e	m2	5	58,00	x	34,90 €	=	2.024,20 €			OFV 62, approved by Client on 24/12/2014.
9	Delivery and installation of the ball valves for water for discharging the pipeline, of the dimensions R3 / 4 "- work and material 10e	piece	5	2,00	x	10,00 €	=	20,00 €			OFV 62, approved by Client on 24/12/2014.
10	Delivery and installation of isolating butterfly valves for water NO80NP16, complete with counter and steel flanges- work and material 88.6e	piece	5	4,00	x	88,60 €	=	354,40 €			OFV 62, approved by Client on 24/12/2014.
11	Preliminary and final installation works, testing the installation on the firmness and tightness	lumpsum	5	1,00	x	650,00 €	=	650,00 €			OFV 62, approved by Client on 24/12/2014.
12	Dismantling of existing concrete pavement 4m2, excavation of soil, removal of concrete channel covers to enable examination of existing pipeline	lumpsum	5	1,00	x	280,00 €	=	280,00 €			OFV 62, approved by Client on 24/12/2014.
13	Excavation of the soil, dismantling of concrete channel covers, cleaning of the channel, loading debris and transport to the town landfill and reinstallation of concrete covers and soil after installation of new pipeline. Work and material and transport 27.8e	m1	5	45,00	x	27,80 €	=	1.251,00 €			OFV 62, approved by Client on 24/12/2014.
14	Purchase of the material and installation of new reinforced concrete 4m2 pavement in front of the gym after installation of new pipeline for calorifers	lumpsum	5	1,00	x	150,00 €	=	150,00 €			OFV 62, approved by Client on 24/12/2014.
SUMMARY OF COSTS C											
TOTAL PRICE, VAT EXCLUDED:											13.580,50 €
VAT (19%):											2.580,30 €
C	TOTAL PRICE (WITHOUT DISCOUNT), VAT INCLUDED:										16.160,80 €
SUMMARY OF COSTS A-C											
A-C	TOTAL PRICE, VAT INCLUDED:										130.577,50 €

GROUP A5.4.3 TABLE OF QUANTITIES of electrical services for energy efficiency improvement in "Maršal Tito" Primary School in Ulcinj		Investor:		Ministry of Economy of Montenegro, Energy Efficiency Sector				AMENDMENT 1		COMMENTS									
		Project financed by:		KIW ENTWICKLUNGSBANK															
No.		Item Description		Unit of measure		CONTRACT				AMENDMENT 1									
						Quantity		Unit price (€)		Amount (€)		VO		Quantity		Unit price (€)		Amount (€)	
1	LIGHTING INSTALLATION																		
1.1.	Delivery and laying of cables in wall installations with repairing of damaged walls and ceilings, covering and bringing it back in previous conditions for electrical connection of light fitting above school boards. Cables should be laid in the walls and ceilings beneath the plaster, or above the suspended ceiling. Connection point is from nearest existing junction box. Commands are from existing switch in the classroom. One cable replacement is foreseen in every classroom. Average cable length per one outgoing connection spot is:																	Only sanitary rooms, ordered by Client in communication 01/08/2014.	
	PP-Y 3x1,5 mm2	m	4						3	4									
	Works and material	pcs	60	x	17,28	=	1036,80		3	15	x	17,28	=	259,20					
1.2.	Delivery and laying of cables in wall installations for emergency lights fittings, with repair of damaged walls and ceilings, covering and bringing it back in previous conditions. Connection point is from nearest existing switchbox. Average cable length per one outgoing connection spot is:																Excluded by Client (communication 01/08/2014)		
	PP-Y 3x1,5 mm2	m	12						3	0									
	Works and material	pcs	44	x	51,84	=	2280,96		3	0	x	51,84	=	0					
1.3.	Dismantling of existing luminaires. Works are calculated per unit.																Only sanitary rooms, ordered by Client in communication 01/08/2014.		
		pcs	512	x	4,32	=	2211,84		3	20	x	4,32	=	86,40					
1.4.	Delivery and mounting of ceiling mounted luminaires 1/54W (or 2x28 W) T16 F840 [STD] T16 x 1/54W (or 2x28W), with electronic high frequency ballast, completely equipped with mounting gear and light source 840; Norms 12464 for DSE for working stations. Works and material are calculated per unit.																Excluded by Client (communication 01/08/2014)		
	Spare bulbs for this type of the luminaire	pc	30	x	6,62	=	198,72		3	0	x	6,62	=	0					
1.5.	Delivery and mounting of ceiling mounted luminaires 1/80W T16 F840, with asymmetrical light distribution for school boards lighting, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material are calculated per unit.																Excluded by Client (communication 01/08/2014)		
	Spare bulbs for this type of the luminaire	pc	30	x	8,06	=	241,92		3	0	x	8,06	=	0					
1.6.	Delivery and mounting of ceiling mounted luminaires 1/28 W T16 IP50, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material are calculated per unit.																Excluded by Client (communication 01/08/2014)		
	Spare bulbs for this type of the luminaire	pc	13	x	6,62	=	86,11		3	0	x	6,62	=	0					
1.7.	Delivery and mounting of ceiling mounted luminaires 1/28 W T16 IP50, opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material are calculated per unit.																Excluded by Client (communication 01/08/2014)		
	Spare bulbs for this type of the luminaire	pc	2	x	6,62	=	13,25		3	0	x	6,62	=	0					
1.8.	Delivery and mounting of ceiling mounted light fitting 1/28 W T16 IP54, opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material are calculated per unit.																OFV 09, approved by Client on 23/09/2014 (following Client's communication 01/08/2014).		
	Spare bulbs for this type of the luminaire	pc	3	x	6,62	=	19,87		3	0	x	6,62	=	0					
1.9.	Delivery and mounting of ceiling mounted luminaires 2/18 W TC-L IP50, with opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material are calculated per unit.																Excluded by Client (communication 01/08/2014)		
	Spare bulbs for this type of the luminaire	pc	1	x	6,77	=	6,77		3	0	x	6,77	=	0					
1.10.	Delivery and mounting of ceiling mounted luminaires 2/18 W TC-L IP54, with opaline protector, with electronic high frequency ballast, completely equipped with mounting gear and light source 840. Works and material are calculated per unit.																OFV 09, approved by Client on 23/09/2014 (following Client's communication 01/08/2014).		
	Spare bulbs for this type of the luminaire	pc	4	x	6,77	=	27,07		3	0	x	6,77	=	0					
1.11.	Delivery and mounting of ceiling mounted luminaires 2/35 W T16, with IP65 protection, completely equipped with light source, electrical pre-assembly device, electronic high frequency ballast dark light diffuser and mounting gear. Works and material, with bulb included, are calculated per unit.																OFV 09, approved by Client on 23/09/2014 (following Client's communication 01/08/2014).		
	Spare bulbs for this type of the luminaire	pc	2	x	6,77	=	13,54		3	0	x	6,77	=	0					
1.12.	Delivery and mounting of ceiling mounted emergency luminaires, with electronic control gear 8W, 1h, completely equipped with mounting gear and light source. Works and material are calculated per unit.																Excluded by Client (communication 01/08/2014)		
	Spare bulbs for this type of the luminaire	pc	4	x	2,88	=	11,52		3	0	x	2,88	=	0					
1.13.	Delivery and installation of simple switches 10A, 230V instead of existing broken switches. Total for the supply and installation of:																		
		pcs	10	x	7,20	=	72,00		10	x	7,20	=	72,00						

1.14.	Delivery and installation of single phase sockets 16A, 230V, 2P + E instead of existing broken switches. Total for the supply and installation of:	pcs	10	x	10,08	=	100,80		10	x	10,08	=	100,80	
TOTAL FOR LIGHTING INSTALLATION							82540,37						518,40	
2 POWER SUPPLY AND ELECTRICAL INSTALLATION FOR BOILER ROOM AND HVAC SERVICES														
2.1.	Delivery and mounting of deep galvanized cable trays according to the installation layouts. Works include delivery, mounting of all necessary materials for connection and mounting. The unit measure is m for the cable tray 100 mm.													
	PNK 100 mm	m	26	x	17,28	=	449,28		26	x	17,28	=	449,28	
2.2.	Delivery and laying of cables in wall installations with PVC rigid installation pipes and galvanized cable trays in boiler room, for construction of the electrical circuits of electrical consumers in the boiler room through cable trays and partly through rigid PVC pipes in wall installation. Works and material are calculated per average measure unit.													
	PP-Y 3x1,5 mm2	m	30	x	2,74	=	82,08		30	x	2,74	=	82,08	
	PP-Y 3x2,5 mm2	m	174	x	3,46	=	601,34		174	x	3,46	=	601,34	
	PP00 3x2,5 mm2	m	36	x	3,46	=	124,42		36	x	3,46	=	124,42	
	PP-Y 5x2,5 mm2	m	35	x	3,89	=	136,08		35	x	3,89	=	136,08	
	PP-Y 5x4 mm2	m	12	x	5,18	=	62,21		12	x	5,18	=	62,21	
	OUTLET THREE PHASE 3P+N+PE 16A/400V IP55	pcs	2	x	11,52	=	23,04		2	x	11,52	=	23,04	
	OUTLET 2P+E / 230V/ IP 55	pcs	6	x	10,08	=	60,48		6	x	10,08	=	60,48	
	Two-way switch IP55 10A	pcs	1	x	7,20	=	7,20		1	x	7,20	=	7,20	
2.3.	Delivery and mounting of prefabricated wall mounted IP 54 switchbox in boiler room "RT Ko", dimensions 600x600x250 mm, completely equipped with following parts:													See OFV 11, approved by Client on 23/09/2014.
	Disconnecter switch INS 1-0, 40A, 3P	pcs	1					3	0					
	Motor protection switch GV2ME, 1,6-2,5A	pcs	1					3	0					
	Motor protection switch GV2ME, 2,5-4A	pcs	1					3	0					
	automatic switch 3p,C60N-C/20A	pcs	1					3	0					
	automatic switch 3p,C60N-C/16A	pcs	3					3	0					
	automatic switch 1p,C60N-C/16A	pcs	9					3	0					
	automatic switch 1p,C60N-C/10A	pcs	3					3	0					
	The price includes all material required for installation of this equipment.													
	TOTAL SWITCH BOX "RT Ko"	pcs	1	x	550,08	=	550,08		3	0	x	550,08	=	0
2.4.	Delivery and laying of cables in wall installations through PVC rigid installation pipes and galvanized cable trays, partly above the suspended ceiling in boiler room for construction of the electrical circuits of electrical pumps in the boiler room and combined water heater. Power cord is taken from the existing main electrical cabinet RT-S through existing cable trays and partly through rigid PVC pipes in wall installation. Works and material are calculated per average measure unit.													
	PP00 5x6 mm2	m	23	x	6,19	=	142,42		23	x	6,19	=	142,42	
	PP00 3x2,5 mm2	m	23	x	3,46	=	79,49		23	x	3,46	=	79,49	
2.5.	Delivery and mounting following parts in existing switchbox RO-S:													
	automatic switch 1p C60N-C/25A	pcs	3						3					
	automatic switch 1p C60N-C/16A	pcs	1						1					
	The price includes all material required for installation of this equipment.													
	TOTAL SWITCH BOX "RO-S"	pcs	1	x	34,56	=	34,56		1	x	34,56	=	34,56	
TOTAL FOR POWER SUPPLY AND ELECTRICAL INSTALLATION FOR BOILER ROOM AND HVAC SERVICES							2352,67						1802,59	
3. POTENTIAL EQUALIZATION INSTALLATION														
3.1.	Delivery and mounting of deep galvanized tape Fe-Zn 20x3 mm for potential equalization in boiler room, according to the installation layouts. Tape is mounted on tape carriers type C.L. JUS N.B4.925-P. Works and material are calculated per measure unit.	m	28	x	2,59	=	72,58		28	x	2,59	=	72,58	
3.2.	Delivery and mounting of tape carriers type C.L. JUS N.B4.925-P. Works and material are calculated per measure unit.	m	26	x	5,04	=	131,04		26	x	5,04	=	131,04	
3.3.	Delivery and mounting of tape junction elements type JUS N.B4. 936 for connection between tapes. Works and material are calculated per measure unit.	m	4	x	5,04	=	20,16		4	x	5,04	=	20,16	
3.4.	Delivery and laying of cables P/F 1x16 mm2 in wall installations with PVC installation pipes and galvanized cable trays in boiler room for connecting all metal conductive parts with potential equalization bus bar. Works and material are calculated per measure unit.	m	24	x	2,88	=	69,12		24	x	2,88	=	69,12	
TOTAL FOR POTENTIAL EQUALIZATION INSTALLATION							292,90						292,90	
4 LIGHTNING AND GROUNDING INSTALLATION														
4.1.	Dismantling of existing lightning protection system.	lump sum	1,00		216,00	=	216,00		1,00		216,00	=	216,00	
4.2.	Delivery and mounting of deep galvanized tape Fe-Zn 20x3mm for connecting grounding system with lightning installation system on the roof - according to technical report, recommendation and technical demands. Works and material are calculated per measure unit.	m	280	x	2,59	=	725,76		280	x	2,59	=	725,76	

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5	Mounting and delivery of galvanized tape Fe/Zn 25x4 mm for connection of metal gutter with grounding of school building. Work and material included. Price B.J BoQ EI 2.6- 2.59e/m	m	4	610,00	x	2,59	€ =	1.579,90	OFV 38, approved by Client on 31/10/2014.	
6	Delivery and mounting of junction parts for grounding tape JUS N.B4. 936.Works and materials included: Price B.J BoQ EI 2.3- 5.04e	piece	4	50,00	x	5,04	€ =	252,00	OFV 38, approved by Client on 31/10/2014.	
7	Delivery and mounting of clip for metal gutters for connection galvanized tape Fe/Zn 25x4 mm . Material 10e, installation 2e	kom	4	41,00	x	12,00	€ =	492,00	OFV 38, approved by Client on 31/10/2014.	
8	Cutting and breaking in concrete surface for making canal for laying galvanized tape Fe/Zn 25x4mm.Repairing of damaged concrete surface and bringing back in previous condition. Material and work 5.1e	m	4	250,00	x	5,10	€ =	1.275,00	OFV 38, approved by Client on 31/10/2014.	
9	Making the trench in the ground dimensions 0.15x0.5m for laying galvanized strip Fe/Zn 25x4mm.Plot of ground is the average of the third and fourth categories.. The item includes backfilling the trench. Total for work, calculated at m trench route: 3.6e	m	4	500,00	x	3,60	€ =	1.800,00	OFV 38, approved by Client on 31/10/2014.	
10	Delivery and laying of cables PP-Y 3x1,5mm2 from position of thermostat to position in the Gym cabinet.Works and material included per unit: Price Mileva Lajovic Lalatovic EI BoQ 2- 2.1. 2.74e	m1	5	150,00	x	2,74	€ =	411,00	OFV 50, approved by Client on 28/11/2014.	
11	Delivery and laying of cables PP-Y 3x2,5mm2 for calorifier supply in the Gym.Works and material included per unit: Price Mileva Lajovic Lalatovic EI BoQ 2-2.1. 3.46e	m1	5	200,00	x	3,46	€ =	692,00	OFV 50, approved by Client on 28/11/2014.	
12	Delivery and mounting PVC extinguishing tube 16/13.5 Univolt. Works and material included per unit: supply of the material 1.23e, installation 0.5e	m1	5	80,00	x	1,73	€ =	138,40	OFV 50, approved by Client on 28/11/2014.	
13	Delivery and mounting surface-mounted terminal box on position in the Gym cabinet. Works and material included per unit: supply of the material 10e, installation 2e	piece	5	5,00	x	12,00	€ =	60,00	OFV 50, approved by Client on 28/11/2014.	
14	Delivery and mounting elements in existing switchbox: automatic switch 1p C60H 10A 10 kA Works, material and small kit to be included per unit: supply of the material 6e, installation 2e	piece	5	4,00	x	8,00	€ =	32,00	OFV 50, approved by Client on 28/11/2014.	
15	Delivery and mounting of deep galvanized tape Fe-Zn 20x3mm for connecting grounding system with lightening installation system on the roof - according to technical report, recommendation and technical demands. Works and material are calculated per measure unit. M.T EI BoQ 4.2- 2.59e	m	5	224,00	x	2,59	€ =	580,16	OFV 51, approved by Client on 28/11/2014.	
16	Delivery and mounting of tape junction elements type JUS N.B4. 936 for connection between tapes. Works and material are calculated per measure unit. M.T EI BoQ 4.3- 5.04e	kom	5	218,00	x	5,04	€ =	1.098,72	OFV 51, approved by Client on 28/11/2014.	
17	Delivery and mounting of tape carriers type on every 1m. Works and material are calculated per measure unit. P-S-K M.T EI BoQ 4.4- 5.04e C.L. JUS N.B4.925-P D.P EI BoQ 4.4- 5.e	kom kom	5 5	545,00 40,00	x	5,04 5,00	€ =	2.746,80 200,00	OFV 51, approved by Client on 28/11/2014.	
18	Delivery and mounting of ceiling mounted luminaries 1/28 W T16 IP50, opaline protector, with electronic high frequency	pcs	5	6,00	x	34,50	€ =	207,00	OFV 59, approved by Client on 28/11/2014.	
SUMMARY OF COSTS 6										
TOTAL PRICE, VAT EXCLUDED:								14.131,81	€	
VAT (19%):								2.685,04	€	
6	TOTAL PRICE (WITHOUT DISCOUNT), VAT INCLUDED:								16.816,85	€
SUMMARY OF COSTS 1-6										
1-6	TOTAL PRICE, VAT INCLUDED:								24.538,57	€

