March 6, 2023
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Ms. Paige Cisewski
Charter School of Morgan Hill
9530 Monterey Highway
Morgan Hill, California 95037

Project: Charter School of Morgan Hill Modular Buildings
Charter School of Morgan Hill
DSA File No. 43-38
DSA Application No. 01-119819
9530 Monterey Highway
Morgan Hill, California 95037

Subject: Proposal for Special Inspection and Materials Testing Services

Dear Ms. Cisewski:

We appreciate the opportunity to submit this proposal for special inspection and materials testing services for the proposed Charter School of Morgan Hill Modular Buildings project located in Morgan Hill, California. This proposal presents our understanding and a brief description of the project, our scope of services, our estimated fees, scheduling details, our assumptions, exclusions, and closing statements.

Moore Twining Associates, Inc. (Moore Twining), established in 1898, has provided engineering and testing services for more than 120 years. Moore Twining is certified as a Disabled Veterans Business Enterprise (DVBE) by the Office of Small Business & Disabled Veteran Business Enterprise Services (OSDS). Our DVBE certification number is 16472. Our firm is certified by the State of California Division of State Architect (DSA), Laboratory Evaluation and Acceptance Program (LEA #065 Fresno, #200 Sand City, #201 Sacramento, and #278 Riverside). Our firm is also approved as an inspection agency by the American Association of State Highway Transportation Officials (AASHTO), the State of California Department of Transportation (CALTRANS), Cement and Concrete Reference Laboratory (CCRL), and the City of Los Angeles. Moore Twining also participates in various professional organizations.

Moore Twining has the qualifications and the experience that are required to provide the materials testing and special inspections services for this project.

PROJECT DESCRIPTION

Our understanding of the project was developed based on our review of the following project documents:

- Bid Set Plans, prepared by Aedis Architects, dated February 24, 2022;
- Project Manual and Technical Specifications, prepared by Aedis Architects, dated September 8, 2022;

- Geotechnical Engineering Investigation Report, prepared by Geo-Logic Associates, dated August 23, 2021;
- DSA 103, File No. 43-38, Application No. 01-119819, dated February 2, 2022;
- Addendum 0.1, dated November 7, 2022; and
- Addendum 0.2 dated November 10, 2022.

The proposed project consists of the new construction of three modular buildings with a proposed total plan area of approximately 17,500 square foot. The modular buildings are proposed to utilize reinforced concrete footings, grade beams, a reinforced slab-on-grade, and interior and exterior wood sheathed shear walls.

Site work for this project is to include the construction of pedestrian concrete paving, pedestrian asphalt concrete (AC) paving, reinforced concrete walls, a new play area, new benches and tables, and the construction of a new chain link fence.

SCOPE OF SERVICES

The scope of materials testing and inspection services for the project were based on the requirements of the project drawings, geotechnical engineering investigation report, DSA 103, and specifications. It should be noted that a project schedule was not provided to our firm to prepare this proposal and fee estimate.

The original proposal dated March 6, 2023 did only included the inspection of welding performed in the fabrication shop. We were asked to include all of the field inspection work required by the DSA 103 document by Mr. Scott Burnham with AEDIS Architects, thus; the below represents our understanding of the required inspections including the amended fee estimate.

Based on our review of the project documents, our services will consist of the inspection and testing of earthwork, structural concrete, post installed anchors, field structural steel, shop structural steel, and structural wood.

Earthwork

The earthwork associated with this project is generally related to the observation and testing of the subgrade for the three slab-on-grades and concrete aprons for the modular buildings, footings and grade beams for the three buildings, subgrade for PCC paving, AC paving, subgrade for various concrete walls, and utility backfill.

Our scope of services includes observation and testing of the construction of the slab-on-grade and concrete aprons, PCC improvements, AC, as well as the placement and compaction of utility trench backfill. In-place moisture and density tests will be performed in accordance with ASTM D6938 (nuclear methods). Samples of the subgrade soils will be tested to evaluate the maximum dry density and optimum moisture content in accordance with ASTM Test Method D1557.

