

October 25, 2018 Proposal No. TE18-204

Perris Union High School District 155 E 4<sup>th</sup> Street Perris. California 92570

Attention: Mr. Hector Gonzalez, Director of Facilities

**Subject: Proposal for Geotechnical, Materials Testing and Special Inspection** 

Proposed Paloma High School Modular Classroom, Restroom and Concession Buildings, 31375 Bradley Road, Menifee, California

DSA 04-117482

In accordance with your request, we are pleased to present this proposal to provide geotechnical testing, materials testing and special inspection services during construction. Please note that a construction schedule was not available for us during preparation of this proposal. As such, we recommend that the estimated budget herein be updated once a construction schedule becomes available.

# PROJECT DESCRIPTION

Our understanding of this project is primarily based on our review of project plans and specifications prepared by PJHM Architects (2018), review of provided DSA-103 form, and our soils report dated March 27, 2018. Based on our review, we understand that this project will include the construction of ten (10) relocatable classrooms located on-campus, restroom and concession buildings located in the stadium and associated drainage facilities and hardscape improvements.

#### PROPOSED SCOPE OF WORK

Our proposed scope of work will consist of geotechnical and materials testing, and construction materials "special inspection" services in general accordance with Chapter 17A of the 2016 California Building Code (CBC), Title 24, Part I, and other recognized authorities typically specified for a similar project. Our scope of services during construction is conceptually divided into the following tasks:

Geotechnical Observation/Testing and DSA Reports: We will perform parttime and/or as-needed geotechnical observation and testing during grading, and subgrade preparation associated with proposed flatwork/sidewalk. We also will test trench backfill associated with electrical trenches and storm drain construction.

- Cast-In Place Reinforced Concrete: We will provide a concrete technician onsite to sample fresh concrete and perform slump tests (ASTM C 143) and air content tests (ASTM C 173 or C 231) when requested by your designated field representative (or PI). A set of 5 test specimens (cylinders) per 50 cubic yards (or portion thereof in a single day) placed per mix-design will be molded in accordance with ASTM C 31 for compressive strength testing. We have assumed that reinforcing steel and concrete placement will be inspected by the PI and all concrete will placed in two pours.
- Reinforcing Steel: We will pick up representative reinforcing steel samples and "Tag" source materials for site delivery identification. Sampled materials will be tested as required.
- Structural Steel Welding: We will provide, an AWS Certified Welding Inspectors (CWI) at a local Southern California fabrication shop. The inspector will check the material, equipment, details of construction and procedures welds and the ability of the welder. The inspector may use gamma ray, sonic or any other aids for visual inspection that he may deem necessary to determine the adequacy of the welding.
- Masonry Inspection: We will provide inspection of CMU walls construction including sampling and testing of materials.
- QA/QC Project Management and DSA Reports: This scope of work will consist of reviewing inspection reports and laboratory test results for construction materials inspected and tested by our firm for use on this project. Daily inspection reports from our inspectors in the field will be reviewed and prepared for distribution. Laboratory tests results will also be reviewed, checked for correctness, and prepared for distribution. Inspection concerns encountered in the field and noted in the daily reports, and any material tested and found to be outside project specifications, will be brought to the attention of the inspector of record. Supervision QA/QC and project management will be provided by our Materials Inspection Manager, as needed. DSA closeout documents (interim and final DSA 291s) will be provided, as needed.

# SITE SAFETY

Site safety is the responsibility of the contractor. Therefore, we will notify the contractor's site representative, and your Project Inspector if/as directed by you for this project, whenever we are on site. You will also need to assign someone to sign our Daily Field Reports (DFRs) whenever our technicians and/or inspectors are onsite. This should be established at or before our pre-construction meeting.



# **SCHEDULE**

We are prepared to begin our work immediately upon receipt of your signed authorization to proceed. Scheduling of our technicians and inspectors should be done in accordance with the requirements of the Project Manual; however, we would like two working days advance notice when scheduling our field personnel at the commencement of construction; work thereafter may be scheduled with one working day (minimum 24-hour) notice. Calls to our dispatch after 3:00 pm (prior work day) or on weekends and holidays are not addressed until the first following working day, without prior arrangement. We anticipate our personnel will be on site periodically for both fulltime and/or part-time observation and testing, as requested by your field representative. We will work with your field representative to reduce standby time or unnecessary trips to the site. We anticipate that a construction management (CM) representative or PI will be onsite to (1) schedule our personnel, (2) supervise various contractors' activities and (3) respond to deficiencies in materials if necessary.

#### FEES AND TERMS

# Time and Expense Fee Schedule

The actual amount of time, and our associated fees, will be dependent on weather, exposed subsurface conditions, requests of the District and/or PI and the contractor's schedule, sequencing, pace and efficiency. We understand that the District will approve all changes prior to cost adjustments. Our services will be billed in accordance with *our attached Professional Fee Schedule*. This is PREVAILING WAGE, field services hourly rates may change commensurate with prevailing wage rate changes mandated by the California Department of Industrial Relations (DIR).