No.		Item Description	Unit of measure	CONTRACT			AMENDMENT 1			COMMENTS			
				Quantity	Unit price (€)	Amount (€)	Quantity	Unit price (€)	Amount (€)				
GROUP A5.4.4		Investor:	Ministry of Economy of Montenegro, Energy Efficiency Sector										
		Project financed by:	KfW ENTWICKLUNGSBANK										
		Consultant; Konsultant:	FICHTNER GmbH&Co. KG										
		Sub-Consult; Lokalni projekt:	KOPRING PMC, Podgorica										
		School; Objekat:	P.S "Maršal Tito", Ulcinj										
		Doc. origin; Dokumentacija:	Final Design of Sanitary (Water Supply and Sewage) Services										
		Date:	05 February 2014										
I WORKS ON REMOVAL OF SANITARY EQUIPMENT, WATER SUPPLY AND SEWAGE DISTRIBUTION LINES													
1		Removal of existing water supply installations made of zinc-plated steel pipes within the wall, with belonging elements (valves, fittings etc.). Wall chase cutting, removal, carrying, truck loading, transport and disposal to the waist depot are included within the price.											
		Calculation as per m'	m'	120,00	x	7,00 €	=	840,00 €	120,00	x	7,00 €	=	840,00 €
2		Removal of existing sewage installations, with belonging elements (fittings, etc.). Concrete floor smashing, excavation, removal, truck loading, transport and disposal to the waist depot are included within the price.											
		Calculation as per m'	m'	100,00	x	7,00 €	=	700,00 €	100,00	x	7,00 €	=	700,00 €
		TOTAL REMOVAL WORKS						1.540,00				1.540,00	
II WATER-SUPPLY INDOOR INSTALLATIONS													
1		Purchase and installation of water supply PP-R pipes for operating pressure of 10,00 bars, together with all required fittings. Pipes must be anchored to the wall by saddles and covered by flexible thermal insulation to prevent condensation. Hot water pipeline has to be thermally insulated on order to prevent heat losses. Pipe joints should be butt welded all in accordance with pipe manufacturer's recommendations. Installed pipes should be tested at 12 bars pressure. Pipe diameter enclosed within item is nominal pipe diameter "DN". All chase cuttings, hole perforations and restoration to the original state, should be incalculated within the works performance price.											
		Calculation as per m' of installed pipe											
		dØ20mm(DN15)	pieces	69,00	x	3,50 €	=	241,50 €	69,00	x	3,50 €	=	241,50 €
		dØ25mm(DN20)	pieces	35,00	x	4,50 €	=	157,50 €	35,00	x	4,50 €	=	157,50 €
		dØ32mm(DN25)	pieces	16,00	x	5,60 €	=	89,60 €	16,00	x	5,60 €	=	89,60 €
2		Purchase and installation of straight stop valves. The valves should be consisted of chrome plated cap and installed on each outflow point at the separate distribution line branches within sanitary facilities according to the design.											
		Calculation as per installed piece											
		dØ20mm(DN15)	pieces	58,00	x	12,00 €	=	696,00 €	58,00	x	12,00 €	=	696,00 €
		dØ25mm(DN20)	pieces	3,00	x	14,00 €	=	42,00 €	3,00	x	14,00 €	=	42,00 €
		dØ32mm(DN25)	pieces	2,00	x	18,00 €	=	36,00 €	2,00	x	18,00 €	=	36,00 €
3		Purchase and installation of "EK" valves dØ20mm (DN15). The valves should be installed at each outflow point, except the shower, both at hot and cold water distributions.											
		Calculation as per installed piece											
		dØ20mm(DN15)	pieces	31,00	x	12,00 €	=	372,00 €	31,00	x	12,00 €	=	372,00 €
4		Purchase and installation of straight stop valve, of 1/2" diameter, with wheel handle. Calculation as per piece of valve.											
		1/2" diameter	pieces	2,00	x	8,00 €	=	16,00 €	2,00	x	8,00 €	=	16,00 €
5		Complete water supply installations test at test pressure of 12 bars. Upon completed test the Report should be made. The Report should be signed by Contractor and Supervisor. Complete material and equipment are included within the price.											
		Calculation as per m of tested pipeline	m	120,00	x	2,00 €	=	240,00 €	120,00	x	2,00 €	=	240,00 €
6		Disinfection of complete water supply installations. The following actions should be done: Chlorination, chemical and bacteriological tests of water from installations. Complete material, equipment and prescribed analyses are included within the price. Disinfection works should be done by certified organization.											
		Calculation as per m of disinfected pipeline	m	120,00	x	3,50 €	=	420,00 €	120,00	x	3,50 €	=	420,00 €
7		Various unpredictable works resulted after revealing of existing installations and adaptation of connection way between new and existing installations.	lump sum	1,00	x	150,00 €	=	150,00 €	1,00	x	150,00 €	=	150,00 €
		TOTAL WATER-SUPPLY INDOOR INSTALLATIONS						2.460,60 €				2.460,60 €	
III SANITARY SEWAGE INDOOR INSTALLATIONS													

MNE EEPB - Cluster II

2.2 Price Schedule - Grand Summary		
No.	Description	Total Price per
		CONTRACT
	Educational Building 1	
A.5.1	Student Dormitory "Spasić-Mašera", Kotor	678.899,90
	Educational Building 2	
A.5.2	Primary School "Dašo Pavičić", Herceg Novi	855.122,92
	Educational Building 3	
A.5.3	Secondary School "Bratstvo i Jedinstvo", Ulcinj	455.011,20
	Educational Building 5	
A.5.4	Primary School "Maršal Tito", Ulcinj	821.561,02
	Grand Total for All Schools (Total Contract Price)	2.810.595,04

MNE EEPPB - Cluster II

Building [EUR]
FINAL
597.388,53
848.620,02
341.158,79
707.521,39
2.494.688,73

MNE EEPB - Cluster II

2.3 Price Schedule - Group Prices			
No.	Description	Total Price per Works [EUR]	
		CONTRACT	FINAL
A.5.1	Educational Building 1: Student dormitory "Spasić Mašera", Kotor	678.899,90	597.388,53
A.5.1.1	Building and trade works	355.085,12	346.520,34
A.5.1.2	Thermo-technical (heating) services	238.676,25	240.978,58
A.5.1.3	Electrical services	74.695,58	9.889,60
A.5.1.4	Sanitary (Water Supply and Sewage) services	10.442,95	
		.	.
A.5.2	Educational Building 2: Primary School "Dašo Pavičić", Herceg Novi	855.122,92	848.620,02
A.5.2.1	Building and trade works	677.965,09	650.326,64
A.5.2.2	Thermo-technical (heating) services	82.689,81	81.193,94
A.5.2.3	Electrical services	94.468,02	117.099,43
A.5.3	Educational Building 3: Secondary School "Bratstvo i jedinstvo", Ulcinj	455.011,20	341.158,79
A.5.3.1	Building and trade works	351.996,76	312.720,81
A.5.3.2	Thermo-technical (heating) services	5.177,73	6.913,94
A.5.3.3	Electrical services	86.309,32	9.996,65
A.5.3.4	Sanitary (Water Supply and Sewage) services	11.527,39	11.527,39
A.5.4	Educational Building 4: Primary School "Maršal Tito", Ulcinj	821.561,02	707.521,39
A.5.4.1	Building and trade works	580.132,69	532.427,98
A.5.4.2	Thermo-technical (heating) services	118.416,35	130.577,50
A.5.4.3	Electrical services	103.034,63	24.538,57
A.5.4.4	Sanitary (Water Supply and Sewage) services	19.977,35	19.977,35

Zapisnik sa XV sjednice Koordinacionog odbora

Projekat: Program energetske efikasnosti u javnim zgradama u Crnoj Gori (EEPPB)

Predmet: XV sjednica Koordinacionog odbora za realizaciju "Programa energetske efikasnosti u javnim zgradama u Crnoj Gori"

Datum: Četvrtak, 18.09.2014.god

Učesnici: **Ministarstvo ekonomije:**
Dragica Sekulić, Predsjednik Koordinacionog odbora
Žana Radulović, član Koordinacionog odbora
Ministarstvo prosvjete:
Vesna Krivokapić, član Koordinacionog odbora
Ministarstvo finansija:
Dragan Darmanović, član Koordinacionog odbora
Jedinica za implementaciju projekta/ PMU:
Sandra Šipčić
KfW:
Milica Knežević

XV sjednica Koordinacionog odbora za realizaciju "Programa energetske efikasnosti u javnim zgradama u Crnoj Gori" održana je 18.09.2014.godine sa sledećim dnevnim redom:

1. Informacija o izjašnjavanju članova Koordinacionog odbora, elektronskim putem, u vezi radova koji su obuhvaćeni ugovorom za klaster I i II, a od čijeg se izvođenja odustaje, radi smanjenja ukupnih troškova
2. Razmatranje i odobravanje ponuda za izmjene, (naknadne i nepredviđene radove i radove po zahtjevu uprave škola) za objekte iz klastera I i II

1. Informacija o izjašnjavanju članova Koordinacionog odbora, elektronskim putem, u vezi radova koji su obuhvaćeni ugovorom za klaster I i II, a od čijeg se izvođenja odustaje, radi smanjenja ukupnih troškova

Na XIII i XIV sjednici Koordinacionog odbora dogovoreno je da se napravi predlog radova koji će biti isključeni iz ugovora kako bi se umanjila ukupna vrijednost ugovorenih radova, a samim tim sačuvala sredstva za izvođenje radova na objektima iz klastera III i IV.

Predlog radova koji će biti izuzeti iz ugovora i neće se izvoditi dostavljen je elektronskim putem, 25.07.2014.godine, članovima Koordinacionog odbora na usvajanje. Članovi koordinacionog odbora su prihvatili dostavljeni predlog. Dokument koji je dostavljen na usvajanje je dat u aneksu 1.

O ovoj odluci Koordinacionog odbora obavješteni su i Konsultant i Izvođač radova.

2. Razmatranje i odobravanje ponuda za naknadne, nepredviđene radove i izmjene za objekte iz klastera I i II

Konsultant je 12.09.2014.godine i 17.09.2014.godine dostavio zahtjev za usvajanje ponuda za izmjene, koje obuhvataju naknadne i nepredviđene radove i ponude za radove u skladu sa zahtjevima direktora škola.

Sve ponude su prethodno provjerene od strane Konsultanta i sa tehničkog i finansijskog aspekta, nakon čega su dostavljene Koordinacionom odboru na usvajanje.

Procedura za izmjene je definisana Opštim i Posebnim uslovima ugovora u poglavlju 13 (Variations) .

Dopis Konsultanta sa predlogom za usvajanje ponuda je dostavljen u aneksu br.2.

Pregled dostavljenih ponuda, sa komentarima, je dat u aneksu br.3.

ZAKLJUČAK

1. Koordinacioni odbor je razmotrio dostavljene ponude i donio sledeće zaključke:

-Klaster I, O.Š. "Braća Ribar" Nikšić, ponuda za izmjene br.1: za pozicije u ponudi br. 3 i 4 (postavljanje zaštitne mreže na prozorima fiskulturne sale) traženo je dodatno obrazloženje se od Konsultanta o neophodnosti montaže. Konsultant je dostavio traženo obrazloženje, u odnosu na koje će se Koordinacioni odbor izjasniti na narednoj sjednici.

-Klaster I, O.Š. "Milija Nikčević" Nikšić, ponuda za izmjene br.12 (postavljanje reflektora na fasadi škole) nije usvojena.

-Klaster II O.Š. "Dašo Pavičić" Herceg Novi, ponuda za izmjene br. 5: pozicije 5 i 6 (postavljanje zaštitne rešetke na prozorima prema igralištu) traženo je dodatno obrazloženje od Konsultanta o neophodnosti izvođenja navedenih radova. Konsultant je dostavio traženo obrazloženje, u odnosu na koje će se Koordinacioni odbor izjasniti na narednoj sjednici.

-Klaster II S.M.Š. "Bratstvo i jedinstvo" Ulcinj, ponuda za izmjene br. 7, pozicija 4, od Konsultanta je traženo dodatno obrazloženje, koje je dostavljeno u petak 19.09.2014 (dato u aneksu br.4). Koordinacioni odbor je nakon dostavljanja traženog obrazloženja, prihvatio ponudu za navedene pozicije.

Ostale ponude su usvojene od strane Koordinacionog odbora.

Koordinacioni odbor je predložio Jedinici za implementaciju ugovora, da zatraži od Konsultanta da do kraja mjeseca dostavi finansijski pregled, kojim će biti obuhvaćeni do sada izvedeni radovi, zatim preostali radovi, sva umanjenja vezana za radove koji se neće izvoditi, kao i sva uvećanja po osnovu usvojenih ponuda.

Zapisnik usvojen od strane:



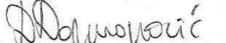
Dragica Sekulić, predsjednik



Žana Radulović, član



Vesna Krivokapić, član



Dragan Darmanović, član

Aneksi

Aneks 1 – Predlog radova koji su obuhvaćeni ugovorima za klaster I i II, od čijeg se izvođenja odustaje

Aneks 2 – Dopisi Konsultanta sa predlogom za usvajanje ponuda za izmjene za klaster I i II

Aneks 3 – Pregled ponuda za izmjene sa Komentarima Koordinacionog odbora

Aneks 4 – Obrazloženje Konsultanta vezano za ponudu br 1., klaster I (pozicije 3. i 4.) i ponude za klaster II, br. 5. (pozicije 5. i 6.) i br.7. (pozicija 4.)

Zapisnik pripremila: Sandra Šipčić

A	O.Š." Mileva Lajović Lalatović" Nikšić	radovi obuhvaćeni ponudom JV Roaming	radovi koji će se izvoditi u okviru ugovora
1	Gradjevinsko-zanatski radovi		
1.1.	Termoizolacija fasade	62.892,97	62.892,97
1.2.	Zamjena fasadne bravarije	277.140,29	277.140,29
1.3.	Radovi koji proizilaze iz primjena mjera EE	32.059,03	32.059,03
1.4.	Mjere za poboljšanje komfora	105.537,90	52.767,31
	Kotlarnica (pod, dio fasade)	1.010,06	1.010,06
	Moleraj	51.757,25	51.757,25
	Opravka unutrašnjih vrata	27.249,48	
	Opravka spuštenih plafona	15.571,58	
	Zaštita od sunca	2.845,29	
	Oblaganje metalnih stubova u fiskulturnoj sali	987,39	
	Opravka podova	5.599,35	
	Sadnja drveća	517,50	
1.5.	Rezervni djelovi	126,79	126,79
	Ukupno gradj-zanatski radovi	477.756,98	424.986,39

2	Termotehničke instalacije		
2.1.	Energetski menadžment	6.276,60	6.276,60
2.2.	Zamjena sistema grijanja	161.831,68	161.831,68
2.2.1.	Demontaža postojeće opreme i pripremni radovi	7.166,00	7.166,00
2.2.2.	Kotlarnica	149.795,68	149.795,68
2.2.3.	Pripremni i završni radovi	4.870,00	4.870,00
	Ukupno termotehničke inst	168.108,28	168.108,28

3	Elektroinstalacije		
3.1.	Instalacija rasvjete	82.882,66	82.882,66
3.2.	Napojni kabal i unutrašnje instalacije u kotlarnici i napajanje termoteh	1.313,57	1.313,57
3.3.	Izjednačenje potencijala	255,01	255,01
3.4.	Gromobranska instalacija	1.293,70	1.293,70
	Ispitivanje i projekat održavanja	936,00	936,00
	Ukupno elektroinstalacije	86.680,94	86.680,94

	Ukupno O.Š."M.L.Lalatović" Nikšić	732.546,20	679.775,61
	Popust 3%	710.569,81	659.382,34
	PDV 19%	135.008,26	125.282,64
A	Ukupno sa PDV-om O.Š."M.L.L" Nikšić	845.578,08	784.664,99

B	O.Š."Jagoš Kontić" Nikšić	radovi obuhvaćeni ponudom	
1	Gradjevinsko-zanatski radovi		
	Škola		
1.1.	Termoizolacija fasade	112.102,09	112.102,09
1.2.	Termo i hidro izolacija krova	85.028,10	85.028,10
1.3.	Zamjena fasadne bravarije	108.570,76	108.570,76
	Fiskulturna sala		
1.4.	Termoizolacija fasade	27.229,96	27.229,96
1.5.	Termo i hidro izolacija krova	35.880,09	35.880,09
1.6.	Zamjena fasadne bravarije	32.784,26	32.784,26
1.7.	Radovi koji proizilaze iz primjena mjera EE	929,17	929,17
1.8.	Mjere za poboljšanje komfora	45.113,73	124,20
	Poklopac na šahtu	124,20	124,20
	Zamjena/opravka unutrašnjih vrata	4.635,14	
	Moleraj	33.413,53	
	Sadnja drveća	2.328,75	
	Zaštita od sunca	4.612,11	
1.9.	Rezervni djelovi	128,63	128,63
	Ukupno gradj-zanatski radovi	447.766,79	402.777,26

2	Termotehničke instalacije		
2.1.	Postavljanje termoventila i ventila za balansiranje	5.491,18	5.491,18
2.2.	Energetski menadžment	6.623,76	6.623,76
2.3.	Efikasnost izvora toplote	20.623,94	20.623,94
	Ukupno termotehničke inst	32.738,88	32.738,88

3	Elektroinstalacije		
3.1.	Instalacija rasvjete	57.581,36	57.581,36
3.2.	Napojni kabal i unutrašnje instalacije u kotlarnici i napajanje termoteh	86,11	86,11
3.3.	Gromobranska instalacija	1.259,71	1.259,71
3.4.	Ispitivanje i projekat održavanja	936,00	936,00
	Ukupno elektroinstalacije	59.863,18	59.863,18

	Ukupno O.Š."Jagoš Kontić" Nikšić	540.368,85	495.379,32
	Popust 3%	524.157,78	480.517,94
	PDV 19%	99.589,98	91.298,41
B	Ukupno sa PDV-om O.Š."J.K." Nikšić	623.747,76	571.816,35

C	O.Š."Mlija Nikčević" Nikšić	radovi obuhvaćeni ponudom	
1	Gradjevinsko-zanatski radovi		
	Škola		
1.1.	Termoizolacija fasade	113.164,22	113.164,22
1.2.	Termo i hidro izolacija krova	84.669,20	84.669,20
1.3.	Zamjena fasadne bravarije	106.090,73	106.090,73
	Fiskulturna sala		0,00
1.4.	Termoizolacija fasade	24.447,31	24.447,31

1.5.	Termo i hidro izolacija krova	35.219,31	35.219,31
1.6.	Zamjena fasadne bravarije	29.475,83	29.475,83
1.7.	Radovi koji proizilaze iz primjena mjera EE	929,17	929,17
1.8.	Mjere za poboljšanje komfora	53.894,65	27.449,65
	Poklopac na šahtu	124,20	
	Zamjena/opravka unutrašnjih vrata	19.313,10	
	Moleraj	27.449,65	27.449,65
	Sadnja drveća	2.328,75	
	Zaštita od sunca	4.678,95	
1.9.	Rezervni djelovi	128,63	
	Ukupno gradj-zanatski radovi	448.019,05	421.445,42