The tasks anticipated for earthwork and the assumed durations are presented in the following table.

Estimated Inspection for Earthwork			
Earthwork Component	**Estimated Trips**	**Hours per Trip**	**Total Hours**
Building Footings Subgrade Preparation	3	6	18
Building Pad Subgrade Preparation (Three Buildings)	3	8	24
Building Pad Aggregate Base Preparation (Three Buildings)	3	8	24
AC Pavements Subgrade Preparation	1	8	8
AC Pavements Aggregate Base	1	8	8
PCC Pavements Subgrade Preparation	1	8	8
PCC Pavements Aggregate Base	1	8	8
Concrete Walls Subgrade Preparation	3	6	18
Chain Link Fence Cast in Place Drilled Hole Foundations	1	8	8
Utility Trenches	5	8	40
Sample Pick Up	1	2	2
		Estimated Inspection Hours:	166

Earthwork Material Tests		
Material	**Test**	**Estimated Quantity**
Engineered Fill	Maximum Density/Optimum Moisture	3
Aggregate Base	Maximum Density/Optimum Moisture	1
Bedding Sand	Maximum Density/Optimum Moisture	1

Cast-In-Place and Pre-Cast Structural Concrete

Cast-in-place concrete will be placed for the three buildings slabs-on-grades and apron around the buildings, building footings, PCC paving, various reinforced concrete walls, and reinforced fence post footings for a chain link fence.

Our scope of services will include periodic inspection of formwork and continuous observation during the placement of structural concrete as well as sampling and testing of concrete. A set of five (5) 4-inch by 8-inch concrete cylinders will be cast for each 150 cubic yards or fraction thereof, for each day that the concrete is placed. The cylinders will be transported to our laboratory and tested for compressive strength. One (1) cylinder will be tested at 7 days, three (3) cylinders will be tested at 28 days, and one (1) cylinder will be held and tested at 56 days if the required compressive strength is not met at 28 days. Slump and temperature tests will be performed at the truck at the time the compressive strength samples are taken.

Based on a review of the DSA Form 103, the inspection of the reinforcing steel placement is not required by the special inspector.

It should be noted that DSA IR 17-10 has modified how the material ID, sampling and tagging of the reinforcing steel is to be performed. Based upon the changes noted in this document, the number of trips required to perform the material ID and sampling has doubled, as the DSA IR 17-10 now requires the

reinforcing steel to be tested in the laboratory and found to be meeting the project requirements prior to the second trip to tag the reinforcement for shipment to the job site.

The location of the reinforcing steel fabricator was not known at the time this proposal and fee estimate was prepared. Therefore, it has been assumed that the fabricator will be located within 30 miles of one of our offices. In addition, it has been assumed that the fabricator will perform the work on Monday through Friday between the hours of 8 AM and 5 PM.

It has been assumed that batch plant will be approved by DSA; therefore, reducing the continuous inspections to periodic.

The following tasks related to the cast-in-place concrete observation and testing, and their estimated durations are as follows.

Estimated Inspection for Reinforcement of Cast-In-Place Structural Concrete			
Structural Member	**Estimated Trips**	**Hours per Trip**	**Total Hours**
Reinforcement Material ID and Sampling	2	6	12
		Estimated Inspection Hours:	12

Estimated Inspection/Sampling for Cast-In-Place Structural Concrete			
Structural Member	**Estimated Trips**	**Hours per Trip**	**Total Hours**
Three Building Footings	3	6	18
Three Building Slab-on-Grades and Apron	3	8	24
PCC Paving	1	6	6
Concrete Walls	2	6	12
Chain Link Fence Post Footings	1	6	6
Batch Plant Inspections	10	6	60
Sample Pick Up	10	2	20
		Estimated Inspection Hours:	146

Structural Concrete Material Tests for Cast-in-Place Structural Concrete		
Structural Element	**Test**	**Estimated Quantity**
Three Building Footings	Concrete Compressive Strength	3 (Set of 5)
Three Building Slab-on-Grades and Apron	Concrete Compressive Strength	3 (Set of 5)
PCC Paving	Concrete Compressive Strength	1 (Set of 5)
Concrete Walls	Concrete Compressive Strength	2 (Set of 5)
Chain Link Fence Post Footings	Concrete Compressive Strength	1 (Set of 5)
Reinforcement	Bend/Tensile	5

Post-Installed Anchors and Epoxy Dowels

Post installed concrete mechanical anchors are anticipated to be utilized throughout the project including epoxy dowels and expansion anchors.

