THE SCHOOL DISTRICT OF ESCAMBIA COUNTY
PURCHASING DEPARTMENT

SCHOOL BOARD EXECUTIVE SUMMARY

February 19, 2013
V. D. CONSENT AGENDA / PURCHASING
10. District-Wide Roof Condition Assessment

DESCRIPTION OF PURCHASE:

Perform a District-wide roof condition assessment to provide objective assessment and budgeting information to assist the District in the procurement, construction, and maintenance of its roof assets. See attached proposal for details.

REQUESTED BY:

Facilities Planning

DISTRICT GOAL SUPPORTED:

District Goal #E.3: Continuity: To improve operational continuity in the learning, work, and virtual/ technological environment.

SUPPLIER NAME:

AMEC Environment & Infrastructure, Inc., Pensacola, FL

AMOUNT OF PURCHASE:

$198,500.00

FUNDING SOURCE:

Half Cent Sales Tax (3948) – Roofing Program (3135)

METHOD OF PROCUREMENT:

Consultants Competitive Negotiations Act (CCNA)

OTHER REFERENCES:

School Board Rule 6Gx17-3.16(2)(A) – Acquisition of Professional Services (CCNA)
Annual agreement approved by the Board, April 17, 2012.

ITEM #10

January 14, 2013

Mr. Tony Noles, Director
Facilities Planning
School District of Escambia County
30 E. Texar Drive
Pensacola, Florida 32503

Phone: (850) 469-5660
Email: anoles@escambia.k12.fl.us

Subject: **Proposal to Provide District-Wide Roof Condition Assessment**
School District of Escambia County
AMEC Proposal PNS12.080Rev1

Dear Mr. Noles:

AMEC Environment & Infrastructure, Inc. (AMEC) is pleased to provide you this proposal to perform a District-Wide Roof Condition Assessment on behalf of the School District of Escambia County (SDEC). This proposal has been prepared pursuant to your request and is based on information you have provided us in meetings, phone conversations and e-mail correspondence.

The objective of our services is to provide objective assessment and budgeting information to assist SDEC in the procurement, construction, and maintenance of its roof assets. AMEC has performed similar assessments for SDEC in 2002 and 2008. The primary intent of this project is to update the inventory and condition survey of the identified sites and develop budget estimates to effectively distribute SDEC's roof improvement funds for the next five years.

Generally, our proposed scope of work includes developing an inventory of specified roof assets and documenting visible defects in order to forecast a remaining service life. Service life will be determined through a combination of lifecycle curves and condition indexes. For each roof, we will recommend repair opportunities that extend roof life and yield a positive return on investment. Our planned approach is based on an objective, metric-based roof condition and lifecycle management process. Attached is our proposal which details our proposed scope of services.

Please review the attached proposal and call Steve Freeman at (850) 478-8100 if you have questions or comments. We look forward to working with you and the staff at SDEC to implement this project.

Respectfully,
AMEC Environment & Infrastructure, Inc.

Richard Brown
Project Manager

DeAllen Norris, PE
Senior Principal
For *D. Norris* with Permission

Attachments: Proposal to Provide Roof Condition Assessments
Roof Area Estimates

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PROPOSAL TO PROVIDE DISTRICT-WIDE ROOF CONDITION ASSESSMENTS

SCHOOL DISTRICT OF ESCAMBIA COUNTY, FLORIDA

1.0 Project Information

Based on our experience working with the SDEC and our recent discussions, we understand that the SDEC is responsible for the maintenance and management of at least 62 school sites comprised of over 254 buildings located in Escambia County, Florida. We understand that the proposed roof condition assessment would be applied to the facilities identified in Attachment A to this proposal. The total roof area included in the project scope is approximately 6.25 million square feet.

In 2002, AMEC, f.k.a. Law Engineering and Environmental Services, Inc., performed a district-wide roof survey on approximately 5.6 million square feet of the SDEC's roofs and developed a roof asset management program for the SDEC's use. In 2008, AMEC f.k.a. MACTEC Engineering and Consulting, Inc. performed a district-wide roof survey on approximately 6.25 million square feet of SDEC's roofs and updated the SDEC's roof asset management program. We understand the SDEC has performed many of the recommended actions that were generated as a result of the 2008 survey, and has generally exhausted the 5-year roof management budget developed in 2008. We also understand that the SDEC will operate with a roof repair and replacement budget of approximately $750,000 per year over the next 5 years.