2	Termotehničke instalacije		
2.1.	Energetski menadžment	6.623,76	6.623,76
2.2.	Zamjena neispravne opreme u kotlarnici	10.706,92	10.706,92
2.3.	Postavljanje termoventila i ventila za balansiranje	13.982,56	13.982,56
2.4.	Izolacija opreme u kotlarnici	792,00	792,00
2.5.	Intervencije neophodne radi poboljšanja sistema grijanja	6.244,65	6.244,65
	Ukupno termotehničke instalacije	38.349,89	38.349,89

3	Elektroinstalacije		
3.1.	Instalacija rasvjete	9.153,00	9.153,00
3.2.	Napojni kabal i unutrašnje instalacije u kotlarnici i napajanje termoteh	361,15	361,15
3.3.	Gromobranska instalacija	1.749,02	1.749,02
3.4.	Izjednačenje potencijala	840,96	840,96
3.5.	Ispitivanje i projekat održavanja	936,00	936,00
	Ukupno elektroinstalacije	13.040,13	13.040,13

	Ukupno O.Š."Milija Nikčević" Nikšić	499.409,07	472.835,44
	Popust 3%	484.426,80	458.650,38
	PDV 19%	92.041,09	87.143,57
C	Ukupno sa PDV-om O.Š."M.N." Nikšić	576.467,89	545.793,95

D	O.Š."Braća Ribar" Nikšić	radovi obuhvaćeni ponudom	
1	Gradjevinsko-zanatski radovi		
1.1.	Termoizolacija fasade	61.919,75	61.919,75
1.2.	Termo i hidro izolacija krova	92.881,62	92.881,62
n	Zamjena fasadne bravarije	121.504,95	121.504,95
1.4.	Radovi koji proizilaze iz primjena mjera EE	23.111,28	23.111,28
1.8.	Mjere za poboljšanje komfora	62.747,41	28.328,52
	Sanitarni čvorovi	27.350,44	27.350,44
	Moleraj	30.298,76	
	Ugradnja otvora za ventilaciju na vratima	4.120,13	
	Opravka trotoara	978,08	978,08
1.9.	Rezervni djelovi	126,79	126,79
	Ukupno gradj-zanatski radovi	362.291,80	327.872,91

2	Termotehničke instalacije		
2.1.	Energetski menadžment	6.016,56	6.016,56
2.2.	Instalacija sistema centralnog grijanja	38.741,72	38.741,72
2.3.	Toplovodni kaloriferi	10.461,12	10.461,12
	Ukupno termotehničke instalacije	55.219,40	55.219,40

3	Elektroinstalacije		
3.1.	Instalacija rasvjete	6.396,05	6.396,05
3.2.	Napojni kabal i unutrašnje instalacije u kotlarnici i napajanje termoteh	380,16	380,16
3.3.	Gromobranska instalacija	4.150,37	4.150,37
3.4.	Ispitivanje i projekat održavanja	936,00	936,00
	Ukupno elektroinstalacije	11.862,58	11.862,58

4	Instalacija ViK		
4.1.	Demontažni radovi	884,93	884,93
4.2.	Vodovodna instalacija	1.942,24	1.942,24
4.3.	Kanalizaciona instalacija	2.175,57	2.175,57
4.4.	Sanitarna oprema	5.744,25	5.744,25
	Ukupno elektroinstalacije	10.746,99	10.746,99

	Ukupno O.Š. "Braća Ribar" Nikšić	440.120,77	405.701,88
	Popust 3%	426.917,15	393.530,82
	PDV 19%	81.114,26	74.770,86
D	Ukupno sa PDV-om O.Š. "Braća Ribar" Nikšić	508.031,40	468.301,68

	Zbirna rekapitulacija		
A	O.Š. "Mileva Lajović Lalatović" Nikšić	845.578,08	784.664,99
B	O.Š. "Jagoš Kontić" Nikšić	623.747,76	571.816,35
C	O.Š. "Milija Nikčević" Nikšić	576.467,89	545.793,95
D	O.Š. "Braća Ribar" Nikšić	508.031,40	468.301,68
	Ukupno klaster I	2.553.825,14	2.370.576,96

A	Studentski dom "Spasić Masera" Kotor	radovi obuhvaćeni ponudom	radovi koji će se izvoditi u okviru ugovora
1	Gradjevinsko-zanatski radovi		
1.1.	Termoizolacija fasade	146.874,47	146874,47
1.2.	Zamjena fasadne bravarije	92.317,41	92317,41
1.3.	Termoizolacija krova	33.638,46	33638,46
1.4.	Radovi koji proizilaze iz primjena mjera EE	8.014,33	8014,33
1.5.	Mjere za poboljšanje komfora	26.648,61	132,00
	Opravke unutrašnjih zidova	3.011,64	
	Rekonstrukcija sanitarnih čvorova	23.504,97	
	Opravka trotoara	132,00	132,00
1.6.	Rezervni djelovi	126,18	126,18
	Ukupno gradj-zanatski radovi	307.619,46	281.102,85

2	Termotehničke instalacije		
2.1.	Energetski menadžment	6.031,62	6031,62
2.2.	Zamjena sistema grijanja	79.902,56	79.902,56
2.2.1.	Demontaža postojeće opreme i pripremni radovi	11.736,00	11736,00
2.2.2.	Oprema u kotlarnici	57.782,36	57782,36
2.2.3.	Rekonstrukcija sistema grijanja	5.686,40	5686,40
2.2.4.	Pripremni i završni radovi	4.697,80	4697,80
2.3.	Montaža termoventila	9.133,34	9133,34
2.4.	Montaža solarnih panela za pripremu tople vode	111.703,88	111703,88
	Ukupno termotehničke inst	206.771,40	206771,40

3	Elektroinstalacije		
3.1.	Instalacija rasvjete	57.780,58	
3.2.	Napojni kabal i unutrašnje instalacije u kotlarnici i napajanje termoteh	3.757,25	3757,25
3.3.	Izjednačenje potencijala	1.151,42	1151,42
3.4.	Gromobranska instalacija	1.085,47	1085,47
3.5.	Ispitivanje i projekat održavanja	936,00	936,00
	Ukupno elektroinstalacije	64.710,72	6.930,14

4	Instalacija ViK		
4.1.	Demontažni radovi	990,00	
4.2.	Unutrašnja vodovodna instalacija	1.318,00	
4.3.	Unutrašnja kanalizaciona instalacija	2.467,00	
4.4.	Sanitarna oprema	4.272,00	
	Ukupno elektroinstalacije	9.047,00	

	Ukupno Studentski dom "Spasić-Masera" Kotor	588.148,58	494.804,39
	Popust 3%	570.504,12	479.960,26
	PDV 19%	108.395,78	91.192,45
A	Ukupno sa PDV-om Studentski dom	678.899,91	571.152,71

B	O.Š."Dašo Pavičić" Herceg Novi	radovi obuhvaćeni ponudom	
1	Gradjevinsko-zanatski radovi		
1.1.	Termoizolacija fasade	146.947,59	146947,59
1.2.	Termo i hidro izolacija krova	152.795,79	152795,79
1.3.	Zamjena fasadne bravarije	226.732,06	226732,06
1.8.	Mjere za poboljšanje komfora	60.743,28	49.541,88
	Moleraj	49.079,88	49079,88
	Opravka unutrašnjih vrata I ugradnja otvora za ventilaciju	10.661,40	
	Opravka poda u kotlarnici	462,00	462,00
	Sadnja drveća	540,00	
1.9.	Rezervni djelovi	120,00	120,00
	Ukupno gradj-zanatski radovi	587.338,72	576.137,32

2	Termotehničke instalacije		
2.1.	Energetski menadžment	5.833,80	5.833,80
2.2.	Optimizacija sistema grijanja	65.802,52	65.802,52
2.2.1	Demontaža postojeće opreme i pripremni radovi	9.348,58	9348,58
2.2.2.	Oprema u kotlarnici	53.268,14	53268,14
2.2.3.	Pripremni i završni radovi	3.185,80	3185,80
	Ukupno termotehničke inst	71.636,32	71.636,32

3	Elektroinstalacije		
3.1.	Instalacija rasvjete	66.802,18	66802,18
3.2.	Napojni kabal i unutrašnje instalacije u kotlarnici i napajanje termoteh	12.044,02	12044,02
3.3.	Izjednačenje potencijala	221,47	221,47
3.4.	Gromobranska instalacija	1.836,43	1836,43
3.5.	Ispitivanje i projekat održavanja	936,00	936,00
	Ukupno elektroinstalacije	81.840,10	81.840,10

	Ukupno O.Š."Dašo Pavičić" Herceg Novi	740.815,14	729.613,74
	Popust 3%	718.590,69	707.725,33
	PDV 19%	136.532,23	134.467,81
B	Ukupno sa PDV-om O.Š."D.P." Herceg Novi	855.122,92	842.193,14

C	S.M.Š."Bratstvo i jedinstvo" Ulcinj	radovi obuhvaćeni ponudom	
1	Gradjevinsko-zanatski radovi		
1.1.	Termoizolacija fasade	31.932,79	31932,79
1.2.	Termo i hidro izolacija krova	93.267,96	93267,96
1.3.	Zamjena fasadne bravarije	66.309,34	66309,34
1.4.	Radovi koji proizilaze iz primjena mjera EE	21.605,26	21605,26
1.5.	Mjere za poboljšanje komfora	91.714,74	33.455,20
	Opravka poda u zatvorenom atrijumu	5.986,90	
	Zamjena krova i opravka fasade u otvorenom atrijumu	7.367,75	7.367,75
	Sanitarni čvorovi	26.087,45	26.087,45
	Moleraj	12.519,26	

	Opravka unutrašnjih vrata	12.966,60	
	Ugradnja brisoleja	25.886,78	
	Sadnja drveća	900,00	
1.9.	Rezervni djelovi	113,82	113,82
	Ukupno gradj-zanatski radovi	304.943,91	246.684,37

2	Termotehničke instalacije		
2.1.	Montaza/servis split sistema	4.485,60	4485,60
	Ukupno termotehničke instalacije	4.485,60	4485,60

3	Elektroinstalacije		
3.1.	Instalacija rasvjete	70.202,88	
3.2.	Gromobranska instalacija	3.460,32	3460,32
3.3.	Izjednačenje potencijala	172,80	172,80
3.4.	Ispitivanje i projekat održavanja	936,00	936,00
	Ukupno elektroinstalacije	74.772,00	4.569,12

4	Instalacija ViK		
4.1.	Demontažni radovi	1.215,00	1215,00
4.2.	Vodovodna instalacija	1.528,28	1528,28
4.3.	Kanalizaciona instalacija	2.921,20	2921,20
4.4.	Sanitarna oprema	4.322,00	4322,00
	Ukupno elektroinstalacije	9.986,48	9986,48

	Ukupno S.M.Š."Bratstvo i jedinstvo" Ulcinj	394.187,99	265.725,57
	Popust 3%	382.362,35	257.753,80
	PDV 19%	72.648,85	48.973,22
C	Ukupno sa PDV-om S.M.Š."B.J." Ulcinj	455.011,20	306.727,03

D	O.Š."Maršal Tito" Ulcinj	radovi obuhvaćeni ponudom	
1	Gradjevinsko-zanatski radovi		
1.1.	Zamjena fasadne bravarije	142.372,33	142372,33
1.2.	Termo i hidro izolacija krova/ rekonstrukcija krova	168.967,40	168967,40
1.3.	Radovi koji proizilaze iz primjena mjera EE	123.356,28	123356,28
1.8.	Mjere za poboljšanje komfora	67.761,80	35.812,32
	Sanitarni čvorovi	28.176,42	28176,42
	Spušteni plafoni	2.991,30	2991,30
	Razno	1.460,00	1460,00
	Trotoar	528,00	528,00
	Unutrašnja vrata/ otvori za ventilaciju	11.128,00	
	Zaštita od sunca	20.101,48	
	Sadnja drveća	720,00	
	Spušteni plafon na ulazu u objekat	2.656,60	2656,60
1.9.	Rezervni djelovi	126,18	126,18
	Ukupno gradj-zanatski radovi	502.583,99	470.634,51

2	Termotehničke instalacije		
2.1.	Energetski menadžment	6.031,62	6031,62
2.2.	Sistem grijanja	96.555,53	96.555,53

2.2.1.	Demontažni i pripremni radovi	7.806,00	7806,00
2.2.2.	Oprema u kotlarnici	49.606,51	49606,51
2.2.3.	Rekonstrukcija sistema grijanja	17.371,48	17371,48
2.2.4.	Grijanje u fiskulturnoj Sali	16.473,74	16473,74
2.2.5.	Pripremni i završni radovi	5.297,80	5297,80
	Ukupno termotehničke instalacije	102.587,15	102587,15

3	Elektroinstalacije		
3.1.	Instalacija rasvjete	82.540,37	5000,00
3.2.	Napojni kabal i unutrašnje instalacije u kotlarnici i napajanje termoteh	2.352,67	2352,67
3.3.	Izjednačenje potencijala	292,90	292,90
3.4.	Gromobranska instalacija	3.139,63	3139,63
3.5.	Ispitivanje i projekat održavanja	936,00	936,00
	Ukupno elektroinstalacije	89.261,57	11.721,20

4	Instalacija ViK		
4.1.	Demontažni radovi	1.540,00	1.540,00
4.2.	Vodovodna instalacija	2.460,60	2.460,60
4.3.	Kanalizaciona instalacija	5.117,30	5.117,30
4.4.	Sanitarna oprema	8.189,00	8.189,00
	Ukupno elektroinstalacije	17.306,90	17.306,90

	Ukupno O.Š. "Maršal Tito" Ulcinj	711.739,61	602.249,76
	Popust 3%	690.387,42	584.182,27
	PDV 19%	131.173,61	110.994,63
D	Ukupno sa PDV-om O.Š. "Maršal Tito" Ulcinj	821.561,03	695.176,90

	Zbirna rekapitulacija		
A	Studentski dom "Spasić-Masera" Kotor	678.899,91	571.152,71
B	O.Š. "Dašo Pavičić" Herceg Novi	855.122,92	842.193,14
C	S.M.Š. "Bratstvo i jedinstvo" Ulcinj	455.011,20	306.727,03
D	O.Š. "Maršal Tito" Ulcinj	821.561,03	695.176,90
	Ukupno klaster I	2.810.595,05	2.415.249,77

	MNE EEPB_Cluster I			
	Izmjene (u skladu sa poglavljem 13 Opštih i posebnih uslova ugovora)			
poz	Opis	vrijednost ponuđenih radova	komentar	odluka Koordinacionog odbora
1	Ponuda za izmjene br.1 za O.Š."Braća Ribar" Nikšić :			
poz 1	Malterisanje zidova iza radijatora/ po nalogu Nadzornog organa		Nakon demontaže utvrđeno je da zidovi iza radijatora nisu malterisani	usvaja se
poz 2	Montaža spuštenih plafona u dva sanitarna čvora u prizemlju/po nalogu Nadzornog organa		Neophodno kao zamjena za postojeći plafon od trske	usvaja se
poz 3	Zaštitna mreža na prozorima u fiskulturnoj sali sa spoljašnje strane, naspram igrališta		Ugovorom predviđeno vraćanje postojećih zaštitnih mreža; tokom izvođenja je konstatovano da postojeće mreže nisu u dobrom stanju i da ih nije moguće vratiti	nije usvojeno/ Konsulatnt da dostavi obrazloženje o neophodnosti postavljanja
poz 4	Zaštitna mreža na prozorima u fiskulturnoj sali sa unutrašnje strane, naspram igrališta			
poz 5	Isporuka i montaža vrata na balkonu na 1.spratu /po zahtjevu Direktora škole		Ugovorom predviđeno zaziđivanje postojećih balkonskih vrata. Direktor škole insistirao da se vrata ne zaziđuju, u ugovoru će biti umanjena pozicija koja se odnosi na zaziđivanje	usvaja se
	Ukupno ponuda br.1	4561,57		
2	Ponuda za izmjene br.2 za O.Š."Braća Ribar"			
	Ponuda za izmjenjeni tip svjetiljki u sanitarnom čvoru, radi smanjenja troškova/ izmjene u skladu sa 13.2 Opštih uslova ugovora		Odgovarajuće svjetiljke iz ugovora će biti zamjenjene sa svjetiljkama datim u ovoj ponudi	usvaja se
	Ukupno ponuda br.2	795,66		

3 Ponuda za izmjene br.3 za O.Š."Jagoš Kontić" Nikšić				
poz 1-6	Zamjena oštećene kanalizacione cijevi u učionici sa oblaganjem gips kartonom/ po nalogu Nadornog organa			usvaja se
poz 7-9	Demontaža starog zidanog dimnjaka i zidanje novog dimnjaka/ po nalogu Nadzornog organa			usvaja se
poz 10	Izrada metalne potkonstrukcije i pokrivanje sendvič panelima krova prema detalju dogovorenim sa Nadzornim organom 25.08.2014.god			usvaja se
poz 11	Nabavka materijala i postavljanje opštiva od pocončanog lima na dijelovima fasade sa kojih su uklonjene žardinjere, po dogovoru sa Nadzornim organom od 25.08.2014.god/ po nalogu Nadzornog organa			usvaja se
Ukupno za ponudu br. 3		2218,95		

4 Ponuda za izmjene br. 4 za O.Š."Jagoš Kontić" Nikšić				
	Izmjena tipa svjetiljki sanitarnim čvorovima, tehničkim i pomoćnim prostorijama, radi smanjenja troškova / u skladu sa članom 13.2 Opštih uslova ugovora		Odgovarajuće svjetiljke iz ugovora će biti zamjenjene sa svjetiljkama datim u ovoj ponudi	usvaja se
Ukupno za ponudu br.4		2587,73		