Our scope of services will include observation for the type and size of the anchors, as well as the diameter, depth, and cleanout of the drilled holes for post-installed anchor bolts. Pull or torque tests will be performed based upon the type of anchor installed.

The following tasks related to the post-installed anchor observation and testing, and their estimated durations are as follows:

Estimated Inspection/Testing Durations for Post-Installed Anchors and Epoxy Dowels			
Structural Member	**Estimated Trips**	**Hours per Trip**	**Total Hours**
Installation Inspection	2	6	12
		Estimated Inspection Hours:	12

Structural Steel, High-Strength Bolts, and Welding

The structural steel components for this project consists of the in-shop construction inspection of the modular buildings and grout placement for steel HSS columns.

Our scope of services includes structural steel and continuous welding inspection at the fabrication shop of the proposed project.

It should be noted that the amount of time estimated for the steel shop inspections was estimated from conversations between Mr. Hugo Rodriguez of Moore Twining and Mr. Raul from Ahlbourn Steel.

The tasks anticipated for structural steel and the assumed durations are presented in the following table.

Estimated Inspection/Sampling for Structural Steel			
Structural Member	**Estimated Trips**	**Hours per Trip**	**Total Hours**
Shop Welding Inspections	20	8	160
Field Welding	2	8	16
Grout Inspections	2	6	12
		Estimated Inspection Hours:	188

Material Tests Structural Steel		
Structural Element	**Test**	**Estimated Quantity**
Non-Shrink Grout	Concrete Compressive Strength	2 (Set of 3)

Structural Wood Shear Walls

The structural wood shear walls for this project include interior and exterior bearing stud wall framing.

Our scope of services includes the periodic observation and inspection of the nailing for the wood shear walls.

The tasks related to the verification and inspection of wood construction are as follows:

Estimated Inspection/Sampling for Structural Wood			
Structural Member	**Estimated Trips**	**Hours per Trip**	**Total Hours**
Shear Walls Inspections	3	8	24
		Estimated Inspection Hours:	24

PROJECT COORDINATION, REVIEW, ENGINEERING SUPPORT, AND REPORTING

In addition to the testing services described above, our firm will also provide engineering support. This support would include reviewing material submittals or certificates of compliance when requested, reviewing inspection reports, reviewing laboratory testing reports, and preparing a final report indicating if the work and materials used to construct the project, that were included in our scope of services, are in conformity with the requirements of the project documents.

A Project Manager will be assigned to the project for the services provided by Moore Twining. The Moore Twining Project Manager is solely for managing the services provided by Moore Twining and is not related to any aspect of the actual construction which is the responsibility of the General Contractor. To the extent possible, Moore Twining will have one primary inspector, who is qualified to perform the required tested, assigned to the project to provide continuity and quality assurance for the project. Our Project Manager will work closely with the Charter School of Morgan Hill representative to dispatch the inspectors to the job site when they are needed, verify that the dispatched inspectors are certified to perform the required testing, verify that the required testing is being performed, and verify that deviations are being recorded and tracked until resolved.

A critical part of any inspection for projects is the ability to track and verify correction of structural discrepancies. A "Log of Discrepancies" will be maintained. This log is used to track discrepancies and verify these discrepancies are addressed during construction. If a discrepancy requires an RFI or design change, the discrepancy may need to be tracked for some time.

The tasks related to the project coordination, review, engineering support, and reporting and their estimated durations are as follows:

Estimated Engineering Support and Project Management	
Task	**Total Hours**
Project Management of Testing and Inspection Services	12
Registered Civil Engineer	4
Registered Geotechnical Engineer	6

ESTIMATED FEES

Our fee estimates to provide the testing and inspection services described in this proposal is presented in Table 1 below.

