

The School Board of Miami-Dade County, Florida
SCHOOL BOARD ADMINISTRATION BUILDING
Bureau of Procurement and Materials Management
1450 N.E. 2nd Avenue, Room 352
Miami, Fl. 33132

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BID/RFP ADDENDUM

Date: September 30, 2003
Addendum No. 1

BID/RFP No. 011-DD10 BID/RFP TITLE: AQUARIUM RENOVATION

This addendum modifies the conditions of the above referenced BID/RFP as follows:

1. Revises Bid Specifications
2. Changes bid opening date from September 16, 2003 to October 14, 2003.
3. If your bid/proposal has not been mailed, substitute the pages marked REVISED and mail your entire bid/proposal package. **REMEMBER TO SIGN THE BIDDER QUALIFICATION FORM.**

OR

4. If your bid/proposal has been mailed, sign and return this addendum form with the revised pages by the time and date indicated on the Bidder Qualification Form. **BY SIGNING THIS ADDENDUM, THE VENDOR AGREES TO THE TERMS AND CONDITIONS CONTAINED IN THE BIDDER QUALIFICATION FORM AND ALL RELATED BID DOCUMENTS.**

PLEASE NOTE: If your firm has mailed a copy of this bid/proposal to another vendor, it is your responsibility to forward them a copy of this addendum.

(PLEASE TYPE OR PRINT BELOW)

LEGAL NAME OF BIDDER: _____

MAILING ADDRESS: _____

CITY, STATE ZIP CODE: _____

TELEPHONE NUMBER: _____ E-MAIL I.D. _____ FAX # _____

BY: SIGNATURE (Manual): _____
OF AUTHORIZED REPRESENTATIVE

NAME (Typed): _____ TITLE: _____
OF AUTHORIZED REPRESENTATIVE

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ONLY.



Miami-Dade County Public Schools

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Miami, Florida 33132

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Materials Management.

BUYER NAMED:
BARBARA D. JONES, CPPB
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BIDDER QUALIFICATION FORM

BID NO. 011-DD10 BID TITLE AQUARIUM RENOVATION
BIDS WILL BE ACCEPTED UNTIL 2:00 P.M. ON 10/14/03 IN ROOM 351,
SCHOOL BOARD ADMINISTRATION BUILDING, 1450 NE 2ND AVENUE, MIAMI, FL. 33132, AT WHICH TIME THEY WILL BE
PUBLICLY OPENED. BIDS MAY NOT BE WITHDRAWN FOR 90 DAYS AFTER OPENING. (REFER TO INSTRUCTIONS TO
BIDDERS, para.IV.B.)

THE SUBMISSION OF THE BID BY THE VENDOR, ACCEPTANCE AND AWARD OF THE BID BY THE SCHOOL BOARD OF
MIAMI-DADE COUNTY, FLORIDA, AND SUBSEQUENT PURCHASE ORDERS ISSUED AGAINST SAID AWARD SHALL
CONSTITUTE A BINDING, ENFORCEABLE CONTRACT. UNLESS OTHERWISE STIPULATED IN THE BID DOCUMENTS, NO
OTHER CONTRACT DOCUMENTS SHALL BE ISSUED.

I. A. BIDDER CERTIFICATION AND IDENTIFICATION. (SEE INSTRUCTIONS TO BIDDERS, para. I. A.2.)

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a bid for the same materials, supplies, or equipment, and is in all respects fair and without collusion or fraud. I agree to abide by all conditions of this bid; and I certify that I am authorized to sign this bid for the bidder.

B. Vendor certifies that it satisfies all necessary legal requirements as an entity to do business with the School Board of Miami-Dade County, Florida.

II. INDEMNIFICATION

The Bidder shall hold harmless, indemnify and defend the indemnities (as hereinafter defined) against any claim, action, loss, damage, injury, liability, cost or expense of whatsoever kind or nature including, but not by way of limitation, attorney's fees and court costs arising out of bodily injury to persons including death, or damage to tangible property arising out of or incidental to the performance of this Contract including goods and services provided thereto) by or on behalf of the Bidder, whether or not due to or caused in part by the negligence or other culpability of the indemnity, excluding only the sole negligence or culpability of the indemnity. The following shall be deemed to be indemnities: The School Board of Miami-Dade County, Florida and its members, officers and employees.