The SDEC has now requested that AMEC prepare this proposal to provide a 5-year roof asset management program. Developing this roof asset management program will require a roof condition survey to be performed.

We understand that we are to reuse (to the extent possible) existing roof plans and readily available background data in completing the scope of work.

The SDEC has requested AMEC evaluate the data obtained from the survey and utilize that information to update the SDEC's standard roof construction specification.

2.0 SCOPE OF SERVICES

The objective of our services is to update the inventory and condition survey that will provide budgeting data to assist the SDEC in the procurement, construction, and maintenance of its roof assets. The findings and recommendations from our assessment can be used to assist the SDEC in managing the execution of its five-year roof management plan.

AMEC's proposed services include the inventory and on-site assessment of the physical condition of roofs at each facility included in the project scope (see Attachment A). Our work includes the population, analysis and reporting of data we collect from document reviews and field surveys using AMEC's Vertex® facility asset management software program. We will utilize Vertex to calculate condition indices for each asset we inventory for use in preparing short-term and long term budget reports.

The SDEC has requested that AMEC engineers and roof consultants evaluate the data collected from the survey and provide recommendations for revision to the SDEC's standard construction specification.

Our proposed scope of services is grouped in these primary tasks:

- Phase 1: Program Planning, Coordination and Project Management,
- Phase 2: Facility Survey, Condition Assessments, and Data Population
- Phase 3: Data QC Review, Analysis and Reporting
- Phase 4: Specification Evaluation

Phase 1: Program Planning, Coordination and Project Management

The success AMEC has achieved on previous contracts similar to this one is the result of our detailed, highly structured approach to controlling workflow, which is critical for contracts such as this. Our effort under this phase includes:

- Project Kick Off Meeting
- Pre-Site Mobilization - Background Data Collection, Review and Survey Prep
- Project Management

Task 1.1: Project Kick-Off Meeting

Following our receipt of an executed contract, we will schedule a "kick-off" meeting between key staff representing the SDEC and AMEC. During this meeting, we will review our approach and identify the SDEC's critical business objectives and measures of success for the program. Once the goals and objectives of the program are verified, we will tailor our work plan to best leverage the SDEC's and AMEC's resources in the most effective manner.

During the kick-off meeting, we will also accomplish the following:

- Introduce members of AMEC's project team to key SDEC staff
- Identify the primary Point of Contact for both AMEC and SDEC
- Establish chain of communication
- Determine site access restrictions and escort/security requirements
- Identify known schedule constraints
- Discuss safety issues
- Verify invoicing schedule and format
- Identify sources and locations of background data
- Coordinate "Jessica Lunsford Act" compliance

Task 1.2: Pre-Site Mobilization - Background Data Collection, Review and Survey Prep

Prior to beginning the field data collection efforts, we ask that the SDEC assemble and provide us with background information that describes the construction and maintenance history of its rooftop assets. Background information is often available in spreadsheet or database file formats. We request that any background data that can be provided in electronic format be made available to us during or immediately after the Kick-Off meeting and before we mobilize to begin the on-site portion of the Roof Condition Assessment (RCA). Useful background information typically includes, but may not be limited to:

- Facility list (names, numbers, location, etc.)
- Building plans and specifications
- Asset physical data (area, number of sections, type, age, etc.)
- Current warranty information
- Major repair, replacement or retrofit project data
- Reports of previous facility investigations
- Data regarding recent costs for asset replacements
- Current facility problems or concerns
- Known defects in facility components (roof leaks, replacement schedule, etc.)
- Current-year planned maintenance projects

During this phase of the project, we request that the SDEC identify relevant data sources and provide paper or electronic copies of selected documents, drawings and records deemed necessary by AMEC. We will require a small space to work on site as we assemble and review background records. We will evaluate data provided to us and make determinations regarding its usability.