Table 1 - Fee Estimate to Provide Materials Testing & Inspection Services Charter School of Morgan Hill Modular Buildings 9530 Monterey Road, Morgan Hill, California 95037				
Scope Description	**Units**	**Quantity**	**Unit Fee**	**Estimated Fee**
Earthwork				
Inspection of Earthwork	Hour	164	$116.00	$19,024.00
Lab Maximum Density (ASTM D1557) 4-inch mold	Test	4	$184.00	$736.00
Lab Maximum Density (ASTM D1557) 6-inch mold	Test	1	$200.00	$200.00
Mileage Charge	Miles	2,576	$0.655	$1,687.28
Vehicle and Equipment Charge	Trip	23	$25.00	$575.00
			Subtotal	**$22,222.28**
Cast-In-Place Structural Concrete				
Reinforcement Material ID and Sampling	Hour	12	$63.00	$756.00
Tensile Strength/Bend Testing	Test	5	$116.00	$580.00
Inspection and Sampling of Concrete	Hour	66	$123.00	$8,118.00
Batch Plant Inspections	Hour	60	$63.00	$3,780.00
Concrete Compressive Strength	Set	10	$95.00	$950.00
Sample Pick-Up	Hour	20	$63.00	$1,260.00
Mileage Charge	Miles	3,584	$0.655	$2,347.52
Vehicle and Equipment Charge	Trip	32	$25.00	$800.00
			Subtotal	**$18,591.52**
Post-Installed Anchors				
Anchor Inspections	Hour	12	$123.00	$1,476.00
Mileage Charge	Miles	224	$0.655	$146.72
Vehicle and Equipment Charge	Trip	2	$25.00	$50.00
			Subtotal	**$1,672.72**
Structural Steel				
Shop Welding Inspections	Hour	160	$80.00	$12,800.00
Field Welding Inspections	Hour	16	$123.00	$1,968.00
Grout Inspections	Hour	12	$123.00	$1,476.00
Non-Shrink Grout	Test	6	$32.00	$192.00
Mileage Charge	Miles	4,384	$0.655	$2,871.52
Vehicle and Equipment Charge	Trip	24	$25.00	$600.00
			Subtotal	**$19,907.52**
Structural Wood				
Shear Wall Inspections	Hour	24	$123.00	$2,952.00
Mileage Charge	Miles	336	$0.655	$220.08
Vehicle and Equipment Charge	Trip	3	$25.00	$75.00
			Subtotal	**$3,247.08**

Project Coordination, Review, Engineering Support, and Reporting				
Project Manager	Hour	12	$90.00	$1,080.00
Registered Civil Engineer	Hour	4	$137.00	$548.00
Registered Geotechnical Engineer	Hour	6	$158.00	$948.00
			Subtotal	**$2,576.00**
Total Estimated Fee for Testing and Inspection Services				**$68,217.12**

The above fee estimate was prepared based on our review of the project documents provided to our firm. It should be noted that the total fee for our services is directly influenced by the construction schedule, weather conditions, scheduling by the Client, efficiency of the contractor and subcontractors performing the work and other factors outside our control; thus, our fees could be more or less than estimated. Since these items are beyond our control, our services will be provided on a time and materials basis and the estimated fee presented in this proposal should serve as a budget estimate for these services. Moore Twining will only charge for those services performed and billed in accordance with the fees and invoicing section of this proposal. Our firm will notify you of scope changes that occur during the course of the project if these scope changes increase our fees.

Please note that it has been assumed that there would be no over-time or weekend work for this project and therefore has been excluded in our fee estimate. It should be noted that a construction schedule was not provided to our firm at the time this proposal and fee estimate was prepared.

