

Republic of the Philippines
METRO ROXAS WATER DISTRICT
MRWD Bldg., Km. 1, Roxas City 5800, Philippines

March 8, 2019

SUPPLEMENTAL/ BID BULLETIN

NAME OF THE PROJECT: CONTRACT FOR THE SUPPLY, DELIVERY, AND REPLACEMENT OF TWO (2) UNITS FILTER STRUCTURE FILTER MEDIA WITH COMMISSIONING AND TESTING

This Addendum No. 4 is issued to modify or amend the Checklist of Requirements for Bidders, Technical Specification, Section II- Instruction to Bidders, Section VI. Schedule of Requirements, and Section VII. Technical Requirements of the Bidding Documents, and under the Contract for the Supply, Delivery, and Replacement of Two (2) Units Filter Structure Filter Media with Commissioning and Testing. This shall form an integral part of the Bidding Documents.

Amended Checklist of Requirements for Bidders:

To amend Technical Requirement #10 - Valid ISO-9001:2015 Quality Management System Accreditation Certificate.

Amended Section II- Instruction to Bidder:

To amend Technical Requirement 12.a (X) - Valid ISO-9001:2015 Quality Management System Accreditation Certificate.

Amended Section VI. Schedule of Requirements

Item/lot Number	Description	Quantity	Total	Delivered, Weeks/Months
1	Supply, Delivery, and Replacement of Two (2) Units Filter Structure Filter Media with Commissioning and Testing Activated Filter Media and Anthracite For 2 units of Filter Bed with Total Area of 80 sq.m. AFM Grade 1: Amorphous alumino-silicate (glass) for water filtration media Product Specification: Particle size= 0.4 to 1.0mm Effective size (expressed as D10)= 0.45mm	Two Thousand Eight Hundred Eighty (2,880)	Bags	Within one hundred fifty (90) Calendar Days from receipt of Contract, Purchase order and Notice to Proceed

	<p>Hardness=>7 mohs</p> <p>Sphericity (average range)= 0.75-0.80</p> <p>Uniformity coefficient (d60/d10)= 1.6 to 1.8</p> <p>Aspect ratio= 2-2.4</p> <p>Organic contamination=<50gram/tonne</p> <p>Coloured glass (green/amber)=>98%</p> <p>Specific gravity (grain)= 2.4kg/liter</p> <p>Embodied energy=<65kw/tonne</p> <p>Bulk bed density= 1.25kg/liter</p> <p>Attrition (50% bed expansion, 100 hours backwash)= <1%</p> <p>For Grade 1</p> <p>Height of Grade 1 AFM for each unit of filter bed= .72m</p> <p>Estimated No. of bags/weight (Grade 1)= 36,000 kg @ 25kg/bag</p> <p>No. of bags per filter bed= 1440 bags</p> <p>Total No. of bags for 2 units of filter bed= 2,880</p> <p>Total weight of AFM Grade 1 for 2 units of filter bed= 72,000 kg</p> <p>Manufactured to a precise specification under ISO- 9001:2015 Certified under Reg. 31, NSF50 and NSF61, Environmental Standards</p>			
2	<p>AFM Grade 2: Amorphous alumino-silicate (glass) for water filtration</p>	Three Hundred Fifty-Four (354)	Bags	

	<p>media</p> <p>Product Specification: Particle size= 1.0 to 2.0mm</p> <p>Effective size (expressed as D10)= 1.1mm</p> <p>Hardness=> 7 mohs</p> <p>Sphericity (average range)= .75 - .80</p> <p>Uniformity coefficient (d60/d10)=1.4 to 1.5</p> <p>Aspect ratio= 2-2.4</p> <p>Organic Contamination= <50g/tonne</p> <p>Coloured glass (green/amber)=>98%</p> <p>Specific gravity (grain)= 2.4 kg/liter</p> <p>Embodied energy= <50kw/tonne</p> <p>Bulk bed density= 1.23kg/liter</p> <p>Attrition (50% bed expansion, 100 hours backwash)= <1%</p> <p>Height of AFM Grade 2 for each unit of filter bed= .09m</p> <p>Estimated No. of bags/weight= 4,428kg @ 25kg/bag</p> <p>No. of bags per filter bed= 177 bags</p> <p>No. of bags for two units of filter bed= 354 bags</p> <p>Weight of AFM Grade 2 for two units of filter bed= 8,856kg</p> <p>Manufactured to a precise specification under ISO-9001-2015</p> <p>Certified under Reg. 31, NSF50 and NSF61 Environmental Standards</p>			<p>Within one hundred fifty (90) Calendar Days from receipt of Contract, Purchase order and Notice to Proceed</p>
3		Two	Bags	