To facilitate performance of the assessments, we intend to use information we extract from construction drawings (especially roof plans) and other appropriate documents that are made available to us during the project. We request that we be able to retain such documents until the completion of our reports or have copies of relevant documents made available for our use. We understand that background documents and historical documents are housed at the Facilities Planning and Construction Department.

Background data describing the campuses, sites, and buildings included in the survey is critical to obtain in advance of mobilizing to the field. This data will be used to establish the hierarchical relationship of facility assets to the owner of the site(s) and facilities that are to be included in the Condition Assessment.

We plan to use Vertex Mobile® to collect and store data collected during the on-site field portion of the project. Vertex Mobile is a Windows-based software application designed specifically to facilitate field data collection for facility condition assessments and roof surveys using a touch-screen tablet computer. Vertex Mobile was developed specifically for and is fully integrated with Vertex®.

Prior to mobilizing to the field, we will configure Vertex Mobile with background data specific to the SDEC project. At a minimum, we plan to pre-load the location hierarchy of sites and facilities included in the project. Additional background data that will support the field data collection effort will be loaded into Vertex Mobile if provided to us in advance of our mobilization to the field.

Task 1.3: Project Management

Our project management plan will be monitored continually to ensure resources are allocated efficiently, costs are controlled, progress is maintained, and the project budget and schedule are met. The SDEC will be kept abreast of scheduled plans at all times through routine communications. In the event that problems arise, the SDEC key contact will be informed as quickly as practical, and follow-ups will be provided.

Mr. Richard J. Brown will be AMEC's Project Manager for this project. Mr. Brown will be responsible for overall program goals and objectives and provide senior oversight in regards to schedule, budget, and deliverables.

Phase 2: Facility Survey, Condition Assessment and Data Population

AMEC will complete visual surveys of the roof coverings on each of the facilities included in the work scope. Surveys will be conducted to document the inventory of existing roof sections and to visually assess the current physical condition of each roof section.

Data collected during the survey will be stored in Vertex Mobile. Data will be uploaded to Vertex at the end of each day via the Internet. The following sections generally describe our services for this phase.

Task 2.1: Inventory and Visual Condition Surveys

AMEC will visually survey the roof of each building included in the project scope, with special emphasis on the existing membrane, flashing, and roof drainage conditions. Our inventory and visual condition survey will follow the protocol outlined below.

1. The roofs of each building will be divided into sections along natural boundaries (if applicable) for data collection and asset management purposes. A section is generally delineated by:

   - Areas having different roof systems, different amounts of roof traffic and/or rooftop equipment, or radically different occupancies below the roof
   - Areas that were built at different times
   - Areas of major repair or replacement
   - Expansion joints or area dividers
   - Different roof elevations
   - Areas having particularly sensitive occupancies below, such as computer centers, operating rooms, or command centers.

   We will use our judgment in defining roof section in cases where the roof is divided into very small areas. Small sections may be combined where practical. However, if areas have distinct differences in characteristics such as different structural systems, roof systems, or environments below the roof structure, they will be treated as individual sections.

2. The area of roof membrane and linear footage of flashing components will be field measured.

3. Surveyors will record the critical data elements required to describe the inventory of each roof section. At a minimum, we will record information describing the roof section ID, roof family, system type, membrane area, length of perimeter and curb flashing, and known or estimated roof age.

4. Identified distresses will be quantified and recorded to describe the distress type, severity level, and defect type. Roof defects and anomalies will be identified in lineal feet or square footage.

Photographs

AMEC will take photographs of each major roof section. Photographs will be annotated to include building ID and roof section ID, and will note the orientation of the photograph.

Sketches

AMEC will produce hand drawn roof sketches that indicate the layout of each roof section including boundaries, penetrations, and major rooftop appurtenances. The sketches will also identify the general location of defects observed.

As each building roof area is surveyed, AMEC will enter field data into the Vertex Mobile software. AMEC will use Vertex to store all SDEC roof data and generate output reports.

Phase 3: Data QC Review, Analysis and Reporting

At the end of each day in the field, assessors will synchronize the databases in Vertex Mobile and Vertex. Data collected in the field, not previously uploaded, is sent to Vertex and stored in temporary tables pending data QC. Any files that have been modified in Vertex since the last synchronization with vertex Mobile are downloaded to the field tablets.