5 Ponuda za izmjene br.5 O.Š."Milija Nikčević" Nikšić				
poz 1-3	Demontaža starog zidanog dimnjaka i zidanje novog dimnjaka/ po nalogu Nadzornog organa			usvaja se
poz 4	Izrada metalne potkonstrukcije i pokrivanje sendvič panelima krova prema detalju dogovorenim sa Nadzornim organom 25.08.2014.god			usvaja se
poz 5	Demontaža starog drvenog parapeta (90m2) sa odvoženjem na gradsku deponiju/ po nalogu Nadzornog organa			usvaja se

poz 6	Malterisanje zidova nakon demontaže drvenih parapeta/ po nalogu Nadzornog organa			usvaja se
	Ukupno za ponudu br.5	1633,59		
6 Ponuda za izmjene br.6 O.Š."M.L.Lalatović" Nikšić				
poz 1	Zaziđivanje otvora u hodnicima, pored stepeništa, sa Ytong blokovima 15cm/ po nalogu Nadzornog organa			usvaja se
poz 2-6	Nabavka materijala i postavljanje "demit" fasade na novim zidovima/po nalogu Nadzornog organa, ponedjeljak 25.08.2014.godine			usvaja se
poz 7	Nabavka materijala i postavljanje EPS tabli 10cm na parapetnim zidovima sa unutrašnje strane krova / po nalogu Nadzornog organa			usvaja se
poz 8,9 12	Nabavka materijala i izrada zida od gips kartona sa ispunom od mineralne vune u prizemlju i na 1.spratu, sa uračunatim gletovanjem i molerajem/ po nalogu Nadzornog organa			usvaja se
poz 10,11	Demontaža fiksnih prozora u stepeništu na prvom spratu/ po nalogu Nadzornog organa			usvaja se
	Ukupno za ponudu br.6	1712,36		
7 Ponuda za izmjene br. 7 za O.Š."M.L.Lalatović" Nikšić				
	Izmjena tipa svjetiljki sanitarnim čvorovima, tehničkim i pomoćnim prostorijama, radi smanjenja troškova / u skladu sa članom 13.2 Opštih uslova ugovora		Odgovarajuće svjetiljke iz ugovora će biti zamjenjene sa svjetiljkama datim u ovoj ponud	usvaja se
	Ukupno za ponudu br.7	3550,35		
8 Ponuda za izmjene br.8 za O.Š."J.Kontiće" i "M.Nikčević" u Nikšiću				

	<p>Ponuda se odnosi na demontažne radove na krovovima. Tenderom je bilo obuhvaćena demontaža crijepa, potkonstrukcije i sloja maltera debljine 2-4cm. Situacija na gradilištu je bila drugačija, potrebno je bilo izvršiti demontažu sloja maltera debljine 6cm ili više, zatim demontažu armature, sloja termoizolacije debljine 5cm, hidroizolacije, ter-papira i PVC folije.</p> <p>Pošto je armatura bila utopljena u malter bilo je neophodno koristiti specijalnu opremu. Zbog obima posla bilo je potrebno angažovanje većeg broja radnika i organizovati odvoz 65 kamiona šuta kapaciteta po 10m³ na deponiju</p>			usvaja se
	Ukupno za ponudu br.8	7616,00		
9	Ponuda za izmjene br.9 za O.Š."J.Kontić" i "M.Nikčević" u Nikšiću			
	Ponuda se odnosi na izmjenu detalja br.13, koja je tražena na prvom sastanku nakon potpisivanja ugovora, a obuhvata:			
	O.Š."Jagoš Kontić" : postavljanje dodatnih 150m ² sendvič panela, debljine 8cm, za pokrivanje betonskih oluka,sa izradom potkonstrukcije; postavljanje 107,39m ² EPS ploča debljine 3cm, sa spoljašnje strane oluka, i ispuna unutrašnje strane oluka sa EPS-om		Detalj sa izmjenama dat u zapisniku sa sastanka sa izvođačem, održanog 18.07.2014. god	usvaja se
	O.Š."Milija Nikčević" : postavljanje dodatnih 180m ² sendvič panela, debljine 6cm, za pokrivanje betonskih oluka,sa izradom potkonstrukcije; postavljanje 134,33m ² EPS ploča debljine 3cm, sa spoljašnje strane oluka, i ispuna unutrašnje strane oluka sa EPS-om		Detalj sa izmjenama dat u zapisniku sa izvođačem, održanog 18.07.2014.god	usvaja se
	Ukupno za ponudu br.9	21976,10		
10	Ponuda za izmjene br.10 O.Š."Mileva Lajović Lalatović" Nikšić			

	Isporuka i montaža razvodnog ormara automatike u kotlarnici		Radovi nisu obuhvaćeni ugovorom	usvaja se
	Ukupno za ponudu br.10	1136,45		
11	Ponuda za izmjene br.11 O.Š. "Braća Ribar" Nikšić			
poz 2	Postavljanje spuštenog plafona na ulazu u objekat, kao zamjena za postojeći oštećeni plafon		Opravka plafona od trske koji je morao da se zamjeni prilikom demontaže bravarije	usvaja se
poz1, 3-9	Sanitarni čvor za hendikepirane osobe			usvaja se
	Ukupno za ponudu br.11	3150,97		

12	Ponuda za izmjene br.12 O.Š."Milija Nikčević" Nikšić			
	Postavljanje reflektora na fasadi škole		Zahtjev uprave škole	ponuda se ne usvaja
	Ukupno za ponudi br. 12	3976,75		
13	Ponuda za izmjene br.13 za O.Š. "Braća Ribar" Nikšić			
	Izmjena detalja oluka			usvaja se
	Ukupno za ponudu br. 13	791,35		
14	Ponuda za izmjene br.14 za O.Š."Mileva Lajović Lalatović" Nikšić			
poz 1-3	Radovi na zamjeni oluka			usvaja se
poz 4	Radovi na postavljanju solbanaka		Neophodnost postavljanja dodatnih solbanaka konstatovana tokom izvođenja radova	usvaja se
	Ukupno za ponudi br.14	6514,19		
15	Ponuda za izmjene br.15 O.Š."Jagoš Kontić" Nikšić			
	Demontaža oštećene mermerne sokle u atrijumu			usvaja se
	Isporuka materijala i postavljanje nove sokle od mermera			usvaja se
	Ukupno za ponudu br. 15	766,42		
16	Ponuda za izmjene br.16 za O.Š."Mileva Lajović Lalatović" Nikšić			

	Zamjena gipskartonskih ploča sa novim, uključujući gletovanje i moleraj		Pozicija obuhvaćena ugovorom, ali na zahtjev Koordinacionog odbora je traženo da se radovi ne izvode/ Ponuda obuhvata zamjenu spuštenih plafona, koje je bilo neophodno demontirati radi postavljanja fasadne bravarije	usvaja se
	Ukupno za ponudu br.16	3694,95		

	MNE EEPB_Cluster II			
	Izmjene (u skladu sa poglavljem 13 Opštih i posebnih uslova ugovora), od 12.09.2014.god			
poz	Opis	vrijednost	Komentar	Odluka Koordinacionog odbora
1	Ponuda za izmjene br.1 za O.Š."Dašo Pavičić" Herceg Novi			
	Isporuka i montaža razvodnog ormara automatike u kotlarnici		Pozicija nije obuhvaćena ugovorom	usvaja se
	Ukupno ponuda br.1	1.250,69		
2	Ponuda za izmjene br.2 za O.Š."Dašo Pavičić" Herceg Novi			
	Ponuda za zamjenu postojećih dvožilnih kablova za napajanje rasvjete sa trožilnim, komlet sa štemanjem plafona i opravkama poslije postavljanja kablova		Postojeći kablovi za napajanje svjetiljki su dvožilni, utvrđeno na gradilištu nakon demontaže svjetiljki, isto nije navedeno u izvještaju o ispitivanje elektroinstalacija koji je dostavljen PMU	usvaja se
	Ukupno ponuda br.2	25.045,98		
3	Ponuda za izmjene br.3 za O.Š."Dašo Pavičić" Herceg Novi			
	Demontaža postojećih razvodnih ormara, isporuka i montaža novih razvodnih tabli u hodnicima, kako bi se omogućilo normalno funkcionisanje svjetiljki i zaštitnih uređaja		Ponuda za zamjenu svih drvenih razvodnih tabli na predlog Nadzornog organa	usvaja se
	Ukupno za ponudu br. 3	2.121,77		

4 Ponuda za izmjene br. 4 za O.Š."Dašo Pavičić" Herceg Novi				
	Ponuda za izmjenjeni tip svjetiljki sanitarnim čvorovima, tehničkim i pomoćnim prostorijama, radi smanjenja troškova / u skladu sa članom 13.2 Opštih uslova ugovora		Odgovarajuće pozicije iz ugovora će biti zamjenjene sa svjetilkama datim u ovoj ponudi	usvaja se
	Ukupno za ponudu br.4	2.321,83		
5 Ponuda za izmjene br. 5 za O.Š."Dašo Pavičić" Herceg Novi				
poz 1	Isporuka materijala i zaziđivanje parapetnih zidova debljine 13 i 25cm, u učionicama. Prije zaziđivanja bilo izvršena je demontaža postojećih parapetnih zidova i odvoz na deponiju		Ponuda obuhvata opravku parapetnih zidova, oštećenih nakon demontaže prozora i radijatora. Oštećenja su nastala usle lošeg kvaliteta postojećih zidova (fotografija br. 1)	usvaja se
poz 2	Isporuka materijala i malterisanje novih parapetnih zidova			
poz 3	Premazivanje zidova i plafona u kotlarnici poludisperzivnom bojom (ukupne površine 105m ²)			usvaja se
poz 4	Isporuka i montaža mreža za spoljašnju zaštitu prozora			
poz 5	Isporuka i postavljanje XPS ploča u dijelu fasade, gdje je po Glavnom projektu predviđeno malterisanje i postavljanje kulira			
poz 6	Demontaža starog oštećenog maltera sa dimnjaka na krovu i malterisanje dimnjaka sa cementnim malterom			
	Ukupno za ponudu br.5	29.264,58		
6 Ponuda za izmjene br.6 za S.M.Š."Bratstvo i jedinstvo" Ulcinj				
	Ponuda za izmjenjeni tip svjetiljki sanitarnim čvorovima, tehničkim i pomoćnim prostorijama, radi smanjenja troškova / u skladu sa članom 13.2 Opštih uslova ugovora		Odgovarajuće pozicije iz ugovora će biti zamjenjene sa svjetilkama datim u ovoj ponudi	usvaja se
	Ukupno za ponudu br.6	946,61		

7	Ponuda za izmjene br.7 za S.M.Š."Bratstvo i jedinstvo" Ulcinj			
	Malterisanje zidova sanitarnih čvorova sa cementnim malterom 1:3 u dva sloja, sa pripremom za postavlja keramičkih pločica/ Izvršeno po nalogu Nadzornog organa kako bi se izvršila sanacija oštećenja na zidovima i priprema za postavljanje pločica			usvaja se
	Postavljanje Wolfin izolacije na nadstrešnici iznad ulaza u objekat			potrebno je da Konsultant dostavi dodatno obrazloženje o neophodnosti navedenih radova
	Isporuka materijala i postavljanje folija na prozorima sa unutrašnje strane, u nivou prizemlja			usvaja se
	Ukupno za ponudu br.7	15.750,31		
8	Ponuda za izmjene br.8 za S.M.Š."Bratstvo i jedinstvo" Ulcinj			
	Isporuka i montaža dva split sistema/ Po nalogu Nadzornog organa		Utvrđeno tokom izvođenja radova da dva split sistema ne rade i da nedostaje 17 daljinskih uređaja	usvaja se
	Isporuka daljinskih uređaja za split sisteme			
	Ukupno za ponudu br.8	1.736,21		
9	Ponuda za izmjene br.9 za O.Š."Maršal Tito" Ulcinj			
	Ponuda za izmjenjeni tip svjetiljki sanitarnim čvorovima, tehničkim i pomoćnim prostorijama, radi smanjenja troškova / u skladu sa članom 13.2 Opštih uslova ugovora			usvaja se
	Ukupno za ponudu br.9	1.810,98		
10	Ponuda za izmjene br.10 za O.Š."Maršal Tito" Ulcinj			
	Demontaža starih gipsanih zidova na metalnoj potkonstrukciji, utovar i transport otpada na gradsku deponiju			usvaja se

	Nabavka materijala i montaža pregradnih zidova, izrađenih od vodootpornog gips-kartona, debljine 12,5mm, na standardnoj metalnoj potkonstrukciji			
	Isporuka materijala i izrada cementne košuljice u sanitarnim čvorovima			
	Isporuka materijala i postavljanje folija na prozorima sa unutrašnje strane, u nivou prizemlja			
	Isporuka materijala i postavljanje keramike na zidove sanitarnih čvorova, dodatna količina odobrena od strane Nadzornog organa (ukupna razlika iznosi 101.34m ²)			
	Opravka gipsanih zidova sa zamjenom gips-kartonskih ploča i metalne potkonstrukcije			
	Ukupno za ponudu br.10	12.560,88		
11	Ponuda za izmjene br.11 za O.Š."Maršal Tito" Ulcinj			
	Isporuka i montaža razvodnog ormara automatike u kotlarnici		Nije obuhvaćeno ugovorom	usvaja se
	Ukupno za ponudu br.11	1.243,55		
12	Ponuda za izmjene br. 12 za O.Š."Maršal Tito" Ulcinj			
	Sanitarni čvor za hendikepirane osobe			usvaja se
	Ukupno za ponudu br.12	4.240,12		

13	Ponuda za izmjene br.13 za O.Š."Maršal Tito" Ulcinj			
	Izmjena riješenja za oluke			usvaja se
	Ukupno za ponudu br. 13	1.749,30		
14	Ponuda za izmjene br. 14 za O.Š."Dašo Pavičić" Herceg Novi			
	Izmjena riješenja za oluke			usvaja se
	Ukupno za ponudu br. 14	749,70		
15	Ponuda za izmjene br.15 za O.Š."Dašo Pavičić" Herceg Novi			
	Isporuka i montaža novog prozora		Zahtjev uprave škole	usvaja se
	Ukupno za ponudu br.15	266,98		

Sandra Sipcic

From: UBecker@fibaucon.de
Sent: Friday, September 19, 2014 6:09 PM
To: sandra.sipcic@ee-me.org
Cc: dragica.sekulic@mek.gov.me; toma.sinistaj@ee-me.org; v.markovic@kopringpmc.com; dj.debljovic@kopringpmc.com; d.paunovic@kopringpmc.com
Subject: AW: EEPPB_Clusters I and II_offers for variations

Dear Sandra,

Today we have received your request for additional information on the Proposals for Variation

- 01 of Cluster I (item 3, "Protection bars Braća Ribar"),
- 07 of Cluster I (item 4, "V-shaped roof Bratstvo i Jedinstvo"), and
- 05 of Cluster II (items 05 and 06, "Protection bars Daso Pavičić").

We would like to inform you on the following:

1. Braća Ribar

The original exterior protection bars were initially provided to be re-installed after the renovation of the façade. During the dismantling of the items the quality of the material was found in a very dilapidated condition. Therefore the renewal of these protectors has been proposed in order to insure the sustainability of the improvement measures.

2. Bratstvo i Jedinstvo

The renovation of the v-shaped roof covered with galvanized metal sheets initially was not included in the contract design, as the general condition of this item was considered as appropriate. During the removal of the glass block window openings below the roof various storm water leakage spots have been detected. FI thereafter gave order to the Contractor JV Roaming to open the roof cover for inspection of the space between roof cover and suspended ceilings. During the inspection it was discovered that there is no thermo-insulation layer installed below this roof. Considering the situation of spot leakages, the need of adaptation of flashings to the old structure necessary by the installation of new PVC fanlights, the age of the existing metal roof cover (partially corroded) and the lack of any insulation layer the proposed additional work is considered necessary to insure the sustainability of the improvement measures.

3. Daso Pavičić

Initially the removal and re-installation of the protection bars at the gym (totalling 36 units) was provided. Additionally 137.20 m2 of protective, chain-linked wire, made of iron on ground floor windows should have been installed at windows at the rear of the compound. In the period between the last assessment of the school by FI and the start of the works windows at the gym have been changed by a donation and the protection bars have been removed for good (structures disappeared).

After the start of the works the school principal requested the protection of the gym windows and additional areas in order to protect the panes from balls and vandalism. It has to be highlighted that the school has no perimeter fence at the rear where sport areas are used by the neighbouring youth in the time the school is not operating. Obviously also window panes near the front street have been destructed by rock-throws in the past, so that a protection with fine mash wire has been requested by the principal for these areas as well.

By the measures included in the contract design and the Proposal for Variation presented by the Contractor JV Roaming the following areas would be protected:

- Gym area (both sides);

- All windows of the first floor and the paint atelier of the second floor behind the basket structure, heading to the rear school yard with sport installations;
- All windows heading to the front street (both levels) including one computer room, with exception of the front yard around the main entrance.

We propose the following for approval by the Client:

- Complete deduction of the BoQ item A5.2.1-3.07 totalling EUR 1,668.60.
- Install new protection bars at both sides of the gym, the missing areas of the first floor in the backyard, the paint atelier in the second floor of the back yard and at the computer room at the front side.
- Further protection at the front side should not be provided.

We hope that we could clarify all questions and get the approval for the implementation of the additional measures at short notice.

Best regards,
Udo

FICHTNER BAUCONSULTING GmbH
Sarweystrasse 3 - 70191 Stuttgart
Germany

Amtsgericht Stuttgart HRB 20227
Managing Directors:
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Erklärungen der FICHTNER BAUCONSULTING GmbH,
die per E-Mail übermittelt werden, sind nur im Fall
schriftlicher Bestätigung rechtsverbindlich.

Any agreements or information submitted by
FICHTNER BAUCONSULTING GmbH via e-mail are only
binding if confirmed in writing.

Von: Sandra Sipcic [mailto:sandra.sipcic@ee-me.org]

Gesendet: Freitag, 19. September 2014 14:33

An: Becker, Udo

Cc: dragica.sekulic@mek.gov.me; toma.sinistaj@ee-me.org

Betreff: EEPB_Clusters I and II_offers for variations

Dear Udo,

PCB has reviewed the offers for variations for both cluster I and II. Before final decision on the offers submitted, please provide clarification on the necessity of the works covered with item 4 in the offer No7, for cluster II, for the school „Bratstvo i jedinstvo“.

The PCB also requires clarification on the necessity of installation of protective bars in schools „Braća Ribar“ and „Daso Pavičić“.