III. PERFORMANCE SECURITY. Refer to INSTRUCTIONS TO BIDDERS, para I.A.1., and VI., and check (x) below:

WHEN PERFORMANCE SECURITY IS REQUIRED I WILL FURNISH A:

Performance Bond _____ Check (Cashier's, Certified, or Equal) _____

PLEASE TYPE OR PRINT BELOW

LEGAL NAME OF VENDOR : _____
MAILING ADDRESS : _____
CITY, STATE, ZIP CODE : _____
TELEPHONE NUMBER : _____ FAX # _____
BY: SIGNATURE (ORIGINAL) : _____ DATE _____
OF AUTHORIZED REPRESENTATIVE
NAME (TYPED) : _____ TITLE _____
OF AUTHORIZED REPRESENTATIVE

The objectives of this project are as follows:

- Provide a self-sustaining closed system aquatic model that is capable of indefinitely supporting an attractive natural habitat for indigenous fish and invertebrates.
- Manage waste product nutrient (phosphates, silicates and nitrogenous) cycling and natural export to completely eliminate the need for water changes.
- Incorporate the proper filtration and equipment that will allow BNC/CEE to maximize the teaching/learning capabilities of the facility.
- Renovations must result in the ability to keep large numbers of diverse organisms for extended periods of time with little effect to the water quality in the systems. Renovations will enable the system to resist contamination of water quality and to rebound quickly if contamination occurs.
- Manage waste product nutrient (phosphates, silicates and nitrogenous) cycling and natural export to completely eliminate the need for water changes.
- Highlight and describe different aquatic niches of the Biscayne Bay ecosystem.
- Illuminate main display aquariums for the full natural photoperiod without causing excess diatom and hair algae growth in the aquariums and on the viewing surfaces.
- Ability to substantially increase the viability and long-term fish and invertebrate populations in the aquariums and be confident that they will be stable for the long term.
- To initiate a stable and balanced simulation that will mature, grow and increase in bio-diversity and stability with time.
- Enable success in keeping photosynthetic and filter feeding organisms, including gorgonians, live coral, coralline and macro algae, sponges, feather worms etc.

All modifications to existing mechanical or electrical to be performed by licensed contractors and will comply with applicable Miami –Dade Code regulations.

UPPER LEVEL MODIFICATIONS-Acrylic aquariums and touch tank system

1. Drain entire system and remove animals and interior décor and sand.
2. Prep and polish inside acrylic viewing panels to remove scratches and scuff marks.
3. Remove, all old and brittle plumbing and bulkhead fittings.
4. Replace and re-plumb all seized ball valves with high-grade (Teflon/Viton/Buna) seated ball valves.
5. Remove/repair/replace all seized flow meters.
6. Drill Large aquariums and re-design plumbing schematics to eliminate the need for check valves.
7. Re-design and re-fit overflow drains for efficient surface skimming.
8. Re-plumb all four main tanks utilizing existing through-floor penetrations.
9. Drill aquariums and install dual 3000 gph pumps in closed loop circulation circuits on large display aquariums.
10. Modify overflow design on small display tanks to allow for sufficient water flow to systems.
11. Install custom matched pendants over large tanks. Fixtures will contain dual 400-watt 10K metal halide/VHO fluorescent pendant lighting systems with remote ballasts.
12. Install custom matching pendants with full spectrum VHO fluorescent lighting on each smaller tank.
13. Lighting systems will be connected to individual heavy-duty digital timers to automate photoperiod.
14. Supply industrial timers for lights on all systems and complete all necessary electrical or mechanical service extensions to supply A/C power and/or other services to the equipment provided.
15. Touch tank system to be drained and cleaned. Aquarium and concrete floor slab to be drilled and proper pvc standpipe drain and 1" valved return lines from reservoir and pump to be installed. Existing filtration to be placed on switched circuit. A soft plastic bottom will be permanently installed in touch tank to prevent accidental breakage of glass bottom.
16. Supply and install small independent tank with filter and pump located behind seahorse exhibit. This feeder tank will supply live brine shrimp daily on an

automatic cycle. Feeder output will be directed to pipe fish, seahorses and other organisms kept in this section of the exhibit.

Aquascaping

Live rock supplied will be fully cured and not cause a major influx of nitrogenous waste products. Vendor will be responsible for the cost of any or all water changes needed to bring the completed system to equilibrium and natural seawater levels of all nitrogenous waste products after aquascaping.

Vendor will be responsible for the replacement or reimbursement of any provided organisms that die within the first 30 days after the completion of Aquascaping and initial seawater fill.

Refer to livestock appendix for quantities required

1. The tanks in the Display room will each be a simulation of different areas common to the bay and its associated reefs.
2. The east large tank would be a simulation of the upper reef slope or crest. Intense lighting, white aragonite live reef sand and interesting live reef rock structure. Live rock will be hand selected for shape and quality. Reef structure will have caves, holes and grottos typical of natural reefs. Fused stag horn coral shaped rocks along the top will add to the visual impact. The fish population in this tank should be dramatic but consist of mainly smaller species found in this habitat. Invertebrates would include banded coral shrimp, astrea snails, blue legged hermits, aquacultured queen conch, etc.
3. The west large tank would be a simulation of the reef base with larger rocks and less fragile reef structure along with larger fish, eels, snapper, grouper, etc. Inverts can include small lobster, coral shrimp, sea cucumbers, urchins, etc.
4. The east small tank would remain as a seahorse and pipefish display. Interior will be with white aragonite sand, a small delicate rock structure with gorgonians and floating Sargasso weed to shelter file fish, pipefish, seahorses etc. An automatic feeder for live brine shrimp will be connected directly to this tank.
5. The west small tank will be to showcase a particular animal, which is non-compatible with the animals in the other systems such as cuddle fish or an octopus. A special habitat will be constructed to allow the visitors to view the animal in its natural surroundings.