FEES AND INVOICING

It is our understanding that **this project is subject to State of California prevailing wage** requirements for work performed. Our fees are based on two-hour minimum billing and two-hour increments thereafter for inspectors, field technicians and engineers portal-to-portal. The rates presented in Table 1 are based on 8-hour workdays, Monday through Friday. Overtime (beyond eight hours per day or after forty hours in five days per week) or premium (including Saturdays) is billed at 150% of our stated hourly rates. Double-time (beyond 12 hours per day) and Sundays or holidays will be billed at 200% of our stated hourly rates. If additional testing is required beyond the scope of this proposal, those services would be billed in accordance with our current 2023 Prevailing Wage Fee Schedule.

An itemized listing of the tests and inspections performed will be provided on each invoice. Payment is due on the 10th of the next succeeding month following the date of invoice and is considered past due thereafter. A finance charge of 1.5% per month service charge (18% per annum) may be assessed on past due accounts.

DELIVERABLES

Moore Twining will provide a daily field report for each day that an inspection is performed at off-site fabrication shops and on the project site. These reports will be followed by reports signed by the project manager or project engineer. Laboratory reports will be provided for the materials tested in the laboratory. These reports will be signed by the Laboratory Manager.

Moore Twining will provide a daily field report for each day that an inspection is performed on the project site. These reports will be followed by reports signed by a registered engineer. In addition, DSA forms, such as DSA Form 291, will be issued as required for the project upon notice by the Project Inspector.

Copies of reports will be sent to Charter School of Morgan Hill and others as directed by Charter School of Morgan Hill.

PRECONSTRUCTION MEETING

It is recommended that a preconstruction meeting be held with the client, the architect, the structural engineer, the general contractor, and the testing laboratory to discuss the details of scheduling, reporting, invoicing, and other issues affecting the project.

SCHEDULING

It is our understanding that a representative of Charter School of Morgan Hill will be responsible for scheduling the testing and inspection services for the project. Moore Twining can only be responsible for those inspections and tests our firm is notified of either by facsimile or electronic mail. To provide for your schedule, our firm should be notified at least one week prior to the start of construction and a 48-hour notice before each testing and/or inspection event is requested. Inspection services can be scheduled by contacting our Monterey office at (831) 392-1056.

NOTIFICATIONS AND EXCLUSIONS

The following items were excluded from our scope of services and our fee estimate:

- Retests, re-inspections, standby time, and cancellations without proper notice;
- Modifications or changes to the project and/or construction schedule after the date of our proposal;
- Moisture and PH Testing of concrete;
- Out-of-State inspections and testing;
- Testing of unidentified materials;
- Testing and Inspections of Asphalt Concrete;
- Testing and Inspections of masonry;
- Installation Inspections or Testing of Underground Utilities;
- Installation Inspections or Testing of Shotcrete;
- SWPPP Inspections and monitoring;
- Inspection of landscaping and irrigation systems;
- Inspection and testing of mechanical systems;
- Inspection and testing of electrical systems;
- Floor Flatness and Levelness Testing;
- Providing access to all construction elements requiring inspection; and
- Any items not so indicated in this proposal.

If any of these items are required during the course of the project, upon request, we can provide the aforementioned services and provide associated fees. Moore Twining is a full-service testing and inspection firm capable of meeting your needs on this project. Our estimated fee assumes the contractor will provide access to all construction elements requiring inspection at the time requested by our firm. The contractor is solely responsible for job site safety including excavation safety, support, etc.

CLOSING REMARKS

We encourage you to consider our firm's full-service capabilities and relevant project experience as you proceed with your selection process. It is understood that if this proposal is found to be acceptable, Charter School of Morgan Hill will issue a purchase order or agreement for our services and provide it to our firm to execute. Should you have any questions or comments, or if we may be of any service to you, please contact us at (800) 268-7021. You can also reach Mr. Adrian Lopez directly at (559) 400-2780 or email at AdrianL@MooreTwining.com.

We sincerely appreciate the opportunity to provide this proposal and look forward to working with Charter School of Morgan Hill on this project.

Respectfully submitted,
Moore Twining Associates, Inc.
Construction Inspection Division

Adrian Lopez
Staff Engineer