With regards,
Sandra Šipčić

Zapisnik sa XVI sjednice Koordinacionog odbora

Projekat: Program energetske efikasnosti u javnim zgradama u Crnoj Gori (EEPPB)

Predmet: XVI sjednica Koordinacionog odbora za realizaciju "Programa energetske efikasnosti u javnim zgradama u Crnoj Gori"

Datum: Ponedjeljak, 20.10.2014.god

Učesnici: **Ministarstvo ekonomije:**
Dragica Sekulić, Predsjednik Koordinacionog odbora
Žana Radulović, član Koordinacionog odbora
Ministarstvo prosvjete:
Vesna Krivokapić, član Koordinacionog odbora
Jedinica za implementaciju projekta/ PMU:
Sandra Šipčić
KfW:
Milica Knežević
Fichtner:
Udo Becker
Viktor Marković

XVI sjednica Koordinacionog odbora za realizaciju "Programa energetske efikasnosti u javnim zgradama u Crnoj Gori" održana je 20.10.2014.godine sa sledećim dnevnim redom:

1. Razmatranje i odobravanje ponuda za izmjene, (naknadne i nepredviđene radove i radove po zahtjevu uprave škola) za objekte iz klastera I i II
2. Podjela objekata iz klastera V u dvije grupe (za potrebe izrade tenderskog paketa)
3. Usvajanje liste radova na poboljšanju komfora za objekte iz klastera V, koji će biti obuhvaćeni projektom i tenderom

1. Razmatranje i odobravanje ponuda za naknadne, nepredviđene radove i izmjene za objekte iz klastera I i II

Konsultant je 29.09.2014.god, 10.10.2014.god i 17.10.2014.godine dostavio zahtjev za usvajanje ponuda za izmjene, koje obuhvataju naknadne i nepredviđene radove i ponude za radove u skladu sa zahtjevima direktora škola.

Sve ponude su prethodno provjerene od strane Konsultanta i sa tehničkog i finansijskog aspekta, nakon čega su dostavljene Koordinacionom odboru na usvajanje.

Procedura za izmjene je definisana Opštim i Posebnim uslovima ugovora u poglavlju 13 (Variations) .

Pregled dostavljenih ponuda, sa komentarima , je dat u aneksu br.2.

Dopis Konsultanta sa predlogom za usvajanje ponuda je dostavljen u aneksu br.3.

ZAKLJUČAK

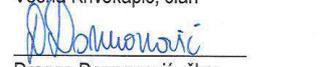
Pregled usvojenih ponuda je dat u aneksu 2.

Tokom izvođenja radova na O.Š."Mileva Lajović Lalatović" Nikšić, konstatovano je da krov u dijelu objekta prokišnjava. Nakon izvršenog pregleda krova, utvrđeno je da je u dijelu krova neophodno izvršiti zamjenu krovnog pokrivača, postavljanje termoizolacije i prepravke krovne konstrukcije. Ponuda za rekonstrukciju krova (br.43) je dostavljena Koordinacionom odboru na usvajanje. Koordinacioni odbor zahtjeva da se uz ponudu dostavi tehnički opis postojećeg stanja i detaljan opis predloga za rekonstrukciju sa odgovarajućim grafičkim priložima i detaljima i fotografijama.

Zapisnik usvojen od strane:


Dragica Sekulić, predsjednik

Žana Radulović, član


Vesna Krivokapić, član

Dragan Darmanović, član

Aneksi

- Aneks 1 - Pregled ugovorenih radova uključujući i prethodno usvojene izmjene za klaster I i II
- Aneks 2 – Pregled ponuda za izmjene (dostavljene 29.09.2014, 10.10.2014 i 17.10.2014.god) sa komentarima Koordinacionog odbora
- Aneks 3 – Dopisi Konsultanta sa predlogom za usvajanje ponuda za izmejne za klaster I i II

Aneks 1

2.3. EEPPB_Klaster I_zbirna rekapitulacija (ukupno ugovoreni radovi i unupna vrijednost radova sa do sada usvojenim amandmanima)			
Br.	Opis radova	Ukupno [EUR]	
		Ugovor	Aneks br.1
A.5.1	Obrazovna ustanova 1: O.Š. "Mileva Lajović Lalatović", Nikšić	845.578,06	730.567,28
A.5.1.1	Gradjevinsko-zanatski radovi	551.474,86	440.645,05
A.5.1.2	Termotehničke instalacije	194.047,38	189.866,42
A.5.1.3	Elektroinstalacije	100.055,81	100.055,81
A.5.2	Obrazovna ustanova 2: O.Š. "Jagoš Kontić", Nikšić	623.747,76	578.764,04
A.5.2.1	Gradjevinsko-zanatski radovi	516.857,19	476.054,44
A.5.2.2	Termotehničke instalacije	37.790,49	33.609,52
A.5.2.3	Elektroinstalacije	69.100,08	69.100,08
A.5.3	Obrazovna ustanova 3: O.Š. "Milija Nikčević", Nikšić	576.467,89	530.009,45
A.5.3.1	Gradjevinsko-zanatski radovi	517.148,39	474.870,92
A.5.3.2	Termotehničke instalacije	44.267,27	40.086,30
A.5.3.3	Elektroinstalacije	15.052,23	15.052,23
A.5.4	Obrazovna ustanova 4: O.Š. "Braća Ribar", Nikšić	508.031,40	470.077,21
A.5.4.1	Gradjevinsko-zanatski radovi	418.193,42	384.420,20
A.5.4.2	Termotehničke instalacije	63.739,76	59.558,79
A.5.4.3	Elektroinstalacije	13.692,97	13.692,97
A.5.4.4	Vodovod i kanalizacija	12.405,24	12.405,24
	Ukupno - Klaster I	2.553.825,10	2.309.417,98

**2.3. EEPB_Klaster I_zbirna rekapitulacija
(ukupno ugovoreni radovi i unupna vrijednost radova sa do sada usvojenim amandmanima)**

Br.	Opis radova	Ukupno [EUR]	
		Ugovor	Ugovor
A.5.1	Obrazovna ustanova 1: Studntski dom "Spasić Mašera", Kotor	678.899,90	632.266,62
A.5.1.1	Gradjevinsko-zanatski radovi	355.085,12	322.894,44
A.5.1.2	Termotehničke instalacije	238.676,25	234.676,60
A.5.1.3	Elektroinstalacije	74.695,58	74.695,58
A.5.1.4	Vodovod i kanalizacija	10.442,95	
		.	.
A.5.2	Obrazovna ustanova 2: O.Š. "Dašo Pavičić", Herceg Novi	855.122,92	761.769,19
A.5.2.1	Gradjevinsko-zanatski radovi	677.965,09	588.611,01
A.5.2.2	Termotehničke instalacije	82.689,81	78.690,16
A.5.2.3	Elektroinstalacije	94.468,02	94.468,02
A.5.3	Obrazovna ustanova 3: S.Š. "Bratstvo i jedinstvo", Ulcinj	455.011,20	369.445,78
A.5.3.1	Gradjevinsko-zanatski radovi	351.996,76	266.431,34
A.5.3.2	Termotehničke instalacije	5.177,73	5.177,73
A.5.3.3	Elektroinstalacije	86.309,32	86.309,32
A.5.3.4	Vodovod i kanalizacija	11.527,39	11.527,39
A.5.4	Obrazovna ustanova 4: O.Š. "Maršal Tito", Ulcinj	821.561,02	686.882,88
A.5.4.1	Gradjevinsko-zanatski radovi	580.132,69	449.454,20
A.5.4.2	Termotehničke instalacije	118.416,35	114.416,70
A.5.4.3	Elektroinstalacije	103.034,63	103.034,63
A.5.4.4	Vodovod i kanalizacija	19.977,35	19.977,35
	Ukupno - Klaster II	2.810.595,04	2.450.364,47

Aneks 2 - Pregled ponuda za izmjene (dostavljene 29.09.2014, 10.10.2014 i 17.10.2014.god) sa komentarima Koordinacionog odbora

MNE EEPPB_Cluster I (ponude br.17-26)				
Izmjene (u skladu sa poglavljem 13 Opštih i posebnih uslova ugovora); zahtjev dostavljen 29.09.2014				
poz	Opis	vrijednost ponuđenih radova	komentar	odluka Koordinacionog odbora
1	Ponuda za izmjene br.17 za O.Š."Mileva Lajović Lalatović" Nikšić :			
poz 1	Struganje farbe i farbanje metalnih stubova u hodnicima i učionicama na mjestima gdje je ugrađena fasadna bravarija			
poz 2	Gletovanje zamjenjenih gipsanih ploča na plafonu		Veze postojećeg plafona sa bravarijom	
poz 3 -8	Demontaža staklenih panela u fiskulturnoj sali i zaziđivanje zida gdje su demontirani paneli		Pozicija obuhvata demontažu staklenih panela prema dograđenom objektu i zidanje zida na istom mjestu	ponuda se prihvata
	Ukupno ponuda br.17	3.206,69		
2	Ponuda za izmjene br.18 za O.Š."Mileva Lajović Lalatović" Nikšić :			
	Izrada, isporuka i montaža portirnice sa vjetrobranom		Projektom nije obuhvaćena izrada vjetrobrana, isto je moralo biti demonstrirano prilikom demontaže bravarije na ulazu u objekat	ponuda se prihvata
	Ukupno ponuda br.18	3.255,84		

3	Ponuda za izmjene br.19 za O.Š."Braća Ribar" Nikšić			
poz 1	Postavljanje folije na prozorima sanitarnog čvora			
poz 2	Montaža mehanizma za zatvaranje vrata			ponuda se prihvata
	Ukupno za ponudu br. 19	260,01		
4	Ponuda za izmjene br. 20 za O.Š."Jagoš Kontić" Nikšić			
	Isporuka i montaža prozora dimenzija 79x79			ponuda se prihvata
	Montaža mehanizma za zatvaranje vrata			
	Ukupno za ponudu br.20	284,71		
5	Ponuda za izmjene br.21 O.Š."Milija Nikčević" Nikšić			
	Isporuka i montaža aluminijskih vrata za potrebe portirnice i ugradnja mehanizma za samozatvaranje			ponuda se prihvata
	Ukupno za ponudu br.21	412,32		
6	Ponuda za izmjene br.25 O.Š."Jagoš Kontić" Nikšić			
	Isporuka i montaža svjetiljke za fiskulturnu salu		Neophodno usled izmjene rasporeda svjetiljki	ponuda se prihvata
	Ukupno za ponudu br.25	411,26		
7	Ponuda za izmjene br.26 O.Š."M.L.Lalatović" Nikšić			
	Opravke oluka i opšiva na krovu/ veza krova i fasade			ponuda se ne prihvata/ ponuđač treba da dostavi ponudu sa novim tehničkim rješenjem
	Ukupno za ponudu br.26	2.943,64		
	Ukupni iznos ponuda koje su prihvaćene (br.17-br.25), sa uračunatim PDV-om	7.830,83		

	MNE EEPPB_Cluster I (ponude br.22-24 i 27-30)			
	Izmjene (u skladu sa poglavljem 13 Opštih i posebnih uslova ugovora); zahtjev dostavljen 10.10.2014			
poz	Opis	vrijednost ponuđenih radova	komentar	odluka Koordinacionog odbora
1	Ponuda za izmjene br.22 za O.Š."Braća Ribar" Nikšić			
poz 1	Demontaža postojeće opreme za sistem grijanja, demontaža radijatora (78 kom), cijevne mreže (1400m), mreže za ozračavanje (300m), pumpi, ventila i ostale opreme		Konsultant da dostavi detaljno obražloženje o neophodnosti izvođenja navedenih radova	ponuda će biti razmotrena nakon dostavljanja obražloženja
poz 2	Isporuka i postavljanje radijatorskih glava			
poz 3	Isporuka i montaža ekspanzionog suda sa farbanjem i svim neophodnim vezama			
	Ukupno ponuda br.22	3.799,94		
2	Ponuda za izmjene br.23 za O.Š."Jagoš Kontić" Nikšić :			
poz 1	Isporuka i montaža gorionika, karakteristika datih u ponudi		Nije obuhvaćeno projektom, u fazi izrade dokumentacije konstatovano je da su gorionici ispravni i da nema potrebe za zamjenom	ponuda se prihvata
poz 2	Isporuka i montaža elektromotora, karakteristika datih u ponudi			
	Ukupno ponuda br.23	4.253,98		

3	Ponuda za izmjene br.24 za O.Š."Milija Nikčević" Nikšić			
	Zamjena gorionika koji su dati u projektu sa gorionicima drugih krakteristika / ponuda obuhvata razliku u cijeni		Nije obuhvaćeno projektom, u fazi izrade dokumentacije konstatovano je da su gorionici ispravni i da nema potrebe za zamjenom	ponuda se prihvata
	Ukupno za ponudu br. 24	1.526,45		
4	Ponuda za izmjene br. 27 za O.Š."Jagoš Kontić" Nikšić			
	Napajanje kalorifera i termostata u fiskulturnoj sali		radovi nisu obuhvaćeni tenderom	ponuda se prihvata
	Ukupno za ponudu br.27	716,38		
5	Ponuda za izmjene br.28 O.Š."Jagoš Kontić" Nikšić			
	Postavljanje OSB i EPS ploča na vertikalni dio krova			ponuda se prihvata
	Ukupno za ponudu br.28	555,83		
6	Ponuda za izmjene br.29 O.Š."Milija Nikčević" Nikšić			
	Postavljanje OSB i EPS ploča na vertikalni dio krova			ponuda se prihvata
	Ukupno za ponudu br.29	509,42		
7	Ponuda za izmjene br.30 O.Š."Milija Nikčević" Nikšić			
	Napajanje kalorifera i termostata u fiskulturnoj sali		radovi nisu obuhvaćeni tenderom	ponuda se prihvata
	Ukupno za ponudu br.30	731,14		
	Ukupno za usvojene ponude br.23-24 i 27-30 (sa PDV-om)	8.293,20		

	MNE EEPB_Cluster I (ponude br.31-35 i 37-43)			
	Izmjene (u skladu sa poglavljem 13 Opštih i posebnih uslova ugovora); zahtjev dostavljen 17.10.2014			

poz	Opis	vrijednost ponuđenih radova	komentar	odluka Koordinacionog odbora
1	Ponuda za izmjene br.31 za O.Š."Braća Ribar" Nikšić			
poz 1	Isporuka i postavljanje metalne rešetke na ulazu u kotlarnicu			ponuda se prihvata
poz 2	Izrada cementne košuljice u kotlarnici			
poz 3	Izrada kanala za odvod vode u kotlarnici			
	Ukupno ponuda br.31	1.091,49		
2	Ponuda za izmjene br.32 za O.Š."Milija Nikčević" Nikšić :			
poz 1	Isporuka i montaža vertikalnih i horizontalnih oluka (dodatna količina)		Neophodno je da Konsultant dostavi pojašnjenje i fotografije	pozicija 1 će biti razmotrena nakon dostavljanja pojašnjenja/ ostale pozicije se ne prihvataju
poz 2-5		Nije usvojeno od strane Konsultanta		
poz 6-8	Postavljanje gipsanih ploča u fiskulturnoj sali sa gletovanjem i molerajem			
	Ukupno ponuda br.32	3.484,62		
3	Ponuda za izmjene br.33 za O.Š."Jagoš Kontić" Nikšić			
	Izrada metalnog stepeništa na ulazu u kotlarnicu			ponuda se prihvata
	Ukupno za ponudu br. 33	318,09		

4	Ponuda za izmjene br. 34 za O.Š. "M.L.Lajović" Nikšić			
poz1	Izrada i postavljanje solbanaka, ukupne dužine 138,52m		Objediniti sve ponude koje se odnose na iste radove , dostaviti izgled fasade sa ucrtanim pozicijama na koje se odnose radovi iz ponude i fotografije	Biće razmotreno nakon dostavljanja inovirane ponude
poz2	Postavljanje okapnika na fasadi/ zbog denivelacije koja se pojavila kod zaziđivanja fasadnih otvora			
poz3	Izrada opšiva na spojevima fasade i krovnog pokrivača			
poz4	Izrada upojne jame za atmosfersku vodu			Pozicija 4 se usvaja (661,05)
	Ukupno za ponudu br.34	4.869,18		
5	Ponuda za izmjene br.35 O.Š. "B.Ribar", "M.L.L." i "J.Kontić" Nikšić			
	Izrada zaštite kalorifera u fiskulturnoj sali			ponuda se ne prihvata
	Ukupno za ponudu br.35	1.285,20		
6	Ponuda za izmjene br.36 O.Š."M.L.Lalatović" Nikšić			
	Zahtjev za priznavanjem uvećane količine radova na fasadi		Nije odobreno od strane Konsultanta	
	Ukupno za ponudu br.36	18.212,20		
7	Ponuda za izmjene br.37 O.Š."Braća Ribar" Nikšić			
	Opravke dijela termotehničkih instalacija između rezervoara za lož ulje i kotla			ponuda se prihvata
	Ukupno za ponudu br.37	1.785,43		
8	Ponuda za izmjene br.38 O.Š."B.Ribar", "Milija Nikčević" i O.Š. "Jagoš Kontić" Nikšić			
	Isporuka i postavljanje metalnih prostrujnih rešetki na vratima kotlarnice			ponuda se prihvata
	Ukupno za ponudu br.38	680,68		

9	Ponuda za izmjene br.39 O.Š. "Milija Nikčević" i O.Š. "Jagoš Kontić" Nikšić			
	Isporuka i postavljanje opšiva na nadstrešnici na glavnom ulazu u objekat		Nije odobreno od strane Konsultanta	
	Ukupno za ponudu br.39	708,45		
10	Ponuda za izmjene br.40 O.Š. "Jagoš Kontić" Nikšić			
	isporuka i montaža ormara automatike u kotlarnici		Dostaviti jednopolnu šemu uz ponudu	ponuda se prihvata
	Ukupno za ponudu br.40	970,56		
11	Ponuda za izmjene br.41 O.Š. "Braća Ribar" Nikšić			
	Prepravke ormara automatike u kotlarnici		Dostaviti jednopolnu šemu uz ponudu	ponuda se prihvata
	Ukupno za ponudu br.41	654,98		
12	Ponuda za izmjene br.42 O.Š. "M.Nikčević" Nikšić			
	Isporuka i montaža ormara automatike u kotlarnici		Dostaviti jednopolnu šemu uz ponudu	ponuda se prihvata
	Ukupno za ponudu br.42	617,73		
13	Ponuda za izmjene br.43 O.Š. "M.L.Lalatović" Nikšić			
	Zamjena dijela krovnog pokrivača		Konsultant da dostavi opis postojećeg stanja krova, obrazloženje ukoliko preporučuje zamjenu i fotografije	ponuda će biti razmotrena naknadno
	Ukupno za ponudu br.43	88.060,80		
	Ukupan iznos za prihvaćene ponude (31,33,34,37,38,40-42) (sa PDV-om)	9.946,54		