Task 3.1: Data QC Review

AMEC will establish appropriate quality control measures to ensure the accuracy of data being entered into and produced by Vertex. Vertex includes over 30 automated QC queries in its "To Do List", and also includes a data review tool called the Vertex Mobile QC Manager.

The Vertex Mobile QC Manager organizes data uploaded from Vertex Mobile to support multi-record QC, using filters and data sorting to facilitate more efficient human review of the data. The QC Manager tracks records reviewed and records posted to the Vertex database, and documents an audit trail of data errors identified and fixed during the review.

In addition, Vertex includes automated queries in its "To Do List". These queries are specific to the defect types. For example, specific QC reviews can be run to identify all records with a null Current Replacement Value, or defect densities that exceed the total size of the asset, as examples. The To Do List queries can analyze thousands of records per minute, thus dramatically reducing the human effort required for data review, with guaranteed accuracy.

Task 3.2: Calculate Condition Index

Once the inventory and assessment data is reviewed and uploaded into Vertex, the software automatically calculates a Condition Index (CI) for each sub-element in the inventory. The CI is expressed on a scale of 0 to 100 and provides a common language for comparison of diverse sub-elements. Based on the design life of the particular asset, the calculated CI also determines the Remaining Service Life (RSL), in years, for the asset.

Task 3.3: Data Analysis

After CIs are calculated, AMEC will analyze the data and prepare budget estimates for recommended alternatives of maintenance, repair, and/or replacement (MR&R) of assets. The financial analyses will be generated from queries established in a "decision matrix" which model various asset management strategies. AMEC will consult with key SDEC staff to obtain information necessary to establish the threshold values, measurement metrics, and financial constraints to build baseline decision-matrix scenarios to be used in our analyses, and that best define the SDEC's asset management strategies.

AMEC will also consult with the SDEC to establish metrics to prioritize planned work based on financial and non-financial attributes. Prioritization is calculated from numerical metrics stored in the database using the principles of Analytical Hierarchy Processing (AHP). AHP is an American Society for Testing and Materials (ASTM)standard method of comparing the priority of a range of assets with many attributes by comparing the desirability of one attribute over another, a pair at a time.

The purpose of these activities is to define the analysis variables that best describe the specific requirements, business goals, and typical maintenance methods of the SDEC. Tuning the analysis scenarios requires that the SDEC work with AMEC to define Vertex' analytical decision matrices. AMEC will provide technical guidance and will make database entries to establish the analytical scenarios; however, the SDEC is responsible for decisions concerning analysis criteria used to generate financial reports.

Once the financial analysis and prioritization scenarios are established, we will run the analyses over a 5-year study period. The results of the analyses provide projected costs per asset, per year, segmented by activity. Activities typically include maintenance, repair, replacement, and other recurring costs that may be defined as part of the analysis set-up. Recurring costs may be applied at various frequencies, and will be determined based on our interviews with the SDEC's key staff.

Task 3.4: Report Preparation

Following our analysis of the data, we will generate a report of our findings and recommendations. The report will include a brief executive summary narrative, plus various data outputs from Vertex, such as:

- Sub-element inventory together with Condition Index and remaining useful life forecast
- A 5-Year budget estimate for Maintenance, Repair and Replacement (MR&R) of sub-elements included in the inventory.
- Recapitalization plan for capital forecasting
- A description of the assumptions used to analyze the data.

The report will include Appendixes with detailed survey information from each site including photographs and sketches. After our report has been delivered we will attend one meeting with you to review the findings and discuss.

Phase 4: Specification Review

AMEC's Registered Roof Consultant will review data collected from the condition survey relative to consistent distresses with particular systems, materials, and applications. We will review the SDEC's standard specifications for roof systems and make recommendations for revision based on the results of the survey on our review. We will prepare a report that documents the findings of our review and presents our specification recommendations.