<p>Anthracite: Total weight= 5,050kg No. of bags= 202 bags Effective size= 1.5mm-2.4mm Uniformity coefficient=< 1.4 Filtration rate= 12(m3/hr)/m2 with at least 24 hours run time Delivery Period: 90 days upon receipt of Purchase Order. Each of the two filter should be provided with the following filter media height for each AFM Grade and Anthracite. AFM Grade 1= .72meters AFM Grade 2= .09 meters Anthracite= .09 meters a.) Suppliers should provide additional filter media for each AFM grade and Anthracite to compensate for any media loss due to fines and errors on estimated quantities.</p>	<p>Hundred Two (202)</p>	<p>Within one hundred fifty (90) Calendar Days from receipt of Contract, Purchase order and Notice to Proceed</p>
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Amended Section VII. Technical Specifications:

Item/lot Number	Specification
1	<p>Supply, Delivery, and Replacement of Two (2) Units Filter Structure Filter Media with Commissioning and Testing</p> <p>Activated Filter Media and Anthracite</p> <p>For 2 units of Filter Bed with Total Area of 80 sq.m.</p> <p>AFM Grade 1: Amorphous alumino-silicate (glass) for water filtration media</p> <p>Product Specification: Particle size= 0.4 to 1.0mm Effective size (expressed as D10)= 0.45mm Hardness=>7 mohs Sphericity (average range)= 0.75-0.80</p>

	<p>Uniformity coefficient (d_{60}/d_{10})= 1.6 to 1.8</p> <p>Aspect ratio= 2-2.4</p> <p>Organic contamination=<50gram/tonne</p> <p>Coloured glass (green/amber)=>98%</p> <p>Specific gravity (grain)= 2.4kg/liter</p> <p>Embodied energy=<65kw/tonne</p> <p>Bulk bed density= 1.25kg/liter</p> <p>Attrition (50% bed expansion, 100 hours backwash)= <1%</p> <p>For Grade 1</p> <p>Height of Grade 1 AFM for each unit of filter bed= .72m</p> <p>Estimated No. of bags/weight (Grade 1)= 36,000 kg @ 25kg/bag</p> <p>No. of bags per filter bed= 1440 bags</p> <p>Total No. of bags for 2 units of filter bed= 2,880</p> <p>Total weight of AFM Grade 1 for 2 units of filter bed= 72,000 kg</p> <p>Manufactured to a precise specification under ISO-9001:2015 Certified under Reg. 31, NSF50 and NSF61, Environmental Standards</p>
2	<p>AFM Grade 2: Amorphous alumino-silicate (glass) for water filtration media</p> <p>Product Specification: Particle size= 1.0 to 2.0mm</p> <p>Effective size (expressed as D10)= 1.1mm</p> <p>Hardness=> 7 mohs</p> <p>Sphericity (average range)= .75 - .80</p> <p>Uniformity coefficient (d_{60}/d_{10})=1.4 to 1.5</p> <p>Aspect ratio= 2-2.4</p> <p>Organic Contamination= <50g/tonne</p> <p>Coloured glass (green/amber)=>98%</p> <p>Specific gravity (grain)= 2.4 kg/liter</p> <p>Embodied energy= <50kw/tonne</p> <p>Bulk bed density= 1.23kg/liter</p>

	<p>Attrition (50% bed expansion, 100 hours backwash)= <1%</p> <p>Height of AFM Grade 2 for each unit of filter bed= .09m</p> <p>Estimated No. of bags/weight= 4,428kg @ 25kg/bag</p> <p>No. of bags per filter bed= 177 bags</p> <p>No. of bags for two units of filter bed= 354 bags</p> <p>Weight of AFM Grade 2 for two units of filter bed= 8,856kg</p> <p>Manufactured to a precise specification under ISO-9001-2015 Certified under Reg. 31, NSF50 and NSF61 Environmental Standards</p>
3	<p>Anthracite:</p> <p>Total weight= 5,050kg</p> <p>No. of bags= 202 bags</p> <p>Effective size= 1.5mm-2.4mm</p> <p>Uniformity coefficient=< 1.4</p> <p>Filtration rate= 12(m3/hr)/m2 with at least 24 hours run time</p> <p>Delivery Period: 90 days upon receipt of Purchase Order.</p> <p>Each of the two filter should be provided with the following filter media height for each AFM Grade and Anthracite.</p> <p>AFM Grade 1= .72meters AFM Grade 2= .09 meters Anthracite= .09 meters</p> <p>a.) Suppliers should provide additional filter media for each AFM grade and Anthracite to compensate for any media loss due to fines and errors on estimated quantities.</p>

For guidance and information of all concerned.

ATTY. DANTE A. ARCANGELES
Chairperson
Bids and Awards Committee