Mangrove and tidal grass bed zone exhibit for display room

1. The mangrove and tidal zone tanks would consist of a large L shaped aquarium system of approximately 1000 gallons located in the southwest corner of the display room.
2. The system water will be cycled from a central reservoir. The exhibit will include a deep sand bed section in the background to support mangrove prop roots. The front of the aquarium would consist of a shallower sand bed area with living turtle/eel grasses and would be inhabited by indigenous snails, sea cucumbers and other inverts grazing along side juvenile snapper, drum, cardinal fish, etc.
3. An additional section of the mangrove system would simulate a rocky inter-tidal zone. Fluctuating water levels at different times during the day will simulate tidal exchange. Inhabitants would include anemones, hermit crabs, urchins and a host of other grazers, which are easily collected locally. Tall synthetic mangrove simulation to be installed in back corner with live plants in the foreground so the exhibit is full from day one. These synthetic plants can be removed as natural plants grow out.
4. System will be housed in custom millwork to match existing tanks.
5. System will be complete decorated as described and with all equipment and additional reservoir to handle tidal exchange volume.
6. Floor slab will be drilled to accommodate all plumbing and electrical conduits.
7. System will be installed and plumbed so that it can be operated in conjunction with either or both other independent filtration systems.
8. Lighting will consist of at least two matching 1000-watt halide/fluorescent pendant fixtures on digital timers with remote ballasts and will be situated in reflectors so that light spray does not blind the observer nor are the fixtures reachable by hand.
9. Supply industrial timers for lights and complete all necessary electrical or mechanical service extensions to supply A/C power and/or other services to the equipment provided.
10. Approved vendor will supply CAD drawings indicating design specifics

LOWER LEVEL MODIFICATIONS- Main centralized filtration units downstairs

1. Replace/repair Saltwater well pump.
2. Install saltwater well pump discharge shunt with heavy-duty pump timer and required electrical connections to a discharge location that can safely handle 40 gpm continuous discharge from well.

3. Existing passive RO/DI unit to be consolidated into a single unit to supply processed water to a large Reverse Osmosis Water reservoir tank and booster pump sufficient in size for system capacity. Pump should include a pressure shut off switch to prevent continuous operation. Supply and install ¼" weather resistant RO line, connectors and terminal float switches/valves to allow for efficient distribution of clean top off water throughout the facility to each independent system inclusive of main display tanks, classroom tanks, both mangrove systems, touch tank and quarantine system.
4. Construction, installation, setup and cycling of custom automated batch-denitrification units including liquid food and dosing timers. Three separate units to be installed for display system, classroom system and storage system. Filter installation will include installation of all electrical services required to bring power to the dosing timers and exchange pumps. After cycling these filters will be sufficient for the sustained and complete de-nitrification of the entire facility after renovations are complete.
5. Supply and install underground pump out drainpipe for each main reservoir. Pipe will be shunted from main return pumps with Teflon seated ball valves.
6. Installation of three pressurized 15 lb chemical canister filters on display room, classroom, storage and saltwater well system pressurized supply circuit for the direct extraction of nitrates, phosphates, silicates, tannins and metals via carbon, selective ion exchange resins and granulated filtration media. Canisters will be installed with pressure gauges and an automatic over-pressurization shunt (diverts by pass flow around canister as pressure increases). Saltwater well canisters to by-pass to new discharge line from line item 1.
7. Relocate fluid chillers to a properly ventilated area outside of the main building. Relocation to include mounting units securely to concrete slab. Redirect water flow and plumbing by-pass loops through outside wall to accommodate the new location. Cut out all seized ball valves/brittle pipes and replace with Teflon seated ball valves and schedule 40 pvc pipe. Refrigerant charge and service both units.
8. Connect storage tank circulation pump to electrical circuit included on the generator back up. Siphon/clean out sediment replace and re-plumb seized ball valves on pump circuit. Install storage system drain line and ball valve so tanks can be drained without flooding area downstairs.
9. Empty clogged silica sand from sand filters and replace with plastic bio-media. Modify plumbing layout for all three sand filters to make room for denitrification filters and include secondary direct by-pass loop to allow the bypass of each filter in the case of gasket failure, multi-port valve malfunction and to allow filter service without shutting down the system. Cut out and replace seized ball and gate valves on sand filters and main pumps.
10. Clean out clogged degassing chamber and reroute discharge directly into storage tanks. Repair or replace integrated float switch. Cut out and replace