	MNE EEPPB_Cluster II (ponude br.16-27)			
	Izmjene (u skladu sa poglavljem 13 Opštih i posebnih uslova ugovora), od 12.09.2014.god			
poz	Opis	vrijednost	Komentar	Odluka Koordinacionog odbora
1	Ponuda za izmjene br.16 za O.Š."Dašo Pavičić" Herceg Novi			
	Umanjenje ugovorene količine za prozore na fisulturnoj sali čije je postavljanje finasirano iz sredstava privatne donacije			ponuda se prihvata
	Ukupno ponuda br.16	13.041,45	umanjenje	
2	Ponuda za izmjene br.17 za O.Š."Maršal Tito" Ulcinj			
poz 1	Postavljanje izolacije na cijevima za termotehničke instalacije na mjestima ulaza cijevu u objekat		Dostaviti obrazloženje i fotografije	
poz 2	Izmještanje dijela cijevne mreže u sanitarnim čvorovima			ponuda se prihvata
poz 3	Postavljanje zaštitnih kutija na ventilima za balansiranje			
	Farbanje postojećih kapa ventilacionih otvora na krovu Umanjenje: postavljanje ventilacionih kapa izrađenih od aluminijuma		Tenderom predviđena demontaža i postavljanje novih ventilacionih kapa	
	Ukupno ponuda br.17	1.491,90		

3	Ponuda za izmjene br.18 za O.Š."Maršal Tito" Ulcinj			
poz 1-2	Popravka postojeće zaštite na metalnim stubovima na ulazu u objekat sa farbanjem			
poz 3	Demontaža i ponovna montaža postojećih AC jedinica (4kom)			ponuda se prihvata
poz 4	Demontaža i izmještanje postojeće 4 AC jedinice			
	Ukupno za ponudu br. 18	1.120,35		
4	Ponuda za izmjene br. 19 za S.M.Š."Bratstvo i jedinstvo" Ulcinj			
poz 1-2	Demontaža dva drvena prozora na sanitarnim čvorovima u prizemlju i priprema šembrana za postavljanje keramike		Neophodno zbog postavljanja keramike/ Prozori su postavljeni na dijelu fasade koji je zazidan prilikom dogradnje susjednog objekta	pozicije 1-11 se prihvataju
poz 2-7	Izrada ventilacije za sanitarne čvorove u prozemlju		Ventilacioni otvori blokirani prilikom doziđivanja susjednog objekta	
poz 8	Postavljanje folije na prozorima sanitarnih čvorova			
poz 9	Izrada AB grede na spoju fasade i trotoara		Opravka i dorada postojeće AB grede	
poz 10,11	Izrada trotoara u atrijumu radi zaštite fasade i zamjena poklopaca na šahtovima koji su postavljeni ispod trotoara/kako bi bili u ravni sa trotoarom			
poz 12	Oblaganje gipsom kablova i crijeva za vezu od spoljašnje do unutrašnje jedinice split sistema		Nakon dostavljanja ponude Izvođač je napravio uzorak, smatra se da uzorak nije izveden korektno; Pozicija nije usvojena od strane Konsultanta	pozicija 12 se ne usvaja
poz 13	Izrada novih oluka			pozicije 13-14 se prihvataju
poz 14	Izrada poklopaca od lima za crijeva za kondezat za AC jedinice			
	Ukupno za ponudu br.19	3.838,40	Ponuda bez poz 12 iznosi 1.831,70	

5	Ponuda za izmjene br. 20 za S.M.Š."Bratstvo i jedinstvo" Ulcinj			
	Pozicije 4.13 i 4.14 iz ugovora koje obuhvataju postavljanje zaštitnih mreža izrađenih od crne bravarije sa farbanjem i postavljanje zaštite od sunca sa prethodnim čišćenjem su zamjenjene sa sledećom pozicijom:			
	Isporuka materijala i postavljanje zaštitne na kanalu za atmosfersku vodu na dvorišnom ulazu u školu		Nema izmjena u cijeni / opisi su dati u ponudi u prilogu	
	Ukupno za ponudu br.20	0,00		
6	Ponuda za izmjene br.21 za O.Š."M.Tito" Ulcinj			
	Izrada rampi za hendikepirane osobe ukupne dužine 23.3m		Crtež dat u prilogu/ Konsultant predložio usvajanje navedene pozicije/ trenutno učenici koriste učionice u prizemlju koje su pripremljene za mlađe razrede (1-4), izradom rampi bi se omogućilo da hendikepirani učenici nastave nastavu u istoj školi i koriste kabinete koji su isto u nivou prizemlja ali se do njih dolazi stepeništem	ponuda se prihvata
	Ukupno za ponudu br.21	4.946,71		
7	Ponuda za izmjene br.22 za O.Š."M.Tito" Ulcinj			
	Isporuka i montaža dvije električne platforme za hendikepirane osobe		Ponuda br. 22 je alternativa za ponudu br. 21	ponuda se ne prihvata
	Ukupno za ponudu br.22	21.881,70		

8	Ponuda za izmjene br.23 za O.Š."Maršal Tito" Ulcinj			
poz 1	Demontaža donjeg dijela vrata i priprema podloge za postavljanje keramike		Nije usvojeno od strane Konsultanta	
poz 2	Izrada metalne potkonstrukcije u sanitarnim čvorovima radi montaže gipsanog spušenog plafona	261,80		
	Ukupno za ponudu br.23			
9	Ponuda za izmjene br.24 za O.Š."Dašo Pavičić" Herceg Novi			
	Isporuka i montaža 4 prozora, koja nisu obuhvaćena projektom sa demontažom postojećih prozora			Ponuda se prihvata
	Isporuka i montaža mehanizama za samozatvaranje vrata			
	Ukupno za ponudu br.24	572,87		
10	Ponuda za izmjene br.25 za O.Š."Maršal Tito" Ulcinj			
	Isporuka i montaža mehanizama za samozatvaranje vrata			ponuda se prihvata
	Ukupno za ponudu br.25	107,10		
11	Ponuda za izmjene br.26 za S.M.Š."Bratstvo i jeidnstvo" Ulcinj			
	Isporuka i montaža mehanizama za samozatvaranje vrata			ponuda se prihvata
	Ukupno za ponudu br.26	53,55		
12	Ponuda za izmjene br. 27 za O.Š."Dašo Pavičić" Herceg Novi			
	Umanjene ugovorene cijene po osnovu ne izvođenja pozicija A12 i A14 iz ugovora		Ugradjeno od strane donatora	ponuda se prihvata
	Ukupno za ponudu br.27	1.869,19	umanjenje	
	Ukupno bez ponuda 22 i 29 (sa PDV-om)	-4.524,66		

	MNE EEPB_Cluster II_(ponude br.28 i 30-33), od 10.10.2014.god			
	Izmjene (u skladu sa poglavljem 13 Opštih i posebnih uslova ugovora),			
poz	Opis	vrijednost	Komentar	Odluka Koordinacionog odbora
1	Ponuda za izmjene br.28 za O.Š."Dašo Pavičić" Herceg Novi			
	Dodatna oprema za termotehničku instalaciju (data u specifikaciji u ponudi)		Prepravka dijela mreže	ponuda se prihvata
	Ukupno ponuda br.28	1.421,46		
2	Ponuda za izmjene br.30 za Studentski dom "Spasić Masera" Kotor			
	Gletovanje i moleraj fasadnih zidova sa unutrašnje strane na kojima se ugrađuju prozori			ponuda se prihvata
	Umanjenje za pozicije iz ugovora koje obuhvataju gletovanje i moleraj šembrana i parapeta			
	Ukupno ponuda br.30	8.678,92		
3	Ponuda za izmjene br.31 za O.Š."Dašo Pavičić" Herceg Novi			
	Isporuka i postavljanje okapnica na gredama na fasadi/ Ponuda obuhvata razliku u količini između količine date u ugovoru i izmjerene na licu mjesta u iznosu od 130,59m1		Ponuda nije usvojena od strane Konsultanta	
	Ukupno za ponudu br. 31	2.268,87		

4	Ponuda za izmjene br. 34 za O.Š. "Maršal Tito" Ulcinj			
poz 1-2	Isporuka i postavljanje metalnih kutija i profila za izradu potkonstrukcije za postavljanje EPS obloga na nadstrešnici, sa postavljanjem izolacije od EPS-a			ponuda se prihvata
poz 3	Isporuka i postavljanje šljunka na krovu, za potrebe zaštite novopostavljene izolacije na krovu			
	Ukupno za ponudu br.34	976,77		
5	Ponuda za izmjene br. 35 za S.M.Š. "Bratstvo i jedinstvo" Ulcinj			
	Postavljanje veze između školskog objekta i fiskulturne sale/ radi zaštite već izvedenih radova			ponuda se prihvata
	Isporuka i postavljanje šljunka na krovu, za potrebe zaštite novopostavljene izolacije na krovu			
	Ukupno za ponudu br.35	664,77		
	Ukupno bez ponuda 28 i 30-33 (sa PDV-om)	9.526,33		

	MNE EEPB_Cluster II (ponude br. 36-44), od 17.10.2014.god			
	Izmjene (u skladu sa poglavljem 13 Opštih i posebnih uslova ugovora),			
poz	Opis	vrijednost	Komentar	Odluka Koordinacionog odbora
1	Ponuda za izmjene br.36 za O.Š."M.Tito" Ulcinj			
poz 1	Isporuka i postavljanje gipsanih ploča dimenzije 60x120cm radi zamjene oštećenih			pozicije 1 i 2 se prihvataju/ pozicije 3 i 4 nisu prihvaćene
poz 2	Opravka vjetrobrana			
poz 4-5	Zamjena oštećenog poda na ulazu u školu			
	Ukupno ponuda br.36	3.385,10	(ukupno za poz 1 i 2 789,28eura)	
2	Ponuda za izmjene br.37 za S.M.Š."Bratstvo i jedinstvo" Ulcinj			
poz 1 i 2	Isporuka i postavljanje vertikalnih oluka			pozicije 1-6 se usvajaju/ pozicije 7 i 8 nisu usvojene
poz 3	Postavljanje termoizolacije na dijelu fasade prema fiskulturnoj Sali			
poz 4	Demontaža i ponovna montaža split sistema			
poz 5,6	Zatvaranje otvora na krovu, na spoju škole i fiskulturne sale			
poz 7,8	Premazivanje fasade objekta u kojoj je smještena zbornica i biblioteka (zahtjev ddirektora)		(Ukupno za pozicije koje su usvojene 4483,54eura)	
	Ukupno ponuda br.37	6.749,87		

3	Ponuda za izmjene br.38 za O.Š."M.Tito"Ulcinj			
	Povezivanje oluka na sistem izjednačenja potencijala			ponuda se prihvata
	Ukupno za ponudu br. 38	6.424,69		
4	Ponuda za izmjene br. 39 za O.Š."Dašo Pavičić" HN			
	Odvod za atmosfersku vodu			ponuda se prihvata
	Ukupno za ponudu br.39	1.092,66		
5	Ponuda za izmjene br. 40 za S.M.Š."Bratstvo i jedinstvo" Ulcinj			
	Zahtjev za priznavanjem dodatnih količina materijala		Nije prihvaćeno od strane Konsultanta	
	Ukupno za ponudu br.40	14.025,34		
6	Ponuda za izmjene br. 41 za O.Š."Dašo Pavičić" HN			
	Ponuda za postavljanje vrata/prozora od PVC profila umjesto aluminijumskih, koji su predviđeni tenderom		Umanjenje	ponuda se prihvata
	Ukupno za ponudu br.41	-476,00		
7	Ponuda za izmjene br. 42 za S.M.Š."Bratstvo i jedinstvo" Ulcinj			
	Zamjena oštećenih stakala		Nije prihvaćeno od strane Konsultanta	ponuda se ne prihvata
	Ukupno za ponudu br.42	74,93		
8	Ponuda za izmjene br. 43 za O.Š."Dašo Pavičić" HN			
	Izrada oduška na cijevima za dovod goriva			ponuda se prihvata
	Ukupno za ponudu br.43	220,77		

9	Ponuda za izmjene br. 44 za O.Š. "Dašo Pavičić" HN			
	Postavljanje otvora za ventilaciju na vratima kotlarnice		Nije prihvaćeno od strane Konsultanta	
	Ukupno za ponudu br.44	235,62		
	Ukupno za usvojene ponude (36,37,38,39,41 i 43) (sa PDV-om)	12.534,94		

Zapisnik sa XVII sjednice Koordinacionog odbora

Projekat: Program energetske efikasnosti u javnim zgradama u Crnoj Gori (EPPB)

Predmet: XVII sjednica Koordinacionog odbora za realizaciju "Programa energetske efikasnosti u javnim zgradama u Crnoj Gori"

Datum: Ponedjeljak, 28.11.2014.god

Učesnici: **Ministarstvo ekonomije:**
Dragica Sekulić, Predsjednik Koordinacionog odbora
Žana Radulović, član Koordinacionog odbora
Ministarstvo prosvjete:
Vesna Krivokapić, član Koordinacionog odbora
Jedinica za implementaciju projekta/ PMU:
Sandra Šipčić
Toma Siništaj
Fichtner:
Udo Becker
Djordje Debljović

XVII sjednica Koordinacionog odbora za realizaciju "Programa energetske efikasnosti u javnim zgradama u Crnoj Gori" održana je 28.11.2014.godine sa sledećim dnevnim redom:

1. Razmatranje i usvajanje ponuda za naknadne, nepredviđene radove i izmjene za objekte iz klastera I
2. Razmatranje i usvajanje ponuda za naknadne, nepredviđene radove i izmjene za objekte iz klastera II
3. Informacija o rezultatima energetskog pregleda za objekat "Srednja -ekonomska škola" u Bijelom Polju
4. Razmatranje i usvajanje predloga radova na poboljšanju komfora za objekte iz klastera V, koje treba obuhvatiti projektom (O.Š."Bedri Elezaga" Vladimir, O.Š."Božidar Vuković Podgoričanin" Podgorica, O.Š."Milorad Musa Burzan" Podgorica, JPU "Naša radost" Herceg Novi i JPU "Irena Radović" Danilovgrad)

1. Razmatranje i odobravanje ponuda za naknadne, nepredviđene radove i izmjene za objekte iz klastera I

Na ovoj sjednici Koordinacionog odbora razmatrane su ponude za naknadne, nepredviđene radove i izmjene br. 36, br. 43-46, br.53-59 i 57.

Ponude br.35, 48-51 su usvojene 31.10.2014.godine u komunikaciji elektronskom poštom.

Sve dostavljene ponude su prethodno provjerene od strane Konsultanta i sa tehničkog i finansijskog aspekta, nakon čega su dostavljene Koordinacionom odboru na usvajanje.

Procedura za izmjene je definisana Opštim i Posebnim uslovima ugovora u poglavlju 13 (Variations) .

Pregled dostavljenih ponuda, sa komentarima Koordinacionog odbora, je dat u aneksu br.1.

Dopisi Konsultanta sa predlogom za usvajanje ponuda su dati u aneksu br.2.

2. Razmatranje i odobravanje ponuda za naknadne, nepredviđene radove i izmjene za objekte iz klastera II

Na ovoj sjednici Koordinacionog odbora razmatrane su ponude za naknadne, nepredviđene radove i izmjene br. 44-48, br.50-53, br. 54-57 i br.58-60.

Ponude br.32 i 33 su usvojene 31.10.2014.godine u komunikaciji elektronskom poštom.

Sve dostavljene ponude su prethodno provjerene od strane Konsultanta i sa tehničkog i finansijskog aspekta, nakon čega su dostavljene Koordinacionom odboru na usvajanje.

Procedura za izmjene je definisana Opštim i Posebnim uslovima ugovora u poglavlju 13 (Variations) .

Pregled dostavljenih ponuda, sa komentarima Koordinacionog odbora, je dat u aneksu br.3.

Dopisi Konsultanta sa predlogom za usvajanje ponuda su dati u aneksu br.4.

3. Informacija o rezultatima energetskeg pregleda za objekat "Srednja elektro-ekonomska škola" u Bijelom Polju

Instalacije centralnog grijanja u Gimnaziji "Miloje Dobrašinović" i Srednjoj elektro-ekonomskoj školi u Bijelom Polju su povezane na zajedničku kotlarnicu smještenu u Srednjoj elektro-ekonomskoj školi. U Srednjoj elektro-ekonomskoj školi je u okviru projekta MEEP izvršena primjena mjera energetske efikasnosti , u okviru kojeg je između ostalih radova izvršena i zamjena kotlova i ugradnja dva kotla na lož ulje kapaciteta 2x313kW. Takođe, tokom navedenog projekta je predviđena i instalacija za priključenje dodatnog kotla za potrebe grijanja susjedne škole.

Programom EEPB je obuhvaćena Gimnazija "Miloje Dobrašinović" u Bijelom Polju, za koju je urađen detaljni energetskeg pregled. Tokom izrade detaljnog energetskeg pregleda izvršen je proračun kapaciteta kotla koji je potrebno instalirati u navedenom objektu. Osim toga, predloženo je da se uradi i proračun toplotnih zahtjeva za susjednu Srednju elektro-ekonomsku školu kako bi se provjerilo da li je kapacitet postojećih kotlova dovoljan za potrebe grijanja obje škole, nakon rekonstrukcije, ili je potrebno ugraditi dodatni kotao. Provjera je urađena tokom oktobra i novembra 2014.god, kojom je konstatovano da su postojeći kotlovi dovoljnog kapaciteta za potrebe grijanja obje škole i da nije potrebno instalirati dodatni kotao.

Koordinacioni odbor je usvojio navedenu informaciju i predlog Konsultanta. Na osnovu ove odluke Konsultant će napraviti izmjenu u ugovoru sa izvođačem za klaster III.