3.0 SCHEDULE ASSUMPTIONS

We estimate that the Kick-Off Meeting can be accomplished and the background data collection, review and survey preparation can be completed in a period of three to four weeks following contract award. For purposes of estimating our fees, this proposal assumes that the on-site roof surveys would be completed by one, two-person team. We plan to utilize a limited number of assessors in order to provide a higher degree of consistency in data collection from site to site. Depending on schedule and access constraints, it is likely that the field data collection would be completed over a period of 12 to 15 weeks. Our report can typically be provided within four to six weeks following completion of the field survey activities. Our total project schedule from notice to proceed to report delivery is six months. We offer the following estimated schedule for the project

Activity	Timeline
Contract Execution	March 1, 2013
Program Planning and Background Data Collection	March 1 to March 31, 2013
Facility Survey, Condition Assessment and Data Population	April 1 to June 30, 2013
Meet to Present Summary of Assessment and Develop Analytical Scenario	July 15, 2013
Provide Final Reports	August 15, 2013

4.0 CLIENT REQUIREMENTS

Our fee assumes that the SDEC representatives will notify the appropriate parties in advance of site visits to avoid undue delays at each site. This includes assuring that a site contact is provided who is able to provide roof access or direct our personnel to the roof access.

AMEC will provide ladders for its own use in accessing roofs that are not accessible from interior roof hatches. If there are roof areas that are not be accessible without use of a man-lift, we will note such buildings and provide this information to the SDEC. If the SDEC desires that we rent a man-lift to gain access to specific roofs, AMEC will charge the SDEC for any fees related to the use of the man-lifts and the SDEC will reimburse AMEC for these charges at AMEC's actual costs.

5.0 SCOPE QUALIFICATIONS AND EXCLUSIONS

1. As an option, and for additional fees, AMEC can produce the roof sketches in an AutoCAD format.

2. Visual observation and bulk sampling to determine the presence of asbestos in roof materials is expressly excluded from this proposed scope of services. We can provide asbestos sampling, for additional fees, if requested.

3. This is a visual-type survey only and does not include core sampling or other invasive assessments. Additional investigative techniques such as, laboratory analyses of materials, nuclear scanning or infrared thermographs are additional services that can be provided for additional fees.

Our fee assumes that representatives of your office will notify tenants of site visits and therefore undue delays will not be encountered at the site. This includes assuring that a site contact is available who is able to provide our staff access to each facility.

Condition Assessments are preliminary reviews to identify readily apparent problems and general costs; they are not intended to be a detailed analysis of each system. Although a "standard of care" is exhibited by trained professionals, with this type of preliminary review it is possible that conditions may exist which will affect the value and/or performance of facilities or site infrastructure assets but which will not be discovered by the assessment.

Our scope of services, unless specifically addressed in this proposal, does not include any construction or construction management activities to address our findings, or obtaining and testing materials, or performing detailed engineering calculations to determine the capacity or adequacy of the existing design. Our scope specifically excludes the dismantling or removal of casings, housings, insulation and other enclosures in order to visually assess internal equipment parts, building substrates, structural connections, or fasteners. We do not plan to enter in building attics, crawl spaces, or other confined spaces as a part of our survey.

Our scope assumes that we will be provided access to physically walk over all buildings with low-slope or flat roofs. We do not intend to walk over roof sections constructed of slate or concrete tiles, or on roof sections with slopes with a pitch above 2 in 12. For roof sections which we do not walk over, we intend to utilize binoculars to examine the section for defects and distresses. We intend to work from flat roof areas that provide reasonable visual access to the steep slope roof sections. For roof sections where gaining access is not practical or cannot be achieved in a timely fashion, then our observations will be made from ground level.

This is a non-destructive survey only and specifically excludes any material testing or other investigative techniques such as moisture surveys, water intrusion testing, adhesion or cohesion testing, load testing, air balancing, thermography, eddy current tests, voltage and current measurements, etc. Testing to determine the presence of asbestos, radon, lead-based paint, or other potentially hazardous materials is specifically excluded from our scope.

6.0 FEE BASIS AND INVOICING

The fees proposed for our services included in this Proposal will remain firm for a period of 60 days from the date of the proposal.

We propose to perform the services offered for Phase 1, 2, and 3 in this proposal for a *unit rate fee of $0.0325 per square feet.* Based on an estimated roof area of 6,000,182 square feet, the estimated fee for this work would total **$195,000.** TOTAL: $198,500 ABN 1/15/13

We propose to perform the Phase 4 services offered for a lump sum fee of **$3,500.**

Based on our previous discussions on January 14, 2013, we understand that you do not desire to have roof sketches provided in AutoCAD format, but rather utilize the field sketches.