- seized ball valves. Install check valves and connect intake valves with ozone circuit.
11. Installation of a 2 grm/hr centralized corona discharge ozone generator unit and connecting noreprene tubing delivery circuit to downdraft intakes on skimming units for both display and classroom systems. Connect to degassing chamber.
 12. Installation and calibration of PLC based water quality monitor system and pager alarm. System will continuously monitor pH, temp, redox, and conductivity in both the classroom and display system. System will have an integrated modem and be set up to send a digital page as an alarm response. System alarm and pager will be setup on aux. Sensor to monitor the operation of main pumps. Polling function to be set up so unit can be accessed via modem to download a graphical representation of water quality parameters in both main systems. All needed phone lines and electrical service extensions will be provided to code. Vapor proof housing for units will be included to prevent moisture damage. Monitor will be installed, tested and proven functional.
 13. Installation of dual chamber calcium carbonate reactor with glass flow tube and 20# aluminum CO2 cylinder. Reactor to include integrated pH monitor in primary reaction chamber. This unit will effectively maintain calcium and carbonate balance in display system. pH monitor will be connected to shut off solenoid to prevent accidental co2 purging into reactor. Gas cylinder will be installed in an acceptable manner for a public facility.
 14. An 8 foot lighted work bench to be supplied and installed in equipment area for servicing filtration equipment and pumps and storage of service items, tools, test reagents, calibration solutions, dry foods, etc. Cabinet to be "rodent proof" and to have locking mechanisms on doors and drawers.
 15. Supply and install simple 40 gallon aquarium, stand, light and filter for the keeping of live feeder fish
 16. All connections to Mangrove exhibit and touch tank to be done as described utilizing high-grade PVC fittings, ball valves and unions.

Classroom/quarantine and other needed system improvements

Quarantine system

The quarantine system must be refit with proper filtration capable of housing and medicating injured fish and isolating new arrivals before acclimation to the main systems. The results will be a functional isolation system with water quality on par with that of the main systems. This system will remain sterile with little decor other than that to provide shelter for newly caught fish that would suffer from stress related illness if isolated without cover. The refit would include the following:

1. Drain and clean all tanks. Disinfect system
2. Cut out cabinet for ventilation.
3. Replace plumbing with proper valved tank returns and drains and eliminate check valves

4. Replace lighting with waterproof units

Filtration should be centralized and modular in design, and installed on a small platform for easy removal and relocation. Ball valves and unions will be utilized to allow disconnection and removal of filtration system as a unit.

Filtration will include:

1. 40 gallon reservoir/wet-dry filter
2. Install ASM G2 pinwheel protein skimmer.
3. Dedicated ¼ hp fluid chiller with thermostat
4. Silent 1000 gph seawater pump with split returns
5. Dual 40 watt quartz sleeve UV sterilizer
6. Connect 150 mg ozonizer and connections
7. Connection to central RO water distribution circuit or dedicated

Lab Aquariums

1. Replace broken and sharp edged glass tops with ½" thick acrylic tops. New tops should be hinged in front with corrosion proof hinges to allow access for easy feeding and netting of animals.

Small independent mangrove tank

2. Install auto feeder
3. Connect to RO water distribution circuit

Misc.

4. Descriptive plaques installed on display tanks. Panels to be backlit with photo transparencies of animals on display and brief descriptions of the habitat simulation. Plaques will be installed in a manner that is aesthetically pleasing to the observer.
5. Fully automated rechargeable battery backup system for large display aquariums to act as a failsafe in the event that the generator fails to function properly. This is a portable system and could be utilized anywhere in the facility.

LIVESTOCK APPENDIX

TOTAL for all Display Tanks

Reef Rock-

1500# hand selected and cured coralline encrusted natural living reef rock

Live Sand-

1200# natural white aragonite reef sand

Fish-

30 typical and compatible fish from the habitats specified

Inverts-

500 astrea snails

500 blueleg hermit crabs

10 octocorals

10 sea cucumbers

6 diadema sea urchins

4 seahorses

20 assorted crabs, shrimp, seabiscuits, algae, etc.

TOTAL for Mangrove/tidal system

Rock-

500#

Sand-

1000#

Fish-

20 assorted indigenous fish (cardinals, drum, grunts, other juvenile indigenous species available)

Inverts-

300 astrea snails

300 blueleg hermits

30 assorted anemones, shrimp, urchins, crabs, etc.

10 live mangrove shoots

Plants and Grasses-

50 live shoots of turtle grass

10 large clumps of misc. broad leaf caulerpa and indigenous algae