4. Razmatranje i usvajanje predloga radova na poboljšanju komfora za objekte iz klastera V, koje treba obuhvatiti projektom (O.Š."Bedri Elezaga" Vladimir, O.Š."Božidar Vuković Podgoričanin" Podgorica, O.Š."Milorad Musa Burzan" Podgorica, JPU "Naša radost" Herceg Novi i JPU "Irena Radović" Danilovgrad)

Na predlog Koordinacionog odbora, projektni zadaci će se su razmatrati na sastanku na kojem će prisutvovati Konsultant, predstavnik PMU i predstavnik Minsitarstva prosvjete, sa kojeg će biti pripremljen zapisnik.

ZAKLJUČAK

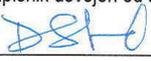
1.Pregled ponuda, usvojenih od strane Koordinacionog odbora, za klaster I je dat u aneksu 1.

2.Pregled ponuda, usvojenih od strane Koordinacionog odbora, za klaster II je dat u aneksu 3,

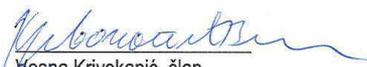
3. Koordinacioni odbor je usvojio infomaciju i predlog Konsultanta.

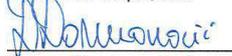
4. Predlog radova na poboljšanje komfora za O.Š."Bedri Elezaga" Vladimir, O.Š."Božidar Vuković Podgoričanin" Podgorica, O.Š."Milorad Musa Burzan" Podgorica, JPU "Naša radost" Herceg Novi i JPU "Irena Radović" Danilovgrad biće razmatran na sastanku na kojem će prisustvovati Konsultant, predstavnik PMU i predstavnik Minsitarstva.

Zapisnik usvojen od strane:


Dragica Sekulić, predsjednik


Žana Radulović, član


Vesna Krivokapić, član


Dragan Darmanović, član

Aneksi

- Aneks 1 - Pregled ponuda za naknadne, nepredviđene radove i izmjene za objekte iz klastera I sa komentarima
 - Aneks 2 – Ponude za izmjene br.26,36,44, 45-51,52,53-59,43 i 57
 - Aneks 3 – Pregled ponuda za naknadne, nepredviđene radove i izmjene za objekte iz klastera II sa komentarima
 - Aneks 4 – Ponude za izmjene br.44,45-48,50-53,54-57,58-60
-

	Aneks 1 - Pregled ponuda za naknadne, nepredviđene radove i izmjene za objekte iz klastera I sa komentarima			
	MNE EEPB_Cluster I			
	Izmjene (u skladu sa poglavljem 13 Opštih i posebnih uslova ugovora)			
poz	Opis	vrijednost ponuđenih radova	komentar	odluka Koordinacionog odbora
1	Ponude br. 1,35, 48,49 i 50 zaštitne mreže za prozore u O.Š."Braća Ribar", O.Š."Milija Nikčević i O.Š."M.L.Lalatović"			
ponuda br. 1, pozicije 3.i 4. (B.R.)	Izrada, isporuka i postavljanje zaštitne mreže za prozore fiskulturne sale, koji se nalaze naspram košarkaškog igrališta, izrađene od L profila i metalne mreže, premazane antikorozivnim premazom i finalnom bojom, radi zaštite stakala na novougrađenim prozorima od lomljenja. Dimenzije mreže su 390x170cm, 5 komada.	2542,85		usvojeno 31.10.2014
	Isporuka i postavljanje mreže na prozorima fiskulturne sale, izrađene od konopa, mreža se postavlja sa unutrašnje strane, na svim prozorima, ukupne površine 90 m2.	667,59		
ponuda br.48 (M.L.L.)	Umanjenje: Isporuka i postavljanje zaštitne mreže na prozorima fiskulturne sale sa spoljne strane (poz iz ugovora ML BoQ ARH II 9), kom9 dimenzija 298/212	-9131,50		
ponuda br. 49 (M.N)	Izrada, isporuka i postavljanje zaštitne mreže na prozorima fiskulturne sale koji se nalaze pored fudbalskog igrališta radi zaštite prozora od udara lopte. Zaštitna mreža treba da bude izrađena od L profila i metalne mreže, premazane antikorozivnim premazom i finalnom bojom, dimenzija 682x300cm, 2kom	3683,29		
ponuda br.50 (M.L.L.)	Isporuka i postavljanje unutrašnje zaštitne mreže sa izrađene od konopa, za zaštitu prozora na fiskulturnoj sali, komplet sa ankerima za fiksiranje na plafon i zidove Mreža se postavlja na svim prozorima u fisulturnoj sali, ukupne površine 120m2.	1330,90		

ponuda br. 35 (B.R, M.N, M.L.L.)	Izrada zaštite na kaloriferima u fiskulturnoj sali , od metalnih kutija i mreže, dimenzija 600 x600m, radi zaštite od udara lopte.	1285,20	Zaštita postoji na kaloriferima ali je oštećena od udara lopte, neophodno je da se montiraju nove zaštitne mreže. U O.Š."Jagoš Kontić postoji zaštitna mreže na kaloriferima koje su ranije ugradjene	
	Ukupno ponude, br. 1,35, 48,49 i 50	378,33		
2	Ponuda za izmjene br.12 za O.Š."Milija Nikčević" Nikšić :			
	Postavljanje spoljne rasvjete na fasadi sa polaganjem kablova i prepravkama razvodnih tabli		Na objektu je postojala spoljna rasvjeta koja je nepropisno izvedena. S obzirom da se objekat nalazi van gradskog jezgra i da u širem području oko objekta nema osvjetljenja, pošto se postojeća rasvjeta ne može vratiti u ispravno stanje neophodno je da se polože novi kablovi i montiraju novi reflektori.	
	Ukupno ponuda br.12	3.796,74		
3	Ponuda za izmjene br.51 za O.Š."Jagoš Kontić" Nikšić			
	Opravke dijela instalacije i veza sa radiatorima, na kojima su utvrđeni nedostaci nakon testiranja instalacije			Usvojeno 31.10.2014
	Ukupno za ponudu br. 51	1.309,43		

4	Ponuda za izmjene br.26 za O.Š."M.L.Lalatović" Nikšić(inovirana ponuda)			
	Opravke krova, sanacija pukotina i čišćenje oluka			Usvajeno 31.10.2014
	Ukupno za ponudu br. 26	927,84		
5	Ponuda za izmjene br.44 za O.Š."Milija Nikčević Nikšić			
	Isporuka i montaža metalnih stepenica na ulazu u kotlarnicu	490,00		Usvaja se
	Ukupno za ponudu br. 44			
6	Ponuda za izmjene br.45 za O.Š."M.L.Lalatović" Nikšić			
	Opravka plafona,oštećenih nakon demontaže postojećih svjetiljki i moleraj			Usvaja se
	Ukupno za ponudu br. 45	19.307,37		
7	Ponuda za izmjene br.46 za O.Š."J.Kontić" i "M.Nikčević" Nikšić			
	Isporuka materijala i izrada snjegobrana			Ne usvaja se
	Ukupno za ponudu br. 46	4.044,81		
8	Ponuda za izmjene br.54 O.Š."M.L.L." Nikšić			
	Isporuka i montaža 3 reflektora fasadi			Usvaja se
	Ukupno za ponudu br.54	664,02		
9	Ponuda za izmjene br.55 O.Š."J.Kontić" Nikšić			
	Izrada instalacije za napajanje svjetiljki na fasadi (postojeće napajanje je sa nadzemne NN mreže)			Usvaja se
	Ukupno za ponudu br.55	535,50		

10	Ponuda za izmjene br.56 O.Š."M.L.L." Nikšić			
	Izrada sanitarnog čvora za hendikepirane osobe			Usvaja se
	Ukupno za ponudu br.56	5.160,51		
11	Ponuda za izmjene br.57 O.Š."M.L.L." Nikšić			
	Postavljanje termoizolacije na spoju prozora i krova na poslednjem spratu škole			Usvaja se
	Ukupno za ponudu br.57	4.578,81		
12	Ponuda za izmjene br.58 O.Š."M.Nikčević" i "J.Kontić" Nikšić			
	Opravka cijevne mreže na mjestima gdje je utvrđeno procurivanje nakon hladne probe sistema grijanja			Usvaja se
	Ukupno za ponudu br.58	456,96		
13	Ponuda br. 52 O.Š."Milija Nikčević" Nikšić			
	Izrada sanitarnog čvora za hendikepirane osobe			Usvaja se
	Ukupno za ponudu br.52	5.600,00		

	Aneks 3 – Pregled ponuda za naknadne, nepredviđene radove i izmjene za objekte iz klastera II sa komentarima			
	MNE EEPPB_Cluster II_pregled usvojenih ponuda za naknadne radove_20.11.2014			
	Izmjene (u skladu sa poglavljem 13 Opštih i posebnih uslova ugovora)			
poz	Opis	vrijednost ponuđenih radova	komentar	odluka Koordinacionog odbora
1	Ponuda za izmjene br.32 za O.Š."D.Pavičić" HN (inovirana ponuda)			
	Postavljanje zaštite na prozorima fiskulturne sale, koji se nalaze nasprav košarkaškog terena radi zaštite stakala na prozorima			Usvaja se (odobreno 31.10.2014)
	Ukupno ponuda br.32	6.889,44		
2	Ponuda za izmjene br.33 za O.Š."D.Pavičić" HN (inovirana ponuda)			
	Zamjena postojećih dvožilnih kablova u podrumu , sa kablovima tipa PP-Y3x1,5mm2		Zamjena kablova u podrumu nije obuhvaćena ponudom br.2, koja je već usvojena	Usvaja se (odobreno 31.10.2014)
	Ukupno ponuda br.33	1.007,60		
3	Ponuda za izmjene br. 44 za O.Š."Dašo Pavičić" HN			
	Postavljanje otvora za ventilaciju na vratima kotlarnice			Usvaja se
	Ukupno za ponudu br.44	235,62		

4	Ponuda za izmjene br. 45 za Studentski dom Kotor			
poz 1-3, 8	Opravke opšiva na krovu uz postavljanje dodatne termoizolacije			
poz4-7	Postavljanje limenih opšiva			Usvaja se
	Ukupno za ponudu br.45			
		6.392,25		
5	Ponuda za izmjene br. 46 za Studentski dom Kotor			
poz 1,2,8,9	Demontaža polomljene keramike u kotlarnici, malterisanje i higijensko premazivanje zidova			
poz 3,4,7	Sanacija oštećenja na žardinjerama na fasadi i izrada sloja hidroizolacije			
poz 5 i 10			potrebno objašnjenje od Konsultanta	
poz 11,12	Probijanje zida u kotlarnici radi unošenja opreme i zaziđivanje otvora			
poz 6,7,13	Skidanje sokle od keramike na protivpožarnim stepenicama i postavljanje nove			Usvaja se
	Ukupno za ponudu br.46	5.666,67		
6	Ponuda za izmjene br. 47 za S.M.Š. "Bratstvo i jedinstvo" Ulcinj			
	Izrada hidroizolacije na nadstrešnici iznad ulaza u zbornicu			usvaja se
	Ukupno za ponudu br.47	648,72		
7	Ponuda za izmjene br. 48 za Studentski dom Kotor			
	Umanjenje za izradu, isporuku i montažu tri roletne,			
	Umanjenje za izradu, isporuku i montažu kliznih vrata na ulazu u objekat, demnta			
	Ponuda za izradu dvokrilnih vrata na ulazu u objekat			

	Demontaža prozora za iznad na krov, djelimično zaziđivanje i izrada, isporuka i montaža novog PVC prozora			
	Izrada otvora na fasadnom zidu, izrada, isporuka i montaža novog PVC prozora			
	Ukupno za ponudu br.48	-1.145,42		
8	Ponuda za izmjene br. 50 za O.Š."Maršal Tito" Ulcinj			
	Izrada napajanja kalorifera u fiskulturnoj sali			Usvaja se
	Ukupno za ponudu br.50	1.586,75		
9	Ponuda za izmjene br. 51 za O.Š."Maršal Tito" Ulcinj			
	Ponuda za dodatne količine za gromobransku instalaciju		Izvođača da dostavi crteže	Usvaja se
	Ukupno za ponudu br.51	5.504,56		
10	Ponuda za izmjene br. 52 za S.M.Š. "Bratstvo i jedinstvo" Ulcinj			
	Ponuda za dodatne količine za gromobransku instalaciju		Izvođača da dostavi crteže	Usvaja se
	Ukupno za ponudu br.52	3.117,68		
11	Ponuda za izmjene br. 53 za S.M.Š. "Bratstvo i jedinstvo" Ulcinj			
	Ponuda za izradu kulira na dijelovima fasade koji nisu obuhvaćeni tenderom			Usvaja se
	Ukupno za ponudu br.53	1.077,32		
12	Ponuda za izmjene br. 54 za O.Š. "D.Pavičić" HN			
	Ponuda za izradu sanitarnog čvora za hendikepirane			Usvaja se
	Ukupno za ponudu br.54	6.389,22		

13	Ponuda za izmjene br. 55 za O.Š. "D.Pavičić" HN			
	Ponuda za opravke cijevi za termotehničku na prodorima između ploča			
	Ukupno za ponudu br.55	492,66		
14	Ponuda za izmjene br. 56 za O.Š. "D.Pavičić" HN			
poz 1	Prepravka odušaka na cijevnoj mreži			poz 1 i 3 se usvajaju, poz 2 se ne usvaja
poz 2	Opravka nivometra za snadbijevanje kotlova lož uljem		oštećeno tokom demontažnih radova	
poz 3	Isporuka radijatora, 4 rebra, u sanitarnom čvoru za hendikepirane osobe, opremljenog sa termoglavama sa izradom veza na postojeću cijvnu mrežu			
	Ukupno za ponudu br. 56	809,20		
15	Ponuda za izmjene br. 57 za Studentski dom Kotor			
	Izrada šahta od armiranog betona za potrebe novog spoljašnjeg dimnjaka za potrebe kotlarnice			Usvaja se
	Opravka postojeće vodovodne i kanalizacione mreže u kotlarnici			
	Ukupno za ponudu br. 57	1.243,84		
16	Ponuda za izmjene br. 58 za S.M.Š. "Bratstvo i jedinstvo" Ulcinj			
	Isporuka metalnih poklopaca za kondenzat na fasadi			Usvaja se
	Ukupno za ponudu br. 58	785,40		

17	Ponuda za izmjene br. 59 za O.Š."Maršal Tito" Ulcinj			
	Isporuka i montaža 6 svjetiljki na nadstrešnici na ulazu u objekat			Usvaja se
	Ukupno za ponudu br.59	246,33		
18	Ponuda za izmjene br. 60 za S.M.Š."Bratstvo i jedinstvo" Ulcinj			
	Izmjena načina uzemljenja oluka			Ne usvaja se
	Ukupno za ponudu br.60	389,10		

Zapisnik sa XVIII sjednice Koordinacionog odbora

- Projekat:** Program energetske efikasnosti u javnim zgradama u Crnoj Gori (EEPPB)
- Predmet:** XVIII sjednica Koordinacionog odbora za realizaciju "Programa energetske efikasnosti u javnim zgradama u Crnoj Gori"
- Datum:** Utorak, 10.02.2015.god
- Učesnici:**
- Ministarstvo ekonomije:**
Dragica Sekulić, Predsjednik Koordinacionog odbora
Žana Radulović, član Koordinacionog odbora
 - Ministarstvo prosvjete:**
Vesna Krivokapić, član Koordinacionog odbora
 - Ministarstvo finansija:**
Dragan Darmanović, član Koordinacionog odbora
 - Jedinica za implementaciju projekta/ PMU:**
Sandra Šipčić
Toma Siništaj

XVIII sjednica Koordinacionog odbora za realizaciju "Programa energetske efikasnosti u javnim zgradama u Crnoj Gori" održana je 10.02.2015.godine sa sledećim dnevnim redom:

1. Razmatranje i usvajanje ponuda za naknadne, nepredviđene radove i izmjene za objekte iz klastera I
2. Razmatranje i usvajanje ponuda za naknadne, nepredviđene radove i izmjene za objekte iz klastera II
3. Informacija o završetku radova na objektima iz klastera I i II, sa predlogom za potpisivanje aneksa ugovora
4. Podjela objekata iz klastera V na dvije grupe, radi raspisivanja tendera

1. Razmatranje i odobravanje ponuda za naknadne, nepredviđene radove i izmjene za objekte iz klastera I

Na ovoj sjednici Koordinacionog odbora usvojene su ponude br. 39, 60 i 61 (prethodno usvojene u komunikaciji elektronskim putem).

Sve razmatrane ponude su prethodno provjerene od strane Konsultanta, nakon čega su dostavljene Koordinacionom odboru na usvajanje. Procedura za izmjene je definisana Opštim i Posebnim uslovima ugovora u poglavlju 13 (Variations).

Pregled dostavljenih ponuda, sa komentarima Koordinacionog odbora, je dat u aneksu br.1.

Dopisi Konsultanta sa predlogom za usvajanje ponuda dati su u aneksu br.2.

Tokom izvođenja radova na O.Š."M.L.Lalatović" u Nikšiću, konstatovano je da je dio krovnog pokrivača u lošem stanju i da je neophodno izvršiti njegovu zamjenu, kako bi se objekat sačuvao od propadanja. Neophodnost izvođenja navedenih radova potvrđena je od strane Konsultanta, dopisom br.1000B23, od 25.11.2014.god. S obzirom na vrijednost ponuđenih radova, poslat je dopis Ministarstvu prosvjete sa zahtjevom za saglasnost za izvođenje radova na sanaciji krova. Predlog da se sanira krov, iz sredstava ovog projekta je prihvaćen, što je potvrđeno dopisom br.01-26/2, od 21.01.2015.god.(Svi navedeni dopisi su dati u aneksu 3.)

Na osnovu navedenog članovi Koordinacionog odbora su usvojili ponude br. 43 i 57, koje se odnose na sanaciju krova u O.Š."M.L.Lalatović" u Nikšiću.

2. Razmatranje i odobravanje ponuda za naknadne, nepredviđene radove i izmjene za objekte iz klastera II

Na ovoj sjednici Koordinacionog odbora su usvojene ponude br. 61-65 (prethodno usvojene u komunikaciji elektronskim putem).

Sve dostavljene ponude su prethodno provjerene od strane Konsultanta i sa tehničkog i finansijskog aspekta, nakon čega su dostavljene Koordinacionom odboru na usvajanje. Procedura za izmjene je definisana Opštim i Posebnim uslovima ugovora u poglavlju 13 (Variations).