Unit Rate Charges: Time spent in completing the roof inventory, condition assessment, field documentation, field quality control, data review, database population, and related expenses will be charged on a unit rate basis calculated at a cost per square foot of the actual roof area being investigated. The basis of the roof area will be calculated from our field measurements. The final fee invoiced will be adjusted up or down depending on the actual roof area assessed.

7.0 AUTHORIZATION

To authorize the services described in this proposal please issue a purchase order to us in the amount of the selected option referenced above. The purchase order should reference the scope of work and fee equation referenced in this AMEC Proposal No. PNS12.080Rev1, dated January 14, 2013, along with the terms and conditions contained in the existing Consulting Agreement between AMEC and the SDEC for Professional Roof Consulting Services. The terms and conditions in that contract will govern our services on this project.

SDEC Roof Area Square Feet Estimate
Proposal to Provide District-Wide Roof Condition Assessment
AMEC Proposal No. PNS12.080
14-Jan-13

Site Name	Roof Sections	Site Roof Area (square feet)
Vernon McDaniel Administration Building 75 N Pace Boulevard	2	28,884
Jim Bailey Middle School	12	184,295
Bellview Elementary School	11	71,143
Bellview Middle School	19	131,448
Beulah Elementary School	5	74,321
Blue Angels Elementary School	10	131,954
Bratt Elementary School	12	67,021
Brentwood Elementary School	9	70,741
Brown Barge Middle	15	93,972
N.B. Cook Elementary	9	120,409
Cordova Elementary School	14	89,941
Ensley Elementary School	9	73,644
Roy Hyatt Environmental Center	7	12,289
Escambia High School	46	224,330
Escambia Westgate Center	6	78,776
ESEAL Program	6	34,837
Ferry Pass Elementary School	10	80,935
Ferry Pass Middle School	13	106,691
George Stone Vo-Tech/ West Florida Technical High School	28	281,593
Hall Center (includes Central Warehouse)	34	307,618
Hall Center Annex (Old Brown Barge)	12	61,093
Helen Caro Elementary School	9	118,597
Holm Elementary School	14	110,933
Jim Allen Elementary School	10	83,855
Judy Andrews	7	22,781
Lincoln Park Elementary School	7	63,927
Lipscomb Elementary School	10	126,871
Longleaf Elementary School	4	106,476
McArthur Elementary School	4	77,494
McMillan Learning Center	4	48,672
Molino Park Elementary School	9	136,587
Montclair Elementary School	7	65,237
Myrtle Grove Elementary School	13	81,756
Navy Point Elementary School	10	73,744

Site Name	Roof Sections	Site Roof Area (square feet)
Global Learning Academy	Unknown	88,400
Northview High School	10	159,160
Oakcrest Elementary School	14	69,798
Pensacola High School	35	198,775
Pine Forest High School	25	166,654
Pine Meadow Elementary School	13	101,108
Pleasant Grove Elementary School	11	58,986
Ransom Middle School	12	166,849
Scenic Heights Elementary School	8	96,290
Semmes Elementary School	17	67,470
Sherwood Elementary School	9	77,750
Sid Nelson Learning Center	14	55,735
Spencer Bibbs Training Center	5	45,428
Tate High School	52	295,279
Warrington Elementary School	8	48,632
Warrington Middle School	18	87,945
Washington High School	21	240,275
Weis Elementary School	12	135,453
West Pensacola Elementary School	6	78,216
Woodham Middle School	40	222,120
Workman Middle School	16	96,994
TOTAL ESTIMATED SQUARE FOOTAGE	743	6,000,182

Notes:

* Roof areas based on AMEC's previous survey or provided by the SDEC.

* Allie Yniestra, Clubbs Middle, Century Carver, Edgewater Elementary, End User Support, Ernest Ward Middle and Suter Elementary was removed from AMEC's 2008 list and the Global Learning Academy was added.

* Survey to include only permanent buildings, does not include covered walkways, canopies, portables, out buildings, press box, concessions and storage units.