# **Budget Estimate and Assumptions**

Our budget is based on normal daylight workday shifts of 8 hours per day, 40 hours per week, Monday through Friday except holidays. Overtime is not included in our budget. Overtime work (over 8 hours per day, weekends or holidays). Our estimate does not include costs for response to project RFI's, geotechnical consultation; additional field hours requested beyond those stated herein, third-party review or respond to comments of any regulatory agency. Also excluded from our budget estimate are:

- Site concrete inspection and testing (i.e. 2,500 psi or less),
- Costs for shop inspection (outside of southern California), and/or
- Costs of tests or inspections due to the following:
  - 1. Retesting because of failure of initial samples,



- Additional costs due to overtime work or extra work because of improper scheduling of technicians and/or inspectors, or of delivery of structural materials by the contractor without DSA required plant inspection documentation and/or mill certifications.
- 3. Failure to notify our laboratory or dispatch (866-LEIGHTON) in a timely manner as required by the project manual,
- 4. Retests resulting from changes in sources, lots or suppliers of materials after original tests are completed,
- 5. Changes in methods or materials of construction that require testing, inspection and/or other related services in excess of that required by the original design, and/or
- 6. Concrete mix design reviews and letters in excess of one mix design.

A detailed breakdown of the estimated fee is included in Table 1 attached. We assumed that shop welding inspection can be completed in one to 3 days. We assume that a Purchase Order will be issued to us before we invoice, which will reference the terms and conditions of our mutually agreed to agreement, and document your authorization for this scope, schedule and fee. Any changes in these terms and conditions may require a change in the scope of services or fees or both. We recommend that our budget estimate provided below is updated once a construction schedule becomes available.

#### **CLOSURE**

We appreciate the opportunity to be of continued service on this project. If you have any questions or information that would update our scope of work, please call us at 1-866-LEIGHTON or the contact information provided below.

Respectfully submitted,

LEIGHTON CONSULTING, INC.

Simon I. Saiid, PE, GE

Principal Engineer

Extension 8013, ssaiid@leightongroup.com

Enclosures: Table 1 – Breakdown of Estimated Fee

Amended 2018 Fee Schedule

Distribution: (1) Addressee via electronic mail

Robert F. Riha, PG, CEG

Sr. Principal Geologist

Extension 8914, rriha@leightongroup.com



# Leighton Consulting, Inc.

# Table 1 - Estimated Fees

Paloma High School Modular Classrooms, Stadium Restroom and Concession Buildings, DSA 04-117482 Soils Materials/Testing and Special Inspection - Field

Proposal # TE18-204

| TASK DESCRIPTION  | RATE                               | UNITS          | COST                 |
|---|------------------------------------|----------------|----------------------|
| Pre-Construction Meeting/Project Review   |                                    |                |                      |
| Associate   | \$198.00 / hour                    | 2              | \$396.00             |
| Field Soils/Material Tester (Prevailing Wage)   | \$117.00 / hour                    | 3              | \$351.00             |
| Project Administrator/Word Processor  | \$72.00 / hour                     | 2              | \$144.00             |
| •   | \$135.00 / hour                    |                | ·                    |
| Staff Engineer  | \$135.00 / nour                    | 2              | \$270.00             |
| Field Observation and Testing (PW)  |                                    | SUBTOTAL       | \$1,161.00           |
|   | ¢447.00 / bour                     | 00             | Ф <b>7</b> 000 00    |
| Field Soils/Material Tester (Prevailing V Soils/Compaction Testing - Grading                          | \$117.00 / hour                    | 60             | \$7,020.00           |
| Field Soils/Material Tester (Prevailing V Soils/Compaction Testing - Pavement and utilities           | \$117.00 / hour                    | 48             | \$5,616.00           |
| Field Soils/Material Tester (Prevailing V Field sampling of concrete (assume all 10 relos in three pc | \$117.00 / hour                    | 80             | \$9,360.00           |
| Building/Construction Inspector (Prevail Welding and Masonry Inspection - Field                       | \$117.00 / hour                    | 140            | \$16,380.00          |
| Non Destructive Testing (Prevailing Wa Field Welding  | \$135.00 / hour                    | 8              | \$1,080.00           |
| Field Supervisor  | \$131.00 / hour                    | 8              | \$1,048.00           |
| Vehicle Usage   | \$13.00 / hour                     | 286            | \$3,718.00           |
| Non-PW Tasks  |                                    |                |                      |
| Senior Special Inspector Rebar Tag and Release  | \$99.00 / hour                     | 24             | \$2,376.00           |
| Senior Special Inspector Batch Plant  | \$99.00 / hour                     | 60             | \$5,940.00           |
| Senior Special Inspector Shop Inspection - southern Cal   | \$99.00 / hour                     | 120            | \$11,880.00          |
| Non Destructive Testing (NDT) Welding   | \$135.00 / hour                    | 8              | \$1,080.00           |
|   | •                                  | SUBTOTAL       | \$65,498.00          |
| Laboratory Testing  |                                    | <b>3021017</b> | <b>400</b> , 100100  |
| Particle size - Sieve only 1½ inch to #200, (ASTM D6913/CTM 202)                                      | \$135.00 / each                    | 3              | ¢405.00              |
| CMU compression to size 8" x 8" x 16" (3 required, ASTM C140)   | \$45.00 / each                     |                | \$405.00<br>\$270.00 |
| CMU grouted prisms (compression test ≤8" x 8" x 16", ASTM E 447 C 1314)                               | \$180.00 / each                    | 6<br>3         | \$540.00             |
| Sand Equivalent (SE, ASTM D2419/CTM 217)  |                                    |                |                      |
| Modified Proctor compaction 4 inch mold (Methods A & B ASTM D1557)                                    | \$105.00 / each<br>\$220.00 / each | 3 3            | \$315.00<br>\$660.00 |
| Modified Proctor compaction 6 inch mold (Method C ASTM D1557)   | \$245.00 / each                    | <u>3</u> 1     | \$245.00             |
| R-Value (AASHTO T190/ASTM D2844/CTM 301) untreated soils/aggregates                                   | \$310.00 / each                    | 1              | \$310.00             |
| Expansion Index (EI, ASTM D4829)  | \$130.00 / each                    | 1              | \$130.00             |
| Pick-up & delivery – (weekdays, per trip, <50 miles from Leighton office)                             | \$90.00 / each                     | 15             | \$1,350.00           |
| Concrete cylinders compression (ASTM C39 4" x 8")   | \$22.00 / each                     | 100            | \$2,200.00           |
| Mortar cylinders (2" by 4", ASTM C780)  | \$25.00 / each                     | 12             | \$300.00             |
| Grout prisms (3" by 6", ASTM C1019)   | \$25.00 / each                     | 12             | \$300.00             |
| Masonry cores compression, ≤6" diameter (testing only, ASTM C42)                                      | \$40.00 / each                     | 6              | \$240.00             |
| Masonry core-shear, Title 24 (test only)  | \$70.00 / each                     | 12             | \$840.00             |
| Rebar tensile test up to ≤ No. 10 bars (ASTM A370)  | \$45.00 / each                     | 9              | \$405.00             |
| Rebar bend test, up to ≤ No. 10 bars (ASTM A370)  | \$45.00 / each                     | 9              | \$405.00             |
| Trobal Bond took, up to = 140. To bare (161111111610)   | φ45.00 / eacm                      |                |                      |
| Day anti-on-ID-rain at Management   |                                    | SUBTOTAL       | \$8,915.00           |
| Reporting/Project Management  |                                    |                |                      |
| Associate PM / QC Review  | \$198.00 / hour                    | 12             | \$2,376.00           |
| Senior Staff Engineer DSA Reports   | \$144.00 / hour                    | 16             | \$2,304.00           |
| Project Administrator/Word Processor Dispatch, report distribution, review, wtc.                      | \$72.00 / hour                     | 20             | \$1,440.00           |
| Operations Manager Mix Design Reviews   | \$162.00 / hour                    | 6              | \$972.00             |
|   |                                    | SUBTOTAL       | \$7,092.00           |
|   |                                    |                |                      |



# 2018 PROFESSIONAL FEE SCHEDULE

| CLASSIFICATION  | \$/HR | CLASSIFICATION  | \$/HR |
|---|-------|---|-------|
| Technician I  | 77    | Project Administrator/Word Processor/Dispatcher       | 72    |
| Technician II / Special Inspector                                 | 89    | Information Specialist                                | 99    |
| Senior Technician / Senior Special Inspector                      | 99    | CAD Operator  | 113   |
| Prevailing Wage (field soils / materials tester) *                | 117   | GIS Specialist  | 126   |
| Prevailing Wage (Special Inspector) *                             | 117   | GIS Analyst   | 149   |
| Prevailing Wage (Source Inspector, NDT and soil remediation O&M)* | 135   | Staff Engineer / Geologist / Scientist                | 135   |
| System Operation & Maintenance (O&M) Specialist                   | 126   | Senior Staff Engineer / Geologist / Scientist / ASMR  | 144   |
| Non Destructive Testing (NDT)                                     | 135   | Operations / Laboratory Manager                       | 162   |
| Deputy Inspector  | 99    | Project Engineer / Geologist / Scientist              | 162   |
| Field / Laboratory Supervisor                                     | 131   | Senior Project Engineer / Geologist / Scientist / SMR | 180   |
| Source Inspector  | 122   | Associate   | 198   |
| City of Los Angeles Deputy Building (including Grading) Inspector | 140   | Principal   | 216   |
| * See Prevailing Wages in Terms and Conditions                    |       | Senior Principal                                      | 261   |

# **GEOTECHNICAL LABORATORY TESTING**

| CLASSIFICATION & INDEX PROPERTIES  Photograph of sample Photograph of sample Moisture content (ASTM D2216) Moisture & density (ASTM D2937) ring samples Moisture & density (ASTM D2937) ring samples Moisture & density (ASTM D2937) Shelby tube or cutting Atterberg limits (ASTM D4318) 3 points: Single point, non-plastic Atterberg limits (organic ASTM D2487 / D4318)  - Visual classification as non-plastic (ASTM D2488)  Particle size: Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  - Large sieve 6 inch to #200 (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  - Large sieve 6 inch to #200 (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  - In point  - 3 point  - 3 point  - 3 point  - 4 point  - Value (AASHTO T190/ASTM D2844/CTM 301) untreated 310  soils/aggregates  R-Value (AASHTO T190/ASTM D2844/CTM 301) lime or cement treated soils/aggregates  SOIL CHEMISTRY & CORROSIVITY  pH Method A (ASTM D4972 or CTM 643)  Electrical resistivity – single point – as received moisture  45  Minimum resistivity 3 moisture content points (ASTM G187/CTM 643)  pH + minimum resistivity (CTM 643)  130  |
|--|
| Photograph of sample  Moisture content (ASTM D2216)  Moisture & density (ASTM D2937) ring samples  Moisture & density (ASTM D2937) Shelby tube or cutting  Atterberg limits (ASTM D4318) 3 points:  -Single point, non-plastic  -Atterberg limits (organic ASTM D2487 / D4318)  -Visual classification as non-plastic (ASTM D2488)  Particle size:  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  - 3 point  - 1 point  R-Value (AASHTO T190/ASTM D2844/CTM 301) untreated  soils/aggregates  R-Value (AASHTO T190/ASTM D2844/CTM 301) lime or cement treated soils/aggregates  SOIL CHEMISTRY & CORROSIVITY  ph Method A (ASTM D4972 or CTM 643)  Electrical resistivity – single point – as received moisture  45  Minimum resistivity 3 moisture content points (ASTM G187/CTM 643)  90   |
| Moisture Content (ASTM D2216)  Moisture & density (ASTM D2937) ring samples  Moisture & density (ASTM D2937) Shelby tube or cutting  Atterberg limits (ASTM D4318) 3 points:  -Single point, non-plastic  -Atterberg limits (organic ASTM D2487 / D4318)  -Visual classification as non-plastic (ASTM D2488)  Particle size:  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -1 point  R-Value (AASHTO T190/ASTM D2844/CTM 301) untreated  soils/aggregates  R-Value (AASHTO T190/ASTM D2844/CTM 301) lime or cement treated soils/aggregates  SOIL CHEMISTRY & CORROSIVITY  pH Method A (ASTM D4972 or CTM 643)  Electrical resistivity – single point – as received moisture  45  Minimum resistivity 3 moisture content points (ASTM G187/CTM 643)  90   |
| Moisture & density (ASTM D2937) ring samples  Moisture & density (ASTM D2937) Shelby tube or cutting  Atterberg limits (ASTM D4318) 3 points:  -Single point, non-plastic  -Atterberg limits (organic ASTM D2487 / D4318)  -Visual classification as non-plastic (ASTM D2488)  Particle size:  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 2½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 2½ inch to #200, (A |
| Moisture & density (ASTM D2937) Shelby tube or cutting Atterberg limits (ASTM D4318) 3 points:  -Single point, non-plastic  -Atterberg limits (organic ASTM D2487 / D4318)  -Visual classification as non-plastic (ASTM D2488)  Particle size:  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  Soils/aggregates  R-Value (AASHTO T190/ASTM D2844/CTM 301) lime or cement treated soils/aggregates  SOIL CHEMISTRY & CORROSIVITY  pH Method A (ASTM D4972 or CTM 643)  Electrical resistivity – single point – as received moisture  45  Minimum resistivity 3 moisture content points (ASTM G187/CTM 643)  90   |
| Atterberg limits (ASTM D4318) 3 points:  -Single point, non-plastic  -Atterberg limits (organic ASTM D2487 / D4318)  -Visual classification as non-plastic (ASTM D2488)  Particle size:  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  150  R-Value (AASHTO T190/ASTM D2844/CTM 301) lime or cement treated soils/aggregates  SOIL CHEMISTRY & CORROSIVITY  pH Method A (ASTM D4972 or CTM 643)  Electrical resistivity – single point – as received moisture  45  Minimum resistivity 3 moisture content points (ASTM G187/CTM 643)  90   |
| -Single point, non-plastic -Atterberg limits (organic ASTM D2487 / D4318) -Visual classification as non-plastic (ASTM D2488) Particle size: -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202) -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  **Treated soils/aggregates  **SOIL CHEMISTRY & CORROSIVITY  PH Method A (ASTM D4972 or CTM 643)  Electrical resistivity – single point – as received moisture  45 Minimum resistivity 3 moisture content points (ASTM G187/CTM 643)  90   |
| -Atterberg limits (organic ASTM D2487 / D4318)  -Visual classification as non-plastic (ASTM D2488)  Particle size: -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202)  180  SOIL CHEMISTRY & CORROSIVITY  pH Method A (ASTM D4972 or CTM 643)  Electrical resistivity – single point – as received moisture  45  Minimum resistivity 3 moisture content points (ASTM G187/CTM 643)  90   |
| -Visual classification as non-plastic (ASTM D2488) 10 pH Method A (ASTM D4972 or CTM 643) 45 Particle size: Electrical resistivity – single point – as received moisture 45 -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202) 135 Minimum resistivity 3 moisture content points (ASTM G187/CTM 643) 90  |
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| -Sieve only 1½ inch to #200, (AASHTO T27/ASTM C136/ASTM D6913/CTM 202) 135 Minimum resistivity 3 moisture content points (ASTM G187/CTM 643) 90  |
|  |
|  |
| - Hydrometer only (ASTM D422) 110 Sulfate content - gravimetric (CTM 417 B Part II) 70   |
| - Sieve + hydrometer (≤3 inch sieve, ASTM D422) 185 Sulfate screen (Hach®) 30  |
| - Percent passing #200 sieve, wash only (ASTM D1140) 70 Chloride content (AASHTO T291/CTM 422) 70  |
| Specific gravity and absorption of fine aggregate (AASHTO 125 Corrosion suite: minimum resistivity, sulfate, chloride, pH (CTM 643) 245  |
| T84/ASTM C128/ASTM D854/CTM 207)  Organic matter content (ASTM D2974)  65  |
| Specific gravity and absorption of coarse aggregate (AASHTO 100 SHEAR STRENGTH   |
| - Total porosity - on Shelby tube sample (calculated from 165 Pocket penetrometer 15   |
| density & specific gravity)  Direct shear (ASTM D3080, mod., 3 points):  |
| - Total porosity - on other sample 155 -Consolidated undrained - 0.05 inch/min (CU) 285  |
| Shrinkage limits (wax method, ASTM D4943)  126 -Consolidated drained - <0.05 inch/min (CD)  345  |
| Pinhole dispersion (ASTM D4647)  210 -Residual shear EM 1110-2-1906-IXA  50  |
| Dispersive characteristics (double hydrometer ASTM D4221) 90 (price per each additional pass after shear)  |
| As-received moisture & density (chunk/carved samples) 60 Remolding or hand trimming of specimens (3 points) 90   |
| Sand Equivalent (AASHTO T176/ASTM D2419/CTM 217)  105 Oriented or block hand trimming (per hour)  65   |
| Single point shear 105   |
| COMPACTION & PAVEMENT SUBGRADE TESTS  Torsional shear (ASTM D6467 / ASTM D7608)  820   |
| Standard Proctor compaction, (ASTM D698) 4 points:  4 inch diameter mold (Methods A & R)  160 CONSOLIDATION & EXPANSION/SWELL TESTS  |
| - 4 mon diameter mold (wethods A & b)  |
|  |
| modified i restor compaction (i te i iii b reci / i pointe.  |
| F : 1 1 (F) AOTA PAOON   |
| o more diameter more (more exp.)   |
| Check point (per point)  Relative compaction of untreated/treated soils/aggregates (CTM 216)  Swell/collapse – Method A (ASTM D4546-A, up to 10 load/unloads w/o time curves)  Single load swell/collapse - Method B (ASTM D4546-B, seat, load & inundate only)  105   |
| Relative density (0.1 ft mold, ASTM D4253, D4254)  235   |

| METHOD  | \$/TEST    | METHOD   | \$/TEST |
|---|------------|--|---------|
| TRIAXIAL TESTS  |            | HYDRAULIC CONDUCTIVITY TESTS   |         |
| Unconfined compression strength of cohesive soil  | 135        | Triaxial permeability in flexible-wall permeameter with backpressure                 | 310     |
| (with stress/strain plot, ASTM D2166)   |            | saturation at one effective stress (EPA 9100/ASTM D5084,                             |         |
| Unconsolidated undrained triaxial compression test on cohesive  | 170        | falling head Method C):  |         |
| soils (USACE Q test, ASTM D2850, per confining stress)  | _          | - Each additional effective stress   | 120     |
| Consolidated undrained triaxial compression test for cohesive soils,  | 375        | <ul> <li>Hand trimming of soil samples for horizontal K</li> </ul>                   | 60      |
| (ASTM D4767, CU, USACE R-bar test) with back pressure   |            | Remolding of test specimens  | 65      |
| saturation & pore water pressure measurement (per confining stress)   |            | Permeability of granular soils (ASTM D2434)  | 135     |
| Consolidated drained triaxial compression test (CD, USACE S test),  |            | Soil suction (filter paper method, ASTM D5298)                                       | 400     |
| with volume change measurement. Price per soil type below EM  |            | SOIL-CEMENT  |         |
| 1110-2-1906(X): - Sand or silty sand soils (per confining stress)   | 375        | Moisture-density curve for soil-cement mixtures (ASTM D558)                          | 240     |
| Silt or clayey sand soils (per confining stress)  | 500        | Wet-dry durability of soil-cement mixtures (ASTM D559) 1                             | 1,205   |
| Clay soils (per confining stress)   | 705        | Compressive strength of molded soil-cement cylinder (ASTM D1633)1                    | 60      |
| Three-stage triaxial (sand or silty sand soils)   | 655        | Soil-cement remolded specimen (for shear strength, consolidation, etc.) <sup>1</sup> | 235     |
| Three-stage triaxial (silt or clayey sand soils)  | 875        | <sup>1</sup> Compaction (ASTM D558 maximum density) should also be perform           | ned –   |
| Three-stage triaxial (clay soils)   | 1,235      | not included in above price  |         |
| Remolding of test specimens   | 65         | '  |         |
| CONSTRUCTION  | MATERIA    | LS LABORATORY TESTING  |         |
|   | /TEST      |  | ΓEST    |
| WETTIOD   | 71231      |  | ILJI    |
| CONCRETE STRENGTH CHARACTERISTICS   |            | AGGREGATE PROPERTIES   | 50      |
| Concrete cylinders compression (ASTM C39) (6" x 12")  | 25         | Bulk density and voids in aggregates (AASHTO T19/ASTM C29/ CTM 212)                  | 50      |
| Concrete cylinders compression (ASTM C39) (4" x 8")   | 22         | Organic impurities in fine aggregate sand (AASHTO T21/ASTM C40/CTM 213)              | 60      |
| Compression, concrete or masonry cores (testing only) ≤6 inch (ASTM C4  |            | LA Rattler-smaller coarse aggregate <1.5" (AASHTO T96/ASTM C131/<br>CTM 211)         | 200     |
| Trimming concrete cores (per core)  | 20         | LA Rattler-larger coarse aggregate 1-3" (AASHTO T96/ASTM C535/CTM 211)               | 250     |
| Flexural strength of concrete (simple beam-3rd pt. loading, ASTM C78/CTM 523)                                     | 85         | Apparent specific gravity of fine aggregate (AASHTO T84/ASTM C128/                   | 130     |
| Flexural strength of concrete (simple beam-center pt. loading, ASTM C293/CTM 52                                   |            | CTM 208)   |         |
| Non shrink grout cubes (2 inch, ASTM C109/C1107)  | 25<br>400  | Clay lumps, friable particles (AASHTO T112/ASTM C142)                                | 175     |
| Drying shrinkage - four readings, up to 90 days, 3 bars (ASTM C157)<br>Length of drilled concrete cores (CTM 531) | 400<br>40  | Durability Index (AASHTO T210/ASTM D3744/CTM 229)                                    | 200     |
| · · ·   | 40         | Moisture content of aggregates by oven drying (AASHTO T255/                          | 40      |
| HOT MIX <b>AS</b> PHALT (HMA)   |            | ASTM C566/CTM 226) Uncompacted void content of fine aggregate (AASHTO T304/          | 130     |
| Resistance of compacted HMA to moisture-induced damage  | 2,100      | ASTM C1252/ CTM 234)   | 130     |
| (AASHTO T283/CTM 371)   | 000        | Percent of crushed particles (AASHTO T335/ASTM D5821/CTM 205)                        | 135     |
| Hamburg Wheel, 4 briquettes (modified) (AASHTO T324)  | 900        | Flat & elongated particles in coarse aggregate (ASTM D4791/CTM 235)                  | 215     |
| Superpave gyratory compaction (AASHTO T312/ASTM D6925)  | 350<br>150 | Cleanness value of coarse aggregate (CTM 227)  | 210     |
| Extraction by ignition oven, percent asphalt (AASHTO T308/ASTM D6307/CTM 382)                                     | 150        | Soundness, magnesium (AASHTO T104/ASTM C88/CTM 214)                                  | 225     |
| Ignition oven correction/correlation values (AASHTO T308/ASTM   | 1,350      | Soundness, sodium (AASHTO T104/ASTM C88/CTM 214)                                     | 650     |
| D6307/CTM 382)  |            | MASONRY  |         |
| Extraction by centrifuge, percent asphalt (ASTM D2172)  | 150        | Mortar cylinders (2" by 4", ASTM C780)   | 25      |
| Gradation of extracted aggregate (AASHTO T30/ASTM D5444/CTM 202)  | 135        | Grout prisms (3" by 6", ASTM C1019)  | 25      |
| Stabilometer, S-Value (ASTM D1560/CTM 366)  | 265        | Masonry cores compression, ≤6" diameter (testing only, ASTM C42)                     | 40      |
| Bituminous mixture preparation (AASHTO R30/CTM 304)   | 80         | CMU compression to size 8" x 8" x 16" (3 required, ASTM C140)                        | 45      |
| Moisture content of HMA (AASHTO T329/ASTM D6037/CTM 370)  | 60<br>50   | CMU moisture content, absorption & unit weight (6 required, ASTM C140)               | 40      |
| Bulk specific gravity of compacted HMA, molded specimen or cores, uncoated (AASHTO T166/ASTM D2726/CTM 308)       | 50         | CMU linear drying shrinkage (ASTM C426)  | 175     |
| Bulk specific gravity of compacted HMA, molded specimen or  | 55         | CMU grouted prisms (compression test ≤8" x 8" x 16", ASTM C1314)                     | 180     |
| cores, paraffin-coated (AASHTO T275/ASTM D1188/CTM 308)   | 55         | CMU grouted prisms (compression test > 8" x 8" x 16", ASTM C1314)                    | 250     |
| Maximum density - Hveem (CTM 308)   | 200        | Masonry core-shear, Title 24 (test only)   | 70      |
| Theoretical maximum density and specific gravity of HMA   | 130        | BRICK  |         |
| (AASHTO T209/ASTM D2041/CTM 309)  |            | Compression (cost for each, 5 required, ASTM C67)                                    | 40      |
| Thickness or height of compacted bituminous paving mixture  | 40         | Compression (cost for each, 3 required, ASTIVI COT)                                  | 40      |
| specimens (ASTM D3549)  | . 0.07     |  |         |
| Rubberized asphalt (add to above rates)   | + 25%      |  |         |

| METHOD \$/T  | TEST  | METHOD  | \$/TEST   |
|--|---|---|---|
| REINFORCING STEEL  Rebar tensile test up to ≤ No. 10 bars (ASTM A370)  Rebar tensile test > No. 10 bars ≤ No. 17, (ASTM A370)  Rebar bend test, up to ≤ No. 10 bars (ASTM A370)  Rebar bend test > No. 10 bars ≤ No. 17, (ASTM A370)  Epoxy coated rebar/dowel film thickness (coating) test (ASTM A775)  Epoxy coated rebar/dowel continuity (Holiday) test (ASTM A775)  Epoxy coated rebar flexibility/bend test, up to No. 11 (ASTM A775)  Tensile strength, ≤100,000 pounds axial load (ASTM A370)  Prestressing wire, tension (ASTM A416)  Sample preparation (cutting)  Resistance Butt-Welded Hoops/Bars, up to No. 10 (CTM 670)  Post-Tensioned Bars (ASTM A772) | 45<br>100<br>45<br>150<br>45<br>65<br>45<br>45<br>150<br>50<br>180<br>420 | SPRAY APPLIED FIREPROOFING Unit weight (density, ASTM E605)  BEARING PADS/PLATES AND JOINT SEAL Elastomeric Bearing Pads (Caltrans SS 51-3) Elastomeric Bearing Pad with Hardness and Compression Tests (Caltrans SS 51-3) Type A Joint Seals (Caltrans SS 51-2) Type B Joint Seals (Caltrans SS 51-2) Bearing Plates (A536)  STREET LIGHTS/SIGNALS 100W HPS Lighting (Caltrans RSS 86)  SAMPLE TRANSPORT Pick-up & delivery (weekdays, per trip, <50 mile radius from Leighton office) | 990<br>1230<br>1620<br>1530<br>720<br>1296<br>\$/TRIP<br>90 |

|  | EQUIPME | NT, SUPF | PLIES & MATERIALS   |       |      |
|--|---------|----------|---|-------|------|
|  | \$/UI   | VIT      |   | \$/UI | NIT  |
| 1/4 inch Grab plates                             | 5       | each     | Manometer   | 25    | day  |
| 1/4 inch Tubing (bonded)                         | 0.55    | foot     | Mileage (IRS Allowable)   | 0.545 | mile |
| 1/4 inch Tubing (single)                         | 0.35    | foot     | Moisture test kit (excludes labor to perform test, ASTM E1907)  | 60    | test |
| 3/8 inch Tubing, clear vinyl                     | 0.55    | foot     | Nuclear moisture and density gauge                              | 88    | day  |
| 4-Gas meter (RKI Eagle or similar)/GEM 2000      | 130     | day      | Pachometer  | 25    | day  |
| Air flow meter and purge pump (200 cc/min)       | 50      | day      | Particulate Monitor   | 125   | day  |
| Box of 24 soil drive-sample rings                | 120     | box      | pH/Conductivity/Temperature meter                               | 55    | day  |
| Brass sample tubes                               | 10      | each     | Photo-Ionization Detector (PID)                                 | 120   | day  |
| Caution tape (1000-foot roll)                    | 20      | each     | Pump, Typhoon 2 or 4 stage                                      | 50    | day  |
| Combination lock or padlock                      | 11      | each     | QED bladder pump w/QED control box                              | 160   | day  |
| Compressed air tank and regulator                | 50      | day      | Resistivity field meter & pins                                  | 50    | day  |
| Concrete coring machine (≤6-inch-dia)            | 150     | day      | Slip / threaded cap, 2-inch or 4-inch diameter, PVC Schedule 40 | 15    | each |
| Consumables (gloves, rope, soap, tape, etc.)     | 35      | day      | Slope inclinometer  | 200   | day  |
| Core sample boxes                                | 11      | each     | Soil sampling T-handle (Encore)                                 | 10    | day  |
| Crack monitor                                    | 25      | each     | Soil sampling tripod  | 35    | day  |
| Cutoff saws, reciprocating, electric (Sawzall®)  | 75      | day      | Stainless steel bailer  | 40    | day  |
| Disposable bailers                               | 12      | each     | Submersible pump, 10 gpm, high powered Grunfos 2-inch with      | 160   | day  |
| Disposable bladders                              | 10      | each     | controller  |       |      |
| Dissolved oxygen meter                           | 45      | day      | Submersible pump/transfer pump, 10-25 gpm                       | 50    | day  |
| DOT 55-gallon containment drum with lid          | 65      | each     | Support service truck usage (well installation, etc.)           | 200   | day  |
| Double-ring infiltrometer                        | 125     | day      | Survey/fence stakes   | 8     | each |
| Dual-stage interface probe                       | 80      | day      | Tedlar® bags  | 18    | each |
| Dynamic Cone Penetrometer                        | 400     | day      | Traffic cones (≤25)/barricades (single lane)                    | 50    | day  |
| Generator, portable gasoline fueled, 3,500 watts | 90      | day      | Turbidity meter   | 70    | day  |
| Global Positioning System/Laser Range Finder     | 80      | day      | Tyvek® suit (each)  | 18    | each |
| Hand auger set                                   | 90      | day      | Vapor sampling box  | 55    | day  |
| HDPE safety fence (≤100 feet)                    | 40      | roll     | Vehicle usage (carrying equipment)                              | 13    | hour |
| Horiba U-51 water quality meter                  | 135     | day      | VelociCalc  | 35    | day  |
| Light tower (towable vertical mast)              | 150     | day      | Visqueen (20 x 100 feet)  | 100   | roll |
| Magnehelic gauge                                 | 15      | day      | Water level indicator (electronic well sounder) <300 feet       | 60    | day  |
|  |         |          | deep well   | 4-    |      |
|  |         |          | ZIPLEVEL®   | 15    | day  |

Other specialized geotechnical and environmental testing & monitoring equipment are available, and priced per site

# **TERMS & CONDITIONS**

- Expiration: This fee schedule is effective through December 31, 2018 after which remaining work will be billed at then-current rates.
- Proposal Expiration: Proposals are valid for at least 30 days, subject to change after 30 days; unless otherwise stated in the attached proposal.
- Prevailing Wages: Our fees for prevailing wage work based upon California prevailing wage laws and wage determinations.
- Overtime: Overtime for field personnel will be charged at 1.5 times basic hourly rates when exceeding 8 hours up to 12 hours per 24 hour interval, and 2 times basic hourly rates when exceeding 12 hours in 24 hours or on Sunday, and 3 times basic hourly rates on California official holidays.
- Expert Witness Time: Expert witness deposition and testimony will be charged at 2 times hourly rates listed on the previous pages, with a minimum charge of four hours per day.
- Minimum Field Hourly Charges: For Field Technicians, Special Inspectors or any on-site (field) materials testing services:

4 hours: 4-hour minimum charge up to the first four

hours of work

8 hours: 8-hour minimum charge for over four hours of

work, up to eight hours.

Project time accrued includes portal to portal travel time.

- Outside Direct Costs: Heavy equipment, subcontractor fees and expenses, project-specific permits and/or licenses, project-specific supplemental insurance, travel, subsistence, project-specific parking charges, shipping, reproduction, and other reimbursable expenses will be invoiced at cost plus 18%, unless billed directly to and paid by client.
- Insurance & Limitation of Liability: These rates are predicated on standard insurance coverage and a limit of Leighton's liability equal to our total fees for a given project.

- Invoicing: Invoices are rendered monthly, payable upon receipt in United States dollars. A service charge of 1½percent per month will be charged for late payment.
- Client Disclosures: Client agrees to provide all information in Client's possession about actual or possible presence of buried utilities and hazardous materials on the project site, prior to fieldwork, and agrees to reimburse Leighton for all costs related to unanticipated discovery of utilities and/or hazardous materials. Client is also responsible for providing safe and legal access to the project site for all Leighton field personnel.
- Earth Material Samples: Quoted testing unit rates are for soil and/or rock (earth) samples free of hazardous materials. Additional costs will accrue beyond these standard testing unit rates for handling, testing and/or disposing of soil and/or rock containing hazardous materials. Hazardous materials will be returned to the site or the site owner's designated representative at additional cost not included in listed unit rates. Standard turn-around time for geotechnical-laboratory test results is 10 working days. Samples will be stored for 2 months, after which they will be discarded. Prior documented notification is required if samples need to be stored for a longer time. A monthly storage fee of \$10 per bag and \$5 per sleeve or tube will be applied. Quoted unit rates are only for earth materials sampled in the United States. There may be additional cost for handling imported samples.
- Construction Material Samples: After all designated 28-day breaks for a given sample set meet specified compressive or other client-designated strength, all "hold" cylinders or specimens will be automatically disposed of, unless specified in writing prior to the 28-day break. All other construction materials will be disposed of after completion of testing and reporting