Pregled dostavljenih ponuda, sa komentarima Koordinacionog odbora, je dat u aneksu br.4.
Dopisi Konsultanta sa predlogom za usvajanje ponuda su dati u aneksu br.5.

3. Informacija o završetku radova na objektima iz klastera I i II

Primopredaja radova na objektima iz klastera I je izvršena 03.11.2014.godine.

Izgradnja sanitarnih čvorova za hendikepirane osobe u O.Š."M.L.Lalatović", O.Š."J.Kontić" i O.Š." M.Nikčević" u Nikšiću zahtjevana je na primopredaji od strane predstavnika Ministarstva prosvjete. Ponude za izvođenje radova na izgradnji sanitarnih čvorova za hendikepirane br.52 i 56 su usvojene su na XVII sjednici Koordinacionog odbora, održanoj 28.11.2014.god. Dok je ponuda br.60, koja se odnosi na izgradnju sanitarnog čvora u O.Š."J.Kontić" usvojena 18.12.2014.god. Radovi na izgradnji sanitarnih čvorova su završeni u toku zimskog raspusta u januaru 2015.god.

Ministarstvo prosvjete je usvojilo predlog da se izvrši zamjena dijela krovnog pokrivača na O.Š."Mileva Lajović Lalatović" u Nikšiću, što je potvrđeno dopisom br.01-26/2, od 21.01.2015.godine. Navedeni radovi će se izvesti u toku ljetnjeg raspusta 2015.godine.

Garantni rok za naknadne radove teče od dana njihovog završetka sa trajanjem od jedne godine.

Primopredaja radova za objekte iz klastera II je izvršena po sledećem rasporedu:

- O.Š. "Dašo Pavičić" u Herceg Novom 05.11.2014.godine
- O.Š. "Maršal Tito" i S.M.Š. "Bratstvo i jedinstvo" Ulcinj, 11.11.2014.godine
- Studentski dom "Spasić-Masera" Kotor, 25.12.2014.godine.

Dana 30.01.2015.god, dostavljen je dopis od Konsultanta, kojim se konstatuje da su svi planirani radovi na objektima iz klastera I završeni, osim radova na zamjeni krovnog pokrivača na O.Š. "Mileva Lajović Lalatović" u Nikšiću, čije je izvođenje planirano za ljetnji raspust 2015.godine i da su se stekli uslovi da se potpiše aneks ugovora, kojim će biti obuhvaćene sve izmjene ugovorenih radova koje se odnose na izmjene ugovorene cijene i izmjene ugovorenog roka.

Dopis iste sadržine ušućen je Ministarstvu ekonomije 05.02.2015.god, kojim se konstatuje da su radovi na objektima iz klastera II završeni i da su se stekli uslovi za pripremu aneksa ugovora.

Pregled vrijednosti ugovorenih radova i vrijednosti radova po aneksu ugovora br. 1 za klaster I i II su date u tabelama:

Red br.	Opis	Ukupno po objektima [EUR]	
		Ugovor	Aneks br.1
A.5.1	O.Š. "Mileva Lajović Lalatović", Nikšić	845.578,06	874.378,27
A.5.2	O.Š. "Jagoš Kontić", Nikšić	623.747,76	608.698,20
A.5.3	O.Š. "Milija Nikčević", Nikšić	576.467,89	568.666,39
A.5.4	O.Š. "Braća Ribar", Nikšić	508.031,40	483.968,74
	Ukupno za klaster I	2.553.825,10	2.535.711,59

Red br.	Opis	Ukupno po objektima [EUR]	
		Ugovor	Aneks br. 1
A.5.1	Studentski dom "Spasić-Mašera", Kotor	678.899,90	597.388,53
A.5.2	O.Š. "Dašo Pavičić", Herceg Novi	855.122,92	851.105,28
A.5.3	S.M.Š. "Bratstvo i Jedinstvo", Ulcinj	455.011,20	341.158,79
A.5.4	O.Š. "Maršal Tito", Ulcinj	821.561,02	707.521,39
	Ukupno za klaster II	2.810.595,04	2.497.173,99

Detaljan pregled vrijednosti ugovorenih radova i vrijednosti radova sa odobrenim izmjenama je data u aneksu 6.

4. Podjela objekata iz klastera V na dvije grupe, radi raspisivanja tendera

Predlaže se da se izvrši podjela objekata iz klastera V na dvije grupe od po četiri objekta, koji će biti grupisani u klaster V i VI. Na osnovu ove odluke Konsultant će pripremiti tendersku dokumentaciju, nakon čega će biti raspisan poziv za predkvalifikaciju.

Predlaže se da se objekti grupišu na sledeći način:

Klaster V

1. JU "Naša radost" Herceg Novi
2. Gimnazija "Petar I Petrović Njegoš" Danilovgrad
3. JU "Irena Radović" Danilovgrad
4. O.Š."Njegoš" Cetinje

Klaster VI

1. O.Š."Bedri Elezaga" Vladimir, Ulcinj
2. O.Š."Milorad Musa Burzan" Podgorica
3. Srednja elektrotehničke škola "Vaso Aligrudić", Srednja građevinsko-geodetska škola " Marko Radović" i Srednja stručna škola "Spasoje Raspopović" u Podgorici
4. O.Š."Božidar Vuković Podgoričanin" Podgorica

O.Š."Aleksa Bećo Djilas" u Mojkovcu će biti pridružena objektima iz faze II. Ovaj školski objekat je povezan na istu kotlarnicu kao i susjedna S.M.Š."Vuksan Djukić", tako da u ovom slučaju primjena mjera energetske efikasnosti je preporučljiva samo ako se oba objekta posmatraju istovremeno.

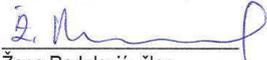
Ažurirana lista sa podjelom na klaster je data u aneksu 6.

ZAKLJUČAK

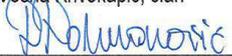
- 1.Pregled ponuda, usvojenih od strane Koordinacionog odbora, za klaster I je dat u aneksu 1.
- 2.Pregled ponuda, usvojenih od strane Koordinacionog odbora, za klaster II je dat u aneksu 4,
3. Koordinacioni odbor predlaže da se potpišu aneksi ugovora za klaster I i II, kojim će biti obuhvaćena izmjena ugovorene cijene za oba klastera, na osnovu prethodno usvojenih ponuda za izmjene, kao i izmjena roka za izvođenje radova za klaster I.
4. Koordinacioni odbor je usvojio predlog za podjelu objekata iz klastera V, na dvije grupe (aneksu 6)

Zapisnik usvojen od strane:


Dragica Sekulić, predsjednica


Žana Radulović, član


Vesna Krivokapić, član


Dragan Darmanović, član

4. Podjela objekata iz klastera V na dvije grupe, radi raspisivanja tendera

Aneksi

Aneks 1 - Pregled ponuda za naknadne, nepredviđene radove i izmjene za objekte iz klastera I

Aneks 2 - Ponude za izmjene br.46,60 i 61

Aneks 3 - Aneks 3 - Dopisi Ministarstva ekonomije br.0601-78/119, od 28.12.2014.god i Ministarstva prosvjete br.01-26, od 21.11.2015.god..

Aneks 4 - Pregled ponuda za naknadne, nepredviđene radove i izmjene za objekte iz klastera II

Aneks 5 - Ponude za izmjene br.61-65

Aneks 6 - Kratka lista sa podjelom na klastera

Aneks 1 - Pregled ponuda za naknadne, nepredviđene radove i izmjene za objekte iz klastera I

MNE EEPPB_Cluster I (ponude br.39,60 i 61)				
Izmjene (u skladu sa poglavljem 13 Opštih i posebnih uslova ugovora)				
poz	Opis	vrijednost ponuđenih radova	komentar	odluka Koordinacionog odbora
1	Ponude br. 60 O.Š."Jagoš Kontić"			
	Izrada sanitarnog čvora za hendikepirane osobe sa izradom rampe			usvaja se (mail 18.12.2014)
	Ukupno ponuda br. 60	6.965,21		
2	Ponuda za izmjene br.61 za O.Š."Braća Ribar" Nikšić :			
	Zamjena polomljenih svjetiljki u ulaznom holu			usvaja se (mail 18.12.2014)
	Ukupno ponuda br.61	335,02		
3	Ponuda za izmjene br.46 za O.Š."J.Kontić" i "M.Nikčević" Nikšić :			
	Postavljanje snjegobrana na dijelu krova		Po preporuci Konsultanta, postavljanje snjegobrana na dijelu krova sa većim nagibom je neophodno	usvaja se
	Ukupno ponuda br.46	4.044,81		
	Ukupno za ponude 39, 60 i 61 (sa PDV-om)	11.345,04		

Aneks 2 – Ponude za izmjene br.46,60 i 61

Aneks 3 - Dopisi Ministarstva ekonomije br.0601-78/119, od 28.12.2014.god i Ministarstva prosvjete br.01-26, od 21.11.2015.god.



Crna Gora
Ministarstvo ekonomije

Broj: 0601- *JK/US*
Podgorica, 28.12.2014. godine

Ministarstvo prosvjete
n/r Sanji Vlahović
ministarki

PREDMET: „Program energetske efikasnosti u javnim zgradama“

Poštovana g-đo Vlahović,

u toku je realizacija projekta "Program energetske efikasnosti u javnim zgradama", kojim je obuhvaćena primjena mjera energetske efikasnosti u obrazovnim ustanovama u vlasništvu Ministarstva prosvjete. Cilj projekta je poboljšanje uslova za boravak i rad korisnika i racionalizacija upotrebe energenata u odabranim objektima.

U okviru ovog projekta, krajem jula 2014.godine, počeli su radovi na primjeni mjera energetske efikasnosti u osam obrazovnih ustanova koje se nalaze u Nikšiću, Herceg Novom, Kotoru i Ulcinju.

O.Š."Mileva Lajović Lalatović" u Nikšiću spada u objekte, na kojima su u ovoj godini izvođeni radovi na primjeni mjera energetske efikasnosti. U okviru navedenog ugovora, na ovom objektu su izvedeni radovi na zamjeni fasadne stolarije, postavljanju termoizolacije na fasadi, instalaciji novog sistema grijanja u školi, uključujući kompletnu rekonstrukciju kotlarnice, izvršena je zamjena svjetiljki i djelimičan moleraj. U toku školskog raspusta u januaru 2015.godine biće izvedeni radovi na izgradnji sanitarnog čvora za hendikepirane osobe. Ukupna vrijednost ugovorenih radova iznosi 845.547,06 eura.

Rimski trg 46, 81000 Podgorica
Tel: (+382) 20 482 163; 234 676 Fax: (+382) 20 234 027
Web: www.minekon.gov.me

Tokom izvođenja radova na O.Š. "Mileva Lajović Lalatović" u Nikšiću utvrđeno je da na dijelu krovnih površina postoje oštećenja koja bi u narednom periodu mogla da izazovu procurivanje, a samim tim i štetu kako na već izvedenim radovima, kao i oštećenja u unutrašnjosti objekta. Nakon detaljnog pregleda krova, urađenog od strane Konsultanta i Izvođača radova, predloženo je da se na polovini objekta izvrši zamjena kompletnog krovnog pokrivača, pri čemu bi se, na krovu, postavila i nova termoizolacija.

Neophodnost zamjene dijela krovnog pokrivača nije utvrđena prilikom izrade projektne i tenderske dokumentacije, iz razloga što problemi sa krovom nisu prijavljeni od strane uprave škole, takođe pravo stanje krova je bilo moguće utvrditi tek nakon demontaže dijelova krova, koja je izvršena tokom izvođenja radova.

Ukupna vrijednost radova na zamjeni dijela krovnog pokrivača iznosi 93.129,49 Eura. Ponude su bazirane na cijenama iz ugovora i prethodno su provjerene od strane Konsultanta.

Smatramo da je izvođenje radova na sanaciji krova neophodno kako bi se obezbjedilo funkcionisanje objekta u dužem vremenskom periodu i kako bi se sačuvali već izvedeni radovi. Ukoliko ste kao nadležno Ministarstvo saglasni, ovi radovi bi bili obuhvaćeni ugovorom o primjeni mjera energetske efikasnosti za kalster I i mogli bi se izvesti tokom ljetnjeg raspusta 2015.godine.

U prilogu dostavljamo dopis Konsultanta sa predlogom za zamjenu dijela krovnog pokrivača.

Molimo da se izjasnite po ovom pitanju u najkraćem mogućem roku .

Dostavljeno:

- Ministarstvu prosvjete,
- a/a.

S poštovanjem,

**Generalna direktorica,
Direktorata za energetske efikasnost u
Ministarstvu ekonomije,**

Dragica Sekulić



Crna Gora

Ministarstvo prosvjete

Crna Gora
МИНИСТАРСТВО ЕКОНОМИЈЕ
ПОДГОРИЦА

Примљено:	26.01.2015		
Орг. јед:	Број:	Прилог:	Вриједност:
	0601-66/2		

Број: 01-26/2
Подгорица, 21. јануар 2015. године

МИНИСТАРСТВО ЕКОНОМИЈЕ
Драгица Секулић, помоћница министра

Поштована госпођо Секулић,

Nakon uvida u Vaš dopis, od 12. januara 2015. godine, i sagledavanja svih činjenica, obavještavamo Vas da je stav Ministarstva prosvjete da se prihvati Ponuda čija je vrijednost **93.129,49 eura**, za izvođenje radova na zamjeni dijela krova na objektu JU OŠ „Mileva Lajović Lalatović“ – Nikšić, koji se realizuju kroz Projekat „Program energetske efikasnosti u javnim zgradama“ po osnovu Ugovora o kreditu potpisanog između Njemačke banke za razvoj (KfW) i Ministarstva ekonomije.

Srdačan pozdrav,

РУКОВОДИЛАЦ МИНИСТАРСТВА

Prof. dr Sanja VLAHOVIĆ, ministarka nauke

Aneks 4 – Pregled ponuda za naknadne, nepredviđene radove i izmjene za objekte iz klastera II

MNE EEPB_Cluster II (ponude br. 61-64)				
	Izmjene (u skladu sa poglavljem 13 Opštih i posebnih uslova ugovora)			
poz	Opis	vrijednost	Komentar	Odluka Koordinacionog odbora
1	Ponuda za izmjene br.61 za Studentski dom "Spasić Masera"Kotor			
	Isporuka i montaža svjetiljki u kotlarnici			usvaja se (e-mail 18.12.2014)
	Ukupno ponuda br.61	478,08		
2	Ponuda za izmjene br.62 za O.Š."M.Tito" Ulcinj			
	Zamjena dijela cijevne mreže, na kojoj je nakon tople probe ustanovljeno procurivanje		Nakon izvršene tople probe instalacije grijanja utvrđeno je da cijevna mreže u jednom dijelu nije u funkciji i da je potrebno izvršiti opravke kako bi se grijanje u cijelom objektu stavilo u fukciju	usvaja se (e-mail 18.12.2014)
	Ukupno ponuda br.62	12.899,60		
3	Ponuda za izmjene br.63 za Studentski dom "Spasić Masera"Kotor			
	Isporuka i montaža ormara elektromotornog pogona i automatike u kotlarnici			usvaja se (e-mail 18.12.2014)
	Ukupno ponuda br.63	1.412,05		

4	Ponuda za izmjene br.64 za Studentski dom "Spasić Masera"Kotor			
	Ponuda za razliku u cijeni za boju za farbanje metalne potkonstrukcije za solarne panele		Tenderom je predviđeno farbanje potkonstrukcije za solarne panele običnom farbom , na zahtjev Nadzornog organa dostavljena ponuda za razliku u cijeni za farbanje sa bojom koja je otporna na povećan salinitet u vazduhu	usvaja se (e-mail 18.12.2014)
	Ukupno ponuda br.64	3.287,95		
5	Ponuda za izmjene br.65 za Studentski dom "Spasić Masera"Kotor			
	Ponuda za izradu opšiva na horizontalnim površinama prema terasi			usvaja se
	Ukupno ponuda br.65	1.338,85		
	Ukupno ponude 61-65 (sa PDV-om)	19.416,53		

Aneks 5 – Ponude za izmjene br.61-65

Aneks 6 - Kratka lista sa podjelom na klustere

		pozicija na kratkoj listi	Naziv objekta	Lokacija
fast track	1		O.Š. "Salko Aljković"	Pljevlja
	2		O.Š. "Vlado Milić"	Podgorica
	3		O.Š. „Njegoš”- Spuž	Podgorica
	4		O.Š. "Maksim Gorki"	Podgorica
	5		O.Š. "Vuk Karadžić"	Podgorica
I klaster	6	12	O.Š. "Mileva Lajović Lalatović"	Nikšić
	7	15	O.Š. "Jagoš Kontić"	Nikšić
	8	19	O.Š. "Milija Nikčević"	Nikšić
	9	20	O.Š. "Braća Ribar"	Nikšić
II klaster	10	6	Studentski dom "Spasic-Masera" Kotor	Kotor
	11	14	O.Š. „Dašo Pavičić"	Herceg Novi
	12	7	S.M.Š. „Bratstvo i jedinstvo"	Ulcinj
	13	18	O.Š. "Marsal Tito"	Ulcinj
III klaster	14	10	S.S.Š.	Pljevlja
	15	13	O.Š. "Ristan Pavlović"	Pljevlja
	16	25	O.Š. „Mustafa Pećanin"	Rožaje
	17	27	Gimnazija "Miloje Dobrasinović"	Bijelo Polje
	18	29	Srednja mješovita škola "Bećo Bašić"	Plav
IV klaster	19	9	O.Š. "Branko Božović"	Podgorica
	20	17	O.Š. "Oktioh"	Podgorica
	21	21	O.Š. "Vuko Jovović"	Danilovgrad
V klaster	22	8	JU "Naša radost"	Herceg Novi
	23	28	Gimnazija „Petar I Petrović Njegoš"	Danilovgrad
	24	16	JU "Irena Radović"	Danilovgrad
	27	26	O.Š. "Njegoš"	Cetinje
VI klaster	26	11	O.Š. „Bedri Elezaga"-Vladimir	Ulcinj
	27	22	O.Š. „Milorad Musa Burzan"	Podgorica
	28	23	S.Š. „Marko Radović"	Podgorica
			S.Š. „Spasoje Raspopović"	Podgorica
			S.Š. "Vaso Aligrudić"	Podgorica
	29	24	O.Š. „Božidar Vuković Podgoričanin"	